Table Talk

A simulation in which students use decision-making skills to work together to plan a sustainable future for the Pangea River Valley, a hypothetical area in British Columbia.

An integrated unit (social studies, science, language-arts) intended for use in Grade 7, 8 and 9.

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Organizing Table Talk

1. Please check that you have received all of the following materials:
   - shrink-wrapped package of print materials
   - a set of 22 tab inserts
   - a video cassette

2. Divide the print materials into the following units and place in a 3-ring binder.
   - Program Overview
   - Simulation Overview
   - Facilitator Direction File
   - Facilitator Role File
   - Organizer Role Files: Chair, Assistant, Secretary
   - Agriculture Role File
   - Conservation Role File
   - Fishing Role File
   - Forestry Role File
   - Mining Role File
   - Settlement Role File
   - Tourism & Rec Role File
   - Student Worksheets
   - Chair Direction File
   - Assistant Direction File
   - Secretary Direction File
   - Sector Direction File
   - Pot-Luck
   - EcoTimes
   - Skits
   - Decision-Making
   - Watersheds

3. Notice that the heading and page number at the bottom right or left corner of each page indicate the title of this program (Table Talk) and the total number of pages in the complete program. In some units, there is a heading and page number at the top right or left corner to indicate the title and the page number for that unit of the program.
What Is Table Talk?

Table Talk is a comprehensive learning resource designed to teach students in Grades 7, 8 and 9 to use decision-making skills to solve a land-use conflict. Teachers using the complete program will first teach students about decision-making and watersheds. Then students will use this background knowledge to participate in the third unit of Table Talk - a simulation! At this point, students take on the roles of people who represent different sectors or interest groups (forestry, settlement, tourism and recreation, fishing, agriculture, mining and conservation). They work together to plan the future land-use and water-use in the Pangea River Valley, a hypothetical area in British Columbia. Throughout the simulation, students will be exposed to a large quantity of informational material that will give them the knowledge needed to participate confidently.

As shown in the following diagrams, teachers may use the complete, short or quick versions of Table Talk. However, please be aware that students working through the short or quick versions may not achieve the same quality or quantity of learning.

<table>
<thead>
<tr>
<th>A. Complete Program</th>
<th>B. Short Program</th>
<th>C. Quick Program</th>
</tr>
</thead>
</table>
| 1. Teach the Decision-Making Unit  
  Materials are at the end of the package.  
  Time: From 10 - 20 hours. | Teach the Simulation Unit.  
  Teacher Directions are in the next two units (Simulation Overview & Facilitator Direction File).  
  Time: From 120 - 150. | Teach selected parts of the Simulation.  
  Teacher Directions are in the next two units (Simulation Overview & Facilitator Direction File).  
  Time: From 80 - 100. |
| 2. Teach the Watershed Unit.  
  Materials are at the end of the package.  
  Time: From 3 - 15 hours. | Teach the Simulation Unit.  
  Teacher Directions are in the next two units (Simulation Overview & Facilitator Direction File).  
  Time: From 120 - 150. | Teach selected parts of the Simulation.  
  Teacher Directions are in the next two units (Simulation Overview & Facilitator Direction File).  
  Time: From 80 - 100. |

This icon identifies the path to take for the quick program. If you are using the complete or short program, you may want to follow some of the suggestions given for the quick program.
Why Table Talk?

Students need the opportunity to learn about British Columbia’s resource-based industries in relationship to the environment. Citizens with knowledge and understanding of the issues in land-use conflicts will become part of the solution, rather than part of the problem. Given the kinds of complex decisions that students will be facing as adults, they need to begin developing and practicing skills that will provide them with a basis for making good decisions. Decision-making that impacts on large groups of people, as is the case in land-use issues, requires a great deal of communication. Students need to develop the very specialized skills necessary for communicating effectively and with large numbers of people. They need to become proficient at processing large amounts of data, as the amount of information available explodes in the future.

Perhaps the importance of Table Talk is best summarized in the following quotes.

"Given the interdependence of British Columbia’s natural environment, our economy, and quality of life, it is critical that we be good stewards of the environment. The challenges are immense. We are faced with a need to develop an ecological way of thinking, and a need to adopt an integrated approach to stewardship."

"We make ample use of the province’s abundant natural attributes to meet our demands for material goods and a comfortable standard of living - especially our high-quality health and educational systems. However, as we draw on the economic benefits derived from nature, the province’s land and water systems are being diminished. There are not as many fish as there used to be, as much forested land, or as much clean water. . . . In time, the province’s store of natural wealth could be severely depleted, its ecosystems put in danger. The economic framework built around the environment could begin to collapse. This situation is made even more acute as various groups compete with one another to make use of the province’s rich biological and geological heritage."

"Sustainable development is rooted in the concept that, over the long term, only a healthy environment allows us to have a healthy economy. The two are inextricably linked. If the environment is allowed to be degraded, society can no longer prosper economically. Many of our economic activities, our lifestyle patterns, and the ways we allocate and manage the province’s land and water are not consistent with the principles of sustainable development. The challenge facing all of us is to find new and better ways of meeting our needs in the future. Meeting this challenge will require hard work, flexibility, and sympathy for the people whose lives may be deeply affected by the transition."

(British Columbia Table on the Environment and the Economy, Sustainable Land and Water Use, 1991)
Program Goals

Table Talk is an intricate program. The teacher will need to coordinate different groups of students working with many resource materials on a variety of activities. However, for those intrepid teachers who can brave the unknown, Table Talk has many benefits. Here are some of the comments from the field test teachers:

• “Students became more confident in working in large groups and in speaking in front of the class.”

• “There was a high level of thinking and discussion and all students could participate.”

• “The Direction Files and Role Files gave students a feeling of ownership, leadership, and independence. Students said they felt they were important - just like adults.”

• “When a scientist (from the Scientists in the Schools program) took the school on a stream walk, my students knew all the answers to his questions.”

Table Talk can ‘fit’ into the curriculum in language-arts, social studies and science. However, it is strongly suggested that Table Talk be taught as an integrated program due to the amount of time it requires.

The Skills List on the following pages is provided to help each teacher develop learning outcomes for his/her class. The Ministry of Education Integrated Resource Packages (IRP’s) for language-arts and social studies were not published in time for use in Table Talk.

Science

Students will have the opportunity to:
• study the watercycle and the watershed (field trip, models)
• list the ways in which human activities affect the surrounding ecosystems (both positively and negatively)
• read and discuss environmental news articles with respect to the effect of human activities
• analyze and interpret information on the impact of chemical pollution on ecosystems
• participate in a simulation that requires evaluation of scientific and social information

Language Arts

Students will have the opportunity to listen:
• for main ideas and supporting details
• to directions

Students will have the opportunity to speak to large groups and use:
• organizational skills (sequence, main ideas, visual-aids)
• physical skills (eye contact, posture)
• voice skills (volume, pacing, pronunciation, expression)
Students will have the opportunity to write and respond to oral and written information. The students will:

- organize information
- summarize information
- combine information from different sources

Students will have the opportunity to read a great quantity of content material and:

- identify the main idea and the supporting details
- classify, analyze, and evaluate information
- identify different personal perspectives, biases and stereotypes
- interpret maps
- interpret charts
- follow directions

Students will have the opportunity to view a short video and:

- identify the main idea
- define vocabulary
- identify connections between ideas
- relate the information to their own lives

Students will have the opportunity to represent information in many ways (words, diagrams, charts, numbers, pictures and webs).

**Social Studies**

Students will have the opportunity to:

- understand some of the ways that various industries operate and are managed in British Columbia (agriculture, fisheries, mining, forestry, tourism)
- identify the sectors involved in community-based land and water use decision-making
- identify and define the various perspectives that members of a community may bring to discussions about land and water use allocation
- identify the various motivations (self-interests) of different groups (business, industry, government, environmental) involved in land and water use decision-making
- learn the steps in the decision-making process
- use a shared decision-making process to allocate land and water will in the Pangea Valley
- generate and evaluate alternative solutions during the process involved in land and water use allocation
- analyze the costs and benefits of alternative land-use decisions
- explore the interrelatedness of economic, environmental and social factors to the development of a sustainable community
- develop an awareness of how human actions may have significant and cumulative impacts on the environment
Program Overview

- define sustainability with respect to the economy, the environment and the community
- identify the impacts of job loss on the community
- defend their opinions during problem solving sessions
- gather information from a variety of sources
- recognize that knowledge is not static and that theories change
Evaluation

There are many opportunities for evaluation in the subject areas of language-arts, social studies, science and drama. In the simulation, students will:

- read content information
- read aloud
- collect and organize information
- complete worksheets
- take notes
- design posters/murals
- participate in presentations
- design and use charts to present information
- enlarge maps

Each of these skills may be evaluated with respect to the Learning Opportunities listed in this Program Overview. Please refer to this list as you design evaluation tools for Table Talk.
Simulation Overview
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Introduction

The following print styles are used to help you locate the various components in this program:
The titles of student worksheets are italicized.
The unit titles of Table Talk (ie. EcoTimes, Pot-Luck, etc.) and the section titles of the Role Files are underlined.
Words that are defined or discussed in side-bars are printed in boldface.

Table Talk is a complex simulation in which students take on the roles of various people and work together to plan the future land-use in the Pangea River Valley. Through a series of Task Times and actual Round Table meetings, the students make decisions about how to divide the land between competing interests (eg. forestry, settlement, tourism and recreation, fishing, agriculture, mining and conservation). Groups of students will make formal Proposals that will be evaluated with student-chosen criteria.

Table Talk is organized with Role Files and Direction Files that outline the students’ responsibilities in detail. Students are actively involved and can take ownership of the learning process through the use of these files. The teacher acts as a facilitator by questioning and encouraging small groups of students. The teacher also provides direct instruction when needed.

The following information is a summary of the land-use simulation program. More detailed instructions for the teacher are given in the Facilitator’s Direction File.

Structure of Program

In Table Talk the students take on a structured role, attend formal Round Table meetings, participate in informal work sessions or Task Times, make and listen to mini-presentations and have conferences with the teacher.

Teacher Times, Task Times & Round Table Meetings

Teacher Times are activities that require direct instruction by the teacher. Teacher Times should be scheduled as blocks of time separate from Task Times. Although the time will vary, Teacher Time activities may require from four to eight hours of time.

Task Times are work sessions for individual students and small groups of students to allow them to prepare for Round Table meetings. Each Task Time will require from three to five hours of time. Task Times may be scheduled as one large block of time or as many smaller blocks of time. Unfinished tasks may be completed during a ‘catch-up’ time or assigned for homework.
Round Table meetings are formal meetings in which all students participate. Each Round Table meeting will require one to two hours of time.

For a brief and intense unit, hold one Round Table meeting each week. For a longer unit, hold one Round Table meeting every two or three weeks.

Roles

Everyone in the class has a role as either a Sector Representative or an Organizer. Sector roles represent the seven different sectors involved in planning the future land-use in Pangea. Organizer roles organize and run the Round Table meetings. Students need to know the words ‘Sector and Organizer’ because these words are used in the student materials.

Student-Teacher Conferences

In the Role Files, students are directed to attend conferences with the teacher, either individually, in small groups or large groups. At these times, the teacher may do any of the following:

- explain Student Worksheets
- ask questions to check student comprehension of material
- give advice on mini-presentations
- provide feedback on completed Student Worksheets
- help students succeed in completing tasks

As well as these formal conferences, teachers are encouraged to meet more informally with students. At this time, teachers can help students understand the directions or the background information in the Role Files.

Student Materials

The organization of the student materials in Table Talk may seem somewhat daunting at first. But if you take your time and read through this unit, the purpose and use of all the materials will be clear.

Role Files

Information needed for each role must be photocopied. This information becomes the Role File and may be placed in a duotang folder or a file folder. Role Files may be reused because STUDENTS SHOULD NOT WRITE IN THESE BOOKLETS.
Direction Files

Directions tell students what to do at each Round Table meeting and what to do at Task Times. As this is a complex simulation, with many roles to coordinate, the directions are quite specific and may even seem rigid. The ‘recipe-like’ format of the directions has been done for a number of reasons:

- the process of working in a large group may be more successful when students have a framework
- shared-decision making is more difficult as the number of participants increases
- students cannot create from ‘nothingness’ - it is much easier to be creative and come up with ideas when you have something from which to work

The Video

There are two short programs on the video: Snapshots and Connections.

Snapshots is an overview of the physical geography, landscape, plant life, wildlife and people of the Pangea Valley. The text for this video is included in the unit titled Video Text: Snapshots.

Connections is a series of short animations that define the following words: habitat, land clearing, erosion, flooding, leaching, discharge, run-off, water use and loss of habitat. These definitions will help students understand some of the written information in Table Talk. The text for this video is included in the unit titled Video Text: Connections.

The Newspaper (EcoTimes)

EcoTimes is a newspaper with realistic information about the environmental and economic impacts of human activities. There are positive and negative statements made about each of the Sectors (i.e. mining, forestry, agriculture, etc.). The news articles have been written to help the students decide how to divide up the land in the Pangea Valley. There are three separate issues of EcoTimes.

The Play (Pot-Luck)

Pot-Luck is a play with some of the characters from the Round Table meetings. The three main ideas in the play are: sustainable development, stewardship and the impact of job loss on an individual and a community. Pot-Luck is the only material in the package in which these ideas are presented.
(Note: The play does not have to be done as a stage production.)

The Skits

The seven skits have been written to illustrate the pros and cons of various issues about land-use in British Columbia. By performing these skits, students should come to recognize that land-use issues are complex and many-sided.
Student Worksheets

There are 20 student worksheets in the program. Each Worksheet is referred to by its number and name. Worksheets are printed in italics: Worksheet 5 (Membership Agreement).

Teacher’s Role

In Table Talk, the teacher observes, evaluates and encourages students during the Round Table meetings. The teacher also has the role of Meeting Facilitator. This allows you to participate and intervene in the meetings if necessary.

The Facilitator Role File has background information and the Facilitator Direction File has instructions on the specific tasks that you need to complete during the Task Times and Round Table meetings. However, as the facilitator and coordinator, there are many other jobs you can do (if you find you have time on your hands):

- Supervise various student Roles to ensure they are completing their tasks.
- Evaluate the assignments completed by students.
- Hold informal meetings with students who need more direction.
- Help students interpret the directions or informational material in the Role Files.
- Make sure students have access to the materials they need.
- Listen to students as they practice making presentations.
- Keep the simulation moving!

Overall Organization

- Consider planning this unit with another teacher. Both classes could participate or some students could work on this unit and another group of students could work on a different unit.
- Set aside at least one large bulletin board for the material that needs to be posted during the simulation.
- Decide how to arrange the room for the Task Times and the Round Table meetings. (You will eventually discuss this with the Secretary Role as it is part of his/her responsibilities.)
  - Will furniture be moved? Who will move it? When will it be moved?
  - Where will the chart-sized Round Table agendas be posted?
  - Will refreshments be served during a break in the meeting?
- During Task Times and Round Table meetings it will be most convenient if each group sits together. For example, the Forest Sector sits together, the Agriculture Sector sits together and the Organizers sit together.
- Block out the time needed for Table Talk. Schedule the Round Table meetings for the same day of the week. Schedule Task Times for the same days of the week. Post this master timetable on the bulletin board to help students get organized.
• Decide how to collect student material for evaluation. The Assignments Chart lists the student material to be collected at the end of each Task Time and Round Table meeting. The Assignments Chart is found at the end of this Simulation Overview (Evaluation).

• Ensure students have access to materials needed for various tasks: construction paper, writing paper, large chart paper, gavel, clipboards, coloured pens, etc.

• Use a flip-chart stand during Round Table meetings.

• Consider asking parents to help during Round Table meetings or Task Times.
  - During Task Times, parents could: help students read and understand information in the Role Files, help students complete Worksheets, listen and give feedback when students practice mini-presentations . . .
  - During Round Table meetings, parents could: join a Sector and participate, work with any students who are unable to participate, help supervise a refreshment time, ask questions as an interested outside party . . .
Preparing Materials

1. Each student needs a Role File and a Direction File.
   - Role Files may be re-used because students do not write in them.
   - Direction Files must be photocopied each time the unit is taught because students write in them.

Role Files
There is a separate Role File for each student. It is possible to simply distribute these Role Files without photocopying. However, if you intend to use the program again, it would be best to make a Master copy of the Role Files before you distribute them to the students.

2. The 31 student role names and positions are listed below. Please note: More roles can easily be added to meet the needs of your students. The students can write the Role Information and Viewpoints for these extra roles.

<table>
<thead>
<tr>
<th>Annie Peng</th>
<th>Chairperson</th>
</tr>
</thead>
<tbody>
<tr>
<td>Christine Walker</td>
<td>Assistant</td>
</tr>
<tr>
<td>Andrew Todd-Millar</td>
<td>Secretary</td>
</tr>
<tr>
<td>Bill Vanderporten</td>
<td>Agriculture Spokesperson</td>
</tr>
<tr>
<td>Ashley Valikoski</td>
<td>Agriculture Alternate</td>
</tr>
<tr>
<td>Maggie Kim</td>
<td>Agriculture Alternate</td>
</tr>
<tr>
<td>Naomi Zis</td>
<td>Agriculture Alternate</td>
</tr>
<tr>
<td>Talia Ragona</td>
<td>Conservation Spokesperson</td>
</tr>
<tr>
<td>Adam Kruger</td>
<td>Conservation Alternate</td>
</tr>
<tr>
<td>Tony Parker</td>
<td>Conservation Alternate</td>
</tr>
<tr>
<td>Heather Mathieson</td>
<td>Conservation Alternate</td>
</tr>
<tr>
<td>Eileen Ciartno</td>
<td>Fishing Spokesperson</td>
</tr>
<tr>
<td>Byron Reynolds</td>
<td>Fishing Alternate</td>
</tr>
<tr>
<td>Nicole Kraumanis</td>
<td>Fishing Alternate</td>
</tr>
<tr>
<td>Mary Sternitt</td>
<td>Fishing Alternate</td>
</tr>
<tr>
<td>Frank McQuiggan</td>
<td>Forestry Spokesperson</td>
</tr>
<tr>
<td>Vijay Singla</td>
<td>Forestry Alternate</td>
</tr>
<tr>
<td>Mark Fletcher</td>
<td>Forestry Alternate</td>
</tr>
<tr>
<td>Brady Hyslop</td>
<td>Forestry Alternate</td>
</tr>
<tr>
<td>Sharon White</td>
<td>Mining Spokesperson</td>
</tr>
<tr>
<td>Ray Fortinski</td>
<td>Mining Alternate</td>
</tr>
<tr>
<td>Kevin Chang</td>
<td>Mining Alternate</td>
</tr>
<tr>
<td>John Pitt</td>
<td>Mining Alternate</td>
</tr>
<tr>
<td>Nancy Finlayson</td>
<td>Settlement Spokesperson</td>
</tr>
<tr>
<td>Ken Nasachuk</td>
<td>Settlement Alternate</td>
</tr>
<tr>
<td>Karen Fugeta</td>
<td>Settlement Alternate</td>
</tr>
<tr>
<td>Lisa Zoppitello</td>
<td>Settlement Alternate</td>
</tr>
<tr>
<td>Jason Nishimo</td>
<td>Tourism &amp; Rec Spokesperson</td>
</tr>
<tr>
<td>Jackson Barnes</td>
<td>Tourism &amp; Rec Alternate</td>
</tr>
<tr>
<td>Jessica Stark</td>
<td>Tourism &amp; Rec Alternate</td>
</tr>
<tr>
<td>Bindi Dosanjh</td>
<td>Tourism &amp; Rec Alternate</td>
</tr>
</tbody>
</table>
3. Extremely Important Note: Make an extra copy of the Facilitator Direction File. You may want to write notes to yourself each time you use this program. This will ensure the original copy remains intact.

4. Photocopy the following materials. (Note: if you have fewer students, eliminate some of the Sector Alternates.)
   • Make 1 copy of the Chair Direction File.
   • Make 1 copy of the Assistant Direction File.
   • Make 1 copy of the Secretary Direction File.
   • Make 28 copies of the Sector Direction File.
   • Make 1 copy of each of the Role Files if you intend to use the program again.

5. EXTREMELY IMPORTANT NOTE: Put the Role File and Direction File in two separate duotang folders. (Students usually need to read the directions while reading or studying information in the Role File.)

6. The duotang folders for the Role Files and Direction Files should be labeled with the name of the file and the name of the role. For example:

   Chair Role File: Annie Peng
   Chair Direction File: Annie Peng

7. Make a Work File for each student by labeling a file folder or a duotang folder. Students will put ongoing and completed worksheets in this file.

8. Directions for photocopying other materials are given in the Facilitator’s Direction File.
9. Special Directions for photocopying the newspaper [EcoTimes, Issue 1, Issue 2 and Issue 3] to make it look like a newspaper. (These materials will not be needed until further on in the simulation.)

Each issue of EcoTimes is 12 single pages. To make it a newspaper, photocopy the pages onto 3 pages of ledger paper as shown in the following diagrams. Then place the 3 pages together and fold like a newspaper. Make 10 copies of each issue.

- **Pages 12 and 1 from Table Talk**
  - are photocopied onto a piece of ledger paper
  - First Page
    - Top: 12
    - Edge: 1

- **Then pages 2 and 11**
  - are photocopied onto the flip side of the ledger paper
  - First Page
    - Top: 2
    - Edge: 11

- **Pages 10 and 3 from Table Talk**
  - are photocopied onto a second piece of ledger paper
  - Second Page
    - Top: 10
    - Edge: 3

- **Then pages 4 and 9**
  - are photocopied onto the flip side of the ledger paper
  - Second Page
    - Top: 4
    - Edge: 9

- **Pages 8 and 5 from Table Talk**
  - are photocopied onto a third piece of ledger paper
  - Third Page
    - Top: 8
    - Edge: 5

- **Then pages 6 and 7**
  - are photocopied onto the flip side of the ledger paper
  - Third Page
    - Top: 6
    - Edge: 7
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Introduction

Print Styles

As shown in the following chart, different print styles are used in this document to refer to specific materials or for emphasis.

<table>
<thead>
<tr>
<th>Italicized</th>
<th>• the titles of student worksheets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underlined</td>
<td>• the unit titles of Table Talk (ie. Watersheds, Simulation Overview, EcoTimes, etc.)</td>
</tr>
<tr>
<td></td>
<td>• the section titles of the Role Files (ie. About Your Sector, Memo, etc.)</td>
</tr>
<tr>
<td>Boldface</td>
<td>• words that are defined or discussed in side-bars</td>
</tr>
<tr>
<td>CAPITAL LETTERS</td>
<td>• the steps of the decision-making process as they relate to the simulation</td>
</tr>
<tr>
<td></td>
<td>• words or ideas that need emphasis</td>
</tr>
</tbody>
</table>

Teacher Times

Teacher Times are activities that require direct instruction by the teacher and should be scheduled separately from Task Times. Teacher Times may require four to eight hours. Some Teacher Times are short (Teacher Time 2) and some Teacher Times are long (Teacher Time 4).

Task Times

Task Times are work sessions for individual students and small groups of students to allow them to prepare for Round Table meetings. Each Task Time will require from three to five hours. Task Times may be scheduled as one large block of time or as many smaller blocks of time. Unfinished tasks may be completed during a ‘catch-up’ time or assigned for homework.

Round Table Meetings

Round Table meetings are formal meetings in which all students participate. Each Round Table meeting will require one to two hours.

Photocopy

Photocopy lists the materials to be photocopied and how they should be distributed.

Sessions

Sessions are made up of Teacher Times, Photocopy Times, Task Times and Round Table Meetings.

⚠️ This icon identifies the path to take for the quick program. If you are using the complete or short program, you may want to follow some of the suggestions given for the quick program.
<table>
<thead>
<tr>
<th>Task Time 1 &amp; Round Table 1</th>
<th>The students learn about their roles.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Time 2 &amp; Round Table 2</td>
<td>The students learn to work together in a large group.</td>
</tr>
<tr>
<td>Task Time 3 &amp; Round Table 3</td>
<td>The students learn about the sectors (agriculture, mining, etc.)</td>
</tr>
<tr>
<td>Task Time 4 &amp; Round Table 4</td>
<td>The students choose the land that is best suited to each Sector.</td>
</tr>
<tr>
<td>Task Time 5 &amp; Round Table 5</td>
<td>The students choose the criteria to be used to divide the land.</td>
</tr>
<tr>
<td>Task Time 6 &amp; Round Table 6</td>
<td>Groups of students make a plan (Proposal) to divide the land.</td>
</tr>
<tr>
<td>Task Time 7 &amp; Round Table 7</td>
<td>The students refine the plan (Proposal) to divide the land.</td>
</tr>
<tr>
<td>Task Time 8 &amp; Round Table 8</td>
<td>The students choose the best plan (Proposal) to divide the land.</td>
</tr>
<tr>
<td>Task Time 9 &amp; Round Table 9</td>
<td>The students participate in a final activity.</td>
</tr>
</tbody>
</table>
Simulation Directions

Important Note

At the end of this unit, a detailed overview of the organization of the simulation is given in the Summary of Activities Chart. This chart lists all of the tasks for the Organizers, the Sector Representatives and the teacher.

Pre-Session

Teacher Time A

Make overheads of At A Glance and Memo. They are located in the Facilitator Role File.

Do Teacher Time A, directions 1, 2 and 4.

In Teacher Time A, students will learn some of the basics needed for the simulation. Teacher Time A will likely require 3 – 5 hours.

1. Introduce the Pangea Valley. (The Pangea Valley is the hypothetical area for the simulation. Although it is actually based on the Cariboo-Chilcotin, much of the data was altered. In particular, the population was tripled to create a large city.)
   - Show the video (Snapshots) once or twice to give students a visual picture of the area in which their role characters live. The information in the video is not meant to provide a comprehensive analysis of the area, but rather an overview of the plant life, wildlife and human activities in the Pangea Valley (Cariboo-Chilcotin).
   - Discuss some of the similarities and differences between the Pangea Valley and your local area.
   - If you keep the location of the Pangea Valley a secret, some students might try to solve the mystery by using clues they learn during Table Talk. At the end of the unit, students guess the area of British Columbia they believe that the Pangea Valley represents.
2. Explain the simulation. Make sure students can read and understand the VOCABULARY WORDS.
   • Use the overhead of the Memo to explain:
     ~ Table Talk is a program in which the premier of British Columbia has asked a group of people to plan the future of the Pangea Valley. Students are the people who will plan for the future LAND-USE in the Pangea Valley.
     ~ Students will have formal meetings called "ROUND TABLE MEETINGS". (Round Tables are groups of citizens that work together to help the government make decisions about various problems. The people chosen to be at a Round Table are the people who would be affected by the decision or who would be interested in the decision.)
     ~ The Round Table is a way to get input from the people of the Pangea Valley. Students represent all the different points of view of the people in the Pangea Valley.
   • Use the overhead of At A Glance to explain:
     ~ Students are assigned ROLES.
       - Most of the roles represent people from different SECTORS (agriculture, conservation, fishing, forestry, mining, settlement and tourism & recreation.) Each Sector has a SPOKESPERSON and three ALTERNATES.
       - Some roles are ORGANIZERS. These people will run the meetings. There is a CHAIR, ASSISTANT and SECRETARY.
     ~ Students will get a ROLE FILE with information about their role.
     ~ Students will need to complete various tasks in order to get ready for Round Table meetings. These tasks are done during TASK TIMES.
     ~ Students will get a DIRECTION FILE that tells them exactly what to do.

3. Discuss role taking with your students. (Information is included at the end of this file in the Role taking section.)
4. Assign the **roles** to students: some roles are written for capable students who enjoy a challenge, other roles are written for students who need more direction and are not as skilled. (The skills required for each role are listed in the chart.)

- Use *Worksheet 2 (Role With It)* to keep track of the role assignments. When it is completed, give it to the Assistant. (In Task Time 1, some students may opt to change the name and sex of their character. The Assistant will make these changes on this worksheet.)

<table>
<thead>
<tr>
<th>Role</th>
<th>Role Name</th>
<th>About The Role</th>
<th>Ability Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chairperson</td>
<td>Annie Peng</td>
<td>• ability to speak well in front of a large group</td>
<td>High</td>
</tr>
<tr>
<td>Assistant</td>
<td>Christine Walker</td>
<td>• ability to organize</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• leadership</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• works independently and in a group</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• should be your most capable student</td>
<td></td>
</tr>
<tr>
<td>Secretary</td>
<td>Andrew Todd-Miller</td>
<td>• takes direction</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• good printing or writing skills</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• may be one of the less able students</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• needs good self-control skills to take minutes at the group meetings</td>
<td></td>
</tr>
<tr>
<td>All Sector</td>
<td>Agriculture</td>
<td>• ability to speak well in front of a large group</td>
<td>High</td>
</tr>
<tr>
<td>Spokespersons</td>
<td>Conservation</td>
<td>• ability to organize</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fishing</td>
<td>• leadership</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forestry</td>
<td>• work independently and in a group</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mining</td>
<td>• should be among your most capable students</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Settlement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tourism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st Sector</td>
<td>Agriculture</td>
<td>• take direction</td>
<td>Medium</td>
</tr>
<tr>
<td>Alternates</td>
<td>Conservation</td>
<td>• can work in a group</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fishing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forestry</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mining</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Settlement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tourism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2nd &amp; 3rd Sector</td>
<td>Agriculture</td>
<td>• take direction</td>
<td>Low</td>
</tr>
<tr>
<td>Alternates</td>
<td>Conservation</td>
<td>• can work in a group</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fishing</td>
<td>• lower reading level for some material</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Forestry</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mining</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Settlement</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tourism</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Roles*

When the roles are assigned, groups are formed. For example, all the Agriculture Reps work together. These groups continue for the first five Round Table meetings. Then the groups are rearranged to give students an opportunity to work with others in the class.
Photocopy A

<table>
<thead>
<tr>
<th>Material</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worksheet 1 (Keeping Track): 2 pages</td>
<td>All Students</td>
</tr>
</tbody>
</table>

Task Time A

Important Note

This is a preparation time for you. The Chair and Assistant are the only students involved in Task Time A.

1. Read Teacher Time 1 and Task Time 1. (Note: The Facilitator’s Direction File is coordinated with the Students’ Directions Files. Changes made by the teacher can affect what the students do during Task Times.)

2. Read How To Run a Meeting in the Facilitator Role File.

3. Give out the Chair Role File and the Assistant Role File. Allow these students about 20 minutes to study the information.

4. Optional: Think about the Name Tags students will make in Task Time 1. (See Task # 11 in Task Time 1.)
   - Size and type of paper? (Pre-cut the paper and have it ready to go for Task Time 1.)
   - Do you want the name tags laminated?

5. Conference with the Chair about his/her role as defined in How To Run A Meeting: Where and when will meetings be held? What does the Chair do? Read the Agenda for Round Table 1. A copy is in the Facilitator Role File.

6. Conference with the Assistant about his/her role as defined in How To Run A Meeting:
   - Discuss the Speaker’s List. Make sure the Assistant understands how to explain it.
   - Discuss the Assistant’s job of helping other students read the directions in their Direction Files.

7. To evaluate the students’ participation in the Round Table meetings, consider using individualized checklists.
   - Choose three skills that each student needs to improve the most. (The individualization of each checklist and the limited number of skills for observation should make this evaluation tool more successful.)
   - Ask each student to evaluate his/her progress by rating each skill on a scale of 1 to 5 after each Round Table meeting.
   - You rate the student at Round Table 1, Round Table 4 and Round Table 8.
   - Make sure students understand how to demonstrate their mastery of a skill.

Individualized Checklist

The following is a sample checklist.

<table>
<thead>
<tr>
<th>Speak clearly.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher hears everything.</td>
<td>Teacher hears nothing.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stay on topic.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always.</td>
<td>Never.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Make eye contact.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Always.</td>
<td>Never.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• Some group participation skills that might be included on the checklists:
  • Listens carefully.
  • Pays attention.
  • Asks questions.
  • Share ideas.
  • Speaks clearly.
  • Speaks slowly.
  • Speak loudly.
  • Takes turns.
  • Stays on the topic.
  • Completes jobs.
  • Avoids put-downs.
  • Makes eye contact.
  • Organizes ideas.
  • Gives accurate information.
  • Summarizes the speaker.
  • One person speaks at a time.
  • Does not provoke others.
  • Stays calm when others are upset.
  • Calms down when upset.
  • Uses people’s names.
  • Keeps hands and feet to him/herself.
  • Makes space for other people.

Session 1

Teacher Time 1

During Teacher Time 1, students learn how to use the Direction Files. Table Talk will be easier to manage if students learn to use the Direction Files independently. Teacher Time 1 will likely require 2 hours.

1. Distribute the Direction Files to all students.
   • Ask someone to read the Symbols’ box. Find examples of directions that use these symbols.
   • Ask someone to read the Styles of Print box. Find examples of directions with these styles of print.
   • Ask someone to read the Directions’ Contract. Discuss the Directions’ Contract with the students. Direct the students to sign the contract and have it witnessed.
   • Read some of the directions from Task Time I and Round Table 1. Ask someone to explain what to do.
   • Explain how to use the check-boxes in the left hand column of the Direction File. Make sure students know that the entire direction must be completed before the check-box is marked.

2. Give out Work Files for each student. Place Worksheet 1 (Keeping Track) at the front of each Work File. Explain how to complete this worksheet.

3. Optional: Use this Teacher Time to model/teach presentation skills, such as those listed in the Presentation Skills Chart at the end of this file. Then develop criteria for evaluation.
   • Make sure students understand the criteria and the behaviours that indicate each level of competence for each skill. For example, the criteria ‘does not fidget’ might be evaluated on a 3 point scale, with 3 being ‘fidgets once or twice’ and 1 being ‘fidgets more than six times’. (But remember: it might be unrealistic to expect a teacher to observe more than 5 of these kinds of criteria at one time. Once you begin to define criteria, they become more time-consuming to observe. On the other hand, well-defined criteria give students a goal that is reachable.)

Do Teacher Time 1, direction 1 and 2. Tell students to ignore the directions in the Direction Files for Task Time 1, Round Table 1, Task Time 2 and Round Table 2.

Directions’ Contract
Students have trouble reading and following directions for a variety of reasons: poor reading skills; lack of confidence; poor organizational skills; lack of attention to detail. Some of these difficulties can be solved when students take more responsibility for their learning. The Directions’ Contract ensures that each student makes an effort to understand each direction before getting help from the teacher. In order for this system to work, you must NOT help a student with a direction unless that student has the signatures of two people beside the direction.

Evaluation Idea
Table Talk has many opportunities to evaluate oral presentations made by students.
• Criteria for presentation skills might include:
  ~ speaking skills (volume, pacing, pronunciation, expression, etc.)
  ~ physical skills (eye contact, position of body in the room, position of body relative to visual-aids, relaxed body posture)
  ~ sequencing of information (does student skip around? does information follow a logical order?)
  ~ organization of information (is the topic introduced? are the main points previewed? is each point explained well? is difficult vocabulary explained?)
  ~ visual-aids (are they explained? are they necessary to the presentation? are they easy to read/see?)

4. There is no material to evaluate from Teacher Time 1.

**Photocopy 1**

*Photocopy Worksheet 7 (For The Record A) and Worksheet 8 (For The Record B). If you want students to keep a journal record of the Round Table Meetings, photocopy Worksheet 6 (My Thoughts About The Meeting).*

<table>
<thead>
<tr>
<th>Material</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worksheet 2 (Role With It)</td>
<td>Assistant (2 copies)</td>
</tr>
<tr>
<td>Worksheet 4 (Role Introduction)</td>
<td>All Students</td>
</tr>
<tr>
<td>Worksheet 7 (For The Record A)</td>
<td>At least 1 copy for each student. This worksheet will not be needed until Teacher Time 2. (Read Teacher Time 2, Direction #1 before photocopying.)</td>
</tr>
<tr>
<td>Worksheet 8 (For The Record B)</td>
<td>1 copy for each student. This worksheet will not be needed until Teacher Time 2. (Read Teacher Time 2, Direction #1 before photocopying.)</td>
</tr>
<tr>
<td>Worksheet 6 (My Thoughts About The Meeting)</td>
<td>Optional: This is a learning log for the Round Table meetings. Students could use a notebook for this purpose. However, you can make booklets from this worksheet by cutting each full-size page in half. Each student gets a booklet with 8 pages. The booklets are given out at Round Table 1.</td>
</tr>
<tr>
<td>Worksheet 3 (Purpose of Meetings)</td>
<td>Optional: use only if you want to check that students understand the basic information on the roles, Role Files, Direction Files and Round Table Meetings.</td>
</tr>
</tbody>
</table>

**Task Time 1**

During Task Time 1, students will learn about their roles. (Please allow students to change the name and sex of the roles.)

1. This is a quick summary of the tasks for each group of students. Note: Each role (Organizer, Sector) works on different tasks at different times.

- **Organizer**
  - read Role Information
  - Assistant gives out the Role Files to all students
  - Assistant completes Worksheet 2 (Role With It)
  - do Worksheet 4 (Role Introduction)
  - practice introducing your role
  - optional: make Name Tag

- **Sector**
  - read Role Information
  - do Worksheet 4 (Role Introduction)
  - practice introducing your role
  - optional: make Name Tag
2. Remind students to read and follow the directions in the Directions Files exactly. If a direction says to read information in the Role File, then the students must read and understand it.

3. When you are ready to start the simulation, the Assistant distributes the Role Files to all students.

4. All students begin Task Time 1. The students will likely be noisy and unsettled because they will be reading about their characters and will want to tell their friends some of the more interesting details.

5. Students who change the name and sex of their character must give the new information to the Assistant. The Assistant makes corrections to Worksheet 2 (Role With It). Make copies of this corrected version and distribute to each student.

6. Optional: Use Worksheet 3 (Purpose of Meetings) to evaluate students’ understanding of how the Role Files, Directed Files and Round Table meetings will work. (The information for this worksheet is found in At A Glance and Memo. Students who cannot complete this worksheet need help.)

7. Discuss Worksheet 4 (Role Introduction). All students should:
   - read the Role Information in their Role File
   - complete basic information on the front side of the worksheet
   - write notes about what they will say to introduce their roles at Round Table 1 on the flip side of the worksheet
   - practice introducing their role to other members of their group
   - give the Role Introduction to the teacher for marking.

8. Conference with the Secretary:
   - How will the room be set up for meetings?
   - Will refreshments be served?
   - Who will move the desks or chairs?
   - When will the room be set up?

9. Make sure the Assistant completes Worksheet 2 (Role With It).

10. Conference with the Chair to solve any last minute concerns.

11. Optional: Have paper for Name Tags available. These Name Tags can be used at the Round Table meetings for easy identification of Sectors and Roles. (Each student makes a Name Tag. Then each Sector and the Organizers design a logo for each of the separate groups.)

12. Evaluate the material from Task Time 1.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   Worksheet 4 (Role Introduction)

   Optional: Name Tag

**Important Note**

*Table Talk can be managed more effectively if you keep to the conference schedule.*
Round Table 1

1. At this Round Table, the students:
   - learn how to vote
   - learn how the Speaker’s List works
   - discuss the Memo from the Premier (the issue)
   - discuss the purpose of the Round Table meetings
   - introduce their roles

   The first two Round Table meetings may seem uneventful. However, the purpose of these meetings is to let the students practice:
   - voting
   - behaving appropriately
   - speaking loudly
   - working together
   - speaking clearly
   - staying on topic

2. Optional: Discuss how to complete Worksheet 6 (My Thoughts About The Meeting) with all students.
   - Use specific rather than general statements (“The meeting went well because it was good” is too general. “The meeting went well because I spoke three times” is more specific.)
   - Make sure students know the learning logs will be evaluated. Look for an understanding of the group process and relationships. (Can students think of constructive suggestions to improve the process? Can students see what they are doing to affect the process?)

3. Optional: Students complete Worksheet 6 (My Thoughts About The Meeting). This is a learning log for the Round Table meetings. Students can express their ideas and feelings about the meeting process.

4. Evaluate material from Round Table 1.
   - Organizer
   - Sector
   - presentation on Speaker’s List and how to vote
   - role introduction
   - Optional: Worksheet 6 (My Thoughts About The Meeting)
   - optional: Group Participation Checklist

Round Table

Let the Chair run the meeting to show that you have confidence in his/her skills. You may have to sit on your hands to stop from intervening too often.

There are times when you must give advice or act as an information source:

1. Do not let the meeting become chaotic. The Chair needs help when student misbehaviour is making the meeting unproductive.

2. When a motion has been made, comments or questions that are off the topic should NOT be answered. (Otherwise the meetings will be long and confusing.) Someone needs to say, “That question is not on the topic. You must only ask questions or make comments about the motion.” Although it is best if one of the Organizers takes on this task, you may need to help for the first 2 or 3 meetings.

3. Students need to speak loudly. This will help prevent behaviour problems that arise when students cannot hear what is being said and lose interest. Although it is best if the Assistant or Secretary tells students to speak loudly, you may need to help for the first 2 or 3 meetings.
Session 2

Teacher Time 2

During Teacher Time 2, students learn how to use worksheets to help them keep track of the information resources in Table Talk.

1. Distribute Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) to all students.
   - Students need 7 copies of Worksheet 7. Students could use one copy as a template and make the other 6 copies. On Worksheet 7, students record the names of the information sources that have positive or negative information about each Sector. For example, students record the page number from Pot-Luck on which they found positive information about Fishing.
   - Students need only one copy of Worksheet 8. On Worksheet 8, students record ideas on how Sectors can share the land.
   - Both of these worksheets are important because they will help students as they make decisions in Task Time 6 and Task Time 7.
   - There are extra rows on the worksheets so students can access other information sources. For example, encourage students to use the local newspaper as a source of information that can be both positive and negative towards the Sectors. There may also be articles that show how a Sector is making changes to allow it to share land and water with other Sectors.

2. There is no material to evaluate from Teacher Time 2.

Photocopy 2

<table>
<thead>
<tr>
<th>Material</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worksheet 5 (Membership Agreement)</td>
<td>All Students</td>
</tr>
</tbody>
</table>

Task Time 2

During Task Time 2, students brainstorm for Rules of Order (rules of behaviour) to use during the Round Table meetings.

1. This is a quick summary of the tasks for each group of students.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>• list the strong and weak points of Round Table 1</td>
<td>• read and discuss Worksheet 5 (Membership Agreement)</td>
</tr>
<tr>
<td>• read and discuss Worksheet 5 (Membership Agreement)</td>
<td>• make a list of rules of order</td>
</tr>
<tr>
<td>• read Rules of Order</td>
<td>• Optional: design a notepad for notes during the meetings</td>
</tr>
<tr>
<td>• make a list of rules of order</td>
<td></td>
</tr>
</tbody>
</table>
2. Discuss **Worksheet 5 (Membership Agreement)** with all roles. It lists the rules for the Round Table meetings. Each student:
   - reads the rules and decide if he/she agrees or disagrees
   - completes Parts 4 and 7
   - discusses his/her ideas with the group (each Sector and the Organizers)

   **STUDENTS DO NOT SIGN OR WITNESS WORKSHEET 5 (MEMBERSHIP AGREEMENT) AT THIS TIME.**

3. Read the **Rules of Order** in the Facilitator's Role File. (The Organizers have this list in their Role Files.)

4. The Organizers and each of the Sectors write a list of rules of order. These are given to you for marking. These lists will be used to develop the Round Table Rules of Order at Round Table 2.

5. Discuss Round Table 1 with the Organizers:
   - What worked well?
   - What could be improved?
   - What can be changed for Round Table 2?

6. Optional: Discuss designing a notepad with the Sectors:
   - What is the purpose of the notepad? *(record notes at Round Table meetings)*
   - In what ways can notes be taken? *(diagram, picture, key words, web)*
   - What information must be recorded for each Round Table *(ie. student name, date, name of Sector, Round Table number)*?
   - The Sectors were given these ideas in their Direction Files:
     - Sketch 3 main ideas. Use key words or phrases to elaborate.
     - Draw a picture to represent the topic of discussion. Add peoples’ names and their comments.
     - Make a cartoon strip.

7. Evaluate the material from Task Time 2.

   - Organizer
   - Sector

   - list the strong and weak points of Round Table 1
   - list some Rules of Order for the Round Table meetings
   - Optional: design a notepad

---

**Round Table 2**

1. At this Round Table, the students:
   - develop the Round Table **Rules of Order**
   - complete **Worksheet 5 (Membership Agreement)**

2. Optional: Discuss how the students completed **Worksheet 6 (My Thoughts About The Meeting)** for Round Table 1. Brainstorm for suggestions on how students can improve.

3. Optional: Students complete **Worksheet 6 (My Thoughts About The Meeting)** for Round Table 2.
4. Evaluate material from Round Table 2.

Organizer Sector

Optional: Worksheet 6 (My Thoughts About The Meeting)

Optional: notes

Optional: Group Participation Checklist

Session 3

Teacher Time 3

During Task Time 3, review strategies for reading content material. Some ideas for teaching content reading are included at the end of this file in Directed Reading.

1. Optional, but strongly suggested: In Table Talk, there are many opportunities for students to read content material. In Task Time 3, the Sectors read About Your Sector. It is the first of these content materials.

To prepare students for Task Time 3, model how to read content material using 1 or 2 paragraphs from the Conservation About Your Sector and the Mining About Your Sector. (These materials are located in the Role Files.)

2. There is no material to evaluate from Teacher Time 3.

Photocopy 3

Photocopy Worksheet 10 (Sector Secrets) and About Your Sector.

<table>
<thead>
<tr>
<th>Material</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worksheet 10 (Sector Secrets)</td>
<td>1 copy to each Sector member and 1 copy for each Organizer</td>
</tr>
<tr>
<td>About Your Sector (3 pages from each of the Sector Role Files)</td>
<td>1 copy to each Sector member (i.e. the Mining About Your Sector goes to each student in the Mining Sector) and 1 copy for each Organizer.</td>
</tr>
<tr>
<td>Worksheet 9 (Room For All Views)</td>
<td>Optional: Give 1 copy to each student</td>
</tr>
<tr>
<td>Pot-Luck</td>
<td>Optional: 3 or 4 copies of each scene. These will be used in Teacher Time 4. (To decide if you need these copies, please read Direction #6 in Task Time 3.)</td>
</tr>
</tbody>
</table>
Task Time 3

Sectors read About Your Sector. This is research to give the students enough background information to understand how each Sector operates. Both the Sectors and Organizers read their Viewpoints to begin looking at their interests.

Optional: Students read their Viewpoint to give them an idea about their characters’ personalities and perspectives on land-use issues.

1. This is a quick summary of the tasks for each group of students.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>• list the strong and weak points of Round Table 2</td>
<td>• read the Viewpoint and About Your Sector</td>
</tr>
<tr>
<td>• read the Viewpoint</td>
<td>• do Worksheet 10 (Sector Secrets)</td>
</tr>
<tr>
<td>• sign the Round Table Rules of Order</td>
<td>• get ready to present information about the Sector at Round Table</td>
</tr>
<tr>
<td>• Assistant makes a good copy of Rules of Order</td>
<td>• sign the Round Table Rules of Order</td>
</tr>
<tr>
<td>• Optional: do Worksheet 9 (Room For All Views)</td>
<td>• Optional: do Worksheet 9 (Room For All Views)</td>
</tr>
<tr>
<td></td>
<td>• Optional: design poster to represent Sector</td>
</tr>
</tbody>
</table>

2. Conference with the Sectors to discuss Worksheet 10 (Sector Secrets). Students read About Your Sector in the Role File to get a basic understanding of how the Sectors operate. (Optional: include the Organizers by assigning them to a Sector for this task.)

To complete the worksheet, students pose six questions that can be answered by reading About Your Sector. Students then colour-code the questions and underline the answers in copies of About Your Sector with the same colours. On the back of the worksheet, students draw a picture to show how the Sector works.

• Make sure all students have the worksheet and a copy of About Your Sector from their Sector Role Files.
• Discuss the colour-coding of questions and answers.
• Remind students to use Worksheet 7 (For The Record A) and Worksheet 8 (For The Record B) while reading About Your Sector.

3. Discuss Round Table 2 with the Organizers:
• What worked well?
• What could be improved?
• What can be changed for Round Table 3?

4. Discuss presentations that Sectors will make at Round Table 3:
• What information are you presenting at the Round Table meeting? (How the Sector operates.)
• How will you present this information? (Speech? Chart? Web? Main idea organizer? Diagram with key words?)
• Who will present the information?
• Presentations should be 10 minutes or less.
• Will you be able to answer questions? (ie. Why do we need your Sector? How does your Sector work? Why does your Sector need land?)

Presentations
In the Sector Direction Files, students have been directed to reread About Your Sector twice.
1. Students read silently and record the main ideas on a piece of paper.
2. Students read orally in their Sector groups. The 1st person reads a paragraph and asks a question about it. The 2nd person answers the question. The 3rd person summarizes the paragraph. The 4th person writes the main idea of the paragraph.

Purposeful rereading gives students more confidence in making presentations because they will have developed a better understanding of their topic.
5. Optional: Students design a poster to represent their Sector.

6. Optional: Discuss Worksheet 9 (Room For All Views) with all students:
   - The purpose of Worksheet 9 is to help students understand their roles.
   - Questions to ask:
     ~ How should the worksheet be completed?
     ~ Where will the information come from?
     ~ Will a draft copy be made first?
     ~ How will you present this information at the Round Table meeting?

7. Get organized for the Readers’ Theatre of Pot-Luck in Teacher Time
4. (Readers’ Theater is literature based oral reading which communicates a story through oral interpretation rather than through acting. The story is read by readers who stand or sit in fixed position and address their lines directly to a listening audience. Lines are not memorized.)
   - Explain Readers’ Theater to the students.
   - Divide the play into 8 parts: the three scenes from Act I and the five scenes from Act II. (Pot-luck, stewardship and sustainability are discussed in Act I. Job loss is discussed in Act II.)
   - Divide the class into 8 groups and assign one scene to each group. Distribute copies of the scenes so that all the students in a group have a copy of ‘their’ scene. (Note: Act II, Scene 5 is the easiest to read and understand. Act I is probably the most difficult to read and understand.)
   - Students must practice reading their ‘parts’ out loud to parents at home and to friends at school before Teacher Time 4.
   - If you decide to evaluate the students, demonstrate good speaking skills by reading a few lines from the play. Make sure students understand the criteria that will be used to evaluate their performance (i.e., what does enunciation mean? what does it sound like?). Choose a scale (1 - 5; High, Medium, Low; Yes, No) that is most appropriate for each criteria. Explain the levels of competence for each of the skills. (For example, does a perfect score for pronunciation mean no errors? one error? two errors? Does a perfect score for expression mean the teacher must be kept interested? the class must be kept interested?).

   Some speaking skills that can be evaluated are:
   ~ volume (loudness) ~ enunciation (clarity of sound)
   ~ expression ~ pronunciation (standard usage)
   ~ pacing (speed) ~ fluency (flow or smoothness)
   ~ use of gestures, facial expression
   - Remind students to use Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) while reading Pot-Luck.

8. Evaluate the material from Task Time 3:

   Organizer Sector
   □ list the strong and weak points of Round Table 2
   □ Worksheet 10 (Sector Secrets)
   □ Optional: design a poster
   □ □ Optional: Worksheet 9 (Room For All Views)
Round Table 3

1. At this Round Table, the students give presentations about how each Sector works. (If you hear information that is wrong, please interrupt the meeting and give students the correct information.)
   • Students take notes on each Sector.
   • Students use Worksheet 7 and Worksheet 8 while listening to the presentations.

2. Optional: Discuss how the students completed Worksheet 6 (My Thoughts About The Meeting) for Round Table 2.

3. Optional: Students complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 3.

4. Evaluate material from Round Table 3.

   Organizer
   Sector
   □ sector presentations (Presentation Checklist)
   □ notes made for the presentations by individual students
   □ Optional: Worksheet 6 (My Thoughts About The Meeting)
   □ optional: student notes from presentations
   □ optional: Group Participation Checklist

Session 4

Teacher Time 4

During Teacher Time 4, students learn about human impacts on the ecosystem by watching the Connections video. They also learn about stewardship, sustainability and job loss in the play (Pot-Luck). These activities will likely take 10 - 15 hours to complete. It is suggested that Teacher Time 4 and Task Time 4 be spaced out over a period of at least two weeks, even if you normally schedule one Round Table meeting per week.

1. Introduce Act I of Pot-Luck. Print the words ‘stewardship’ and ‘sustainability’ on the blackboard. Brainstorm for ideas about the meaning of these two words.
   • The groups of students responsible for the scenes in Act I read them aloud.
   • Remind students to use Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) while listening to Pot-Luck.
• Discuss Act I with reference to the students’ initial understanding of the words ‘stewardship’ and ‘sustainability’.

• Questions to ask about Act I:

~ What does pot-luck mean?

~ What does sustainability mean? (Students might answer with reference to economic, environmental, social and/or cultural sustainability.)

~ Is sustainability important? Why or why not? (Answers will vary. Is there evidence that students have given some thought to the answer?)

~ Is there a difference between economic and environmental sustainability? Which one is more important and why? (Students need to see the interdependence of economic and environmental sustainability. If the environment is harmed for the sake of the economy, many of our industries in British Columbia will fail. For example, the fishing industry relies on the rivers remaining relatively unpolluted and having good spawning and rearing areas for the young fish. But if the economy is weakened for the sake of the environment, there will be fewer jobs to keep people productive and communities stable.)

~ Can you think of events from the past that are affecting our sustainability now? (The car was promoted as a great way to commute to work. Yet it is now difficult to sustain economically because of the cost of gas and roadbuilding and difficult to sustain environmentally because of the effect of exhaust on the air and, through surface runoff, on the water.)

~ Can you think of things we are doing now that may affect your grandchildren’s sustainability?

~ Are there some things we should be doing now to ensure sustainability for future generations? (Planning how to use the resources in the best possible way.)

~ Do you think your grandparents worried about sustainability? Why or why not?

~ Why is sustainability such an important topic in our world today? (Resources becoming scarce, technology has increased the efficiency with which we can extract resources, technology has eliminated many jobs.)

~ What is stewardship? Is it important? Why or why not?

~ Can you think of any people who are good stewards of the environment?

~ Do you know of any local stewardship projects? (carpools, stream clean-up, hiking trails)

2. Introduce Act II of Pot-Luck. Draw the following pictures on the blackboard: $$$ signs, a person, a building (factory, office), a person near the building, some food items, some clothing items, a house and some recreation items. Label the pictures as follows: Money, Worker, Workplace, Employer, Food, Clothing, Shelter, Entertainment & Fun. Ask the students to connect the pictures with lines. Each line must have a sentence to explain the connection. Now draw the same picture, but eliminate the Employer, Factory and Money. Ask the students to draw the connections. Discuss the effect of eliminating the Employer, Factory and Money (the ‘job’ part of the picture).

• The groups of students responsible for the scenes in Act II read them aloud.

• Remind students to use Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) while listening to Pot-Luck.

• When all of Act II has been read, discuss the impact of job loss on individuals and the community.
Questions to ask about Act II:
~ What kinds of things happen to a person and his/her family when he/she loses a job? (less money may mean changes in housing, clothing and diet; emotional difficulties such as anger and depression; etc.)
~ Is job loss something to be concerned about? Why or why not?
~ What happens to a community when many people are out of work? (people move away; economic drain on government; businesses close. Relate this question to the idea of social/cultural sustainability.)
~ Will job loss in the 1990’s affect future generations? Why or why not?
~ Are there any remedies to the problem of job loss?
~ In your opinion, who would be more affected by job loss:
   * a 23-year old single university graduate
   * a married 40 year old construction worker with 3 teenagers
   * a 60 year old biologist with 2 children in university and a disabled child

3. Optional: At the end of the play, students work on a presentation of the three main ideas of the play: stewardship, sustainability and job loss.
   * Divide students into eight groups. Distribute eight sections of the play: Scenes 1, 2 and 3 from Act I and Scenes 1 - 5 from Act II.
   * Students with the scenes from Act I find information on sustainability and stewardship. Students with the scenes from Act II find information on job loss.
   * Each group makes a presentation on their topic.

4. Show the video cassette (Connections: Humans & Habitats).
   * Remind students to use Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) while watching Connections.
   * Print the title of the video on the blackboard. Brainstorm for some connections between humans and habitats and record these on the blackboard under the heading “Student Predictions”.
   * During the video, each student watches for one of these connections.
   * After the video, circle the connections in the “Student Predictions” column that were illustrated in the video. Then, under the heading “Actual Video Connections”, list the connections that were illustrated on the video.
   * Discussion Questions
     ~ What was the main focus of the video? (How human activities affect habitat.)
     ~ What three human activities did the video present as harmful? (land clearing, pollution, water use)
     ~ How were those activities harmful? (land clearing causes soil erosion because there are no roots to protect the soil from the wind; land clearing causes flooding because there are no roots to soak up the excess water; pollution causes chemicals and poisons to enter into the waterways; water use causes stream levels to drop)
     ~ What industries, individuals, businesses or governments clear land? pollute? use water? (Land clearing: forestry, agriculture, mining, settlement, etc. Pollution: agriculture, mining, governments - sewage treatment, homeowners - cleaning products. Water use: agriculture, governments - swimming pools, homeowners - lawn sprinkling, mining, settlement.)
     ~ How is habitat lost through erosion? flooding? pollution? water use?
     ~ What harmful activities were not illustrated in the video?

Evaluation Idea
~ Define sustainability, stewardship, and scarcity, giving examples from the play.
~ List some of the tasks done by: travel agent, Fisheries’ biologist, land developer or forestry worker.
~ List four ways job loss can affect people.

Show the video and ask discussion questions. Do not do task # 6.
5. Show the video cassette (*Connections: Humans & Habitats*) again.
   - Divide the class into 9 groups.
   - Assign each group one of the following words: habitat, land clearing, erosion, flooding, leaching, discharge, run-off, water use and loss of habitat.
   - Students take notes on their 'words' while they watch the video.
   - Each group of students makes a 'poster' that defines and illustrates their word. Students write three paragraphs that use the word in relationship to three different sectors.
     (For example: Land is paved in settlement. When it rains, the run-off from the pavement has dirt, exhaust and oil in it.)

6. Evaluate material from Teacher Time 4.
   - Pot-Luck discussion questions
   - Pot-Luck presentation
   - optional: Pot-Luck quiz
   - optional: speaking skills (Pot-Luck)
   - *Connections* discussion questions
   - *Connections* poster
   - optional: *Connections* quiz

### Photocopy 4

<table>
<thead>
<tr>
<th>Material</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Worksheet 12 (Sector Map Grid)</em></td>
<td>• 1 copy to each member of a sector</td>
</tr>
<tr>
<td></td>
<td>• 2 extra copies for each Sector</td>
</tr>
<tr>
<td><em>Worksheet 15 (Master Map Grid)</em></td>
<td>Assistant</td>
</tr>
<tr>
<td>The Assistant’s completed copy of <em>Worksheet 15 (Master Map Grid).</em> This will not be ready for photocopying until some time during Task Time 4.</td>
<td>All Students. (The Assistant will distribute these materials at Round Table 4.)</td>
</tr>
</tbody>
</table>
Task Time 4

Students choose the land areas on the Pangea River Basin Map that are important to their Sector. Through this process, the Sectors are indicating their INTERESTS.

1. This is a quick summary of the tasks for each group of students.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>• list the strong and weak points of Round Table 3</td>
<td>• read Map Rap</td>
</tr>
<tr>
<td>• get 2 Sectors to explain their Map Rap and Sector Map Information</td>
<td>• study your Sector Map Information and the Pangea River Basin Map</td>
</tr>
<tr>
<td>• make 2 large maps of the Pangea River Basin Map (Chair, Secretary)</td>
<td>• do Worksheet 12 (Sector Map Grid)</td>
</tr>
<tr>
<td>• the Assistant uses Worksheet 15 (Master Map Grid) to collate the information from Worksheet 12 (Sector Map Grid) from all Sectors</td>
<td>• make large version of Sector Map Information</td>
</tr>
</tbody>
</table>

2. Look at some of the Sector Map Information sheets in the Facilitator Role File. Then read some of the Map Raps. Note that each Sector’s Map Rap and Sector Map Information are different.

• These materials help students see the value of land from the perspective of their own Sector.
• This information has been simplified. For example, on the Forestry Map Information, the squares are coded as having high ($$$), medium ($$) or low ($) dollar value and as having lots of forest area (80 - 90%) or little forest area (10 - 20%). In reality, many more factors are considered when forests are evaluated for their economic viability.
• Students have been directed to make a large version of the Sector Map Information to show:
  ~ Squares that their Sector could not choose: leave those squares blank.
  ~ Squares that their Sector could choose, but decided against: put a small black and white picture of the Sector in those squares.
  ~ Squares that their Sector did choose: put a small coloured picture of the Sector in those squares.

3. Conference with Sectors to discuss Worksheet 12 (Sector Map Grid).

- On this worksheet, the students explain why they have chosen specific land areas for their Sector. For example, if the students in the Agriculture Sector choose A2, they must print the reason for this choice into the A2 space. (Note: Fishing and Conservation want all the squares marked on their Maps. The students’ task is to rank the squares in the order of their importance.)
- Questions to ask about Worksheet 12 (Sector Map Grid):
  ~ How should it be completed?
  ~ How many squares does your Sector need? (Each Sector needs a different number.)
  ~ How do you know which squares might be good for your Sector? (Study the Sector Map Information and read Map Rap.)
  ~ How will you defend this information at the Round Table meeting?

Worksheet 12

Students read Map Rap and study the Sector Map Information. Each student decides which land squares that he/she thinks the Sector needs. For example, the Agriculture Map Information shows 18 squares that may be good for agriculture. But students may choose only 12 of these squares. (Students make choices based on Map Rap, the Sector Map information, the Pangea River Basin Map and commonsense.)

Sector members meet to compare their individual choices and come to consensus about the land squares.

A copy of Worksheet 12 (Sector Map Grid) is given to you and to the Assistant. The Assistant uses this information to complete Worksheet 15 (Master Map Grid) to show the land conflicts.
• Suggest that students make a **Criteria Chart** (see sample) to help them choose the best squares. Each Sector’s criteria are different. For example, Agriculture needs to be near water, transportation and small towns or cities. Tourism needs a variety of activities, a variety of locations and a location that is valuable.

<table>
<thead>
<tr>
<th>Criteria Chart</th>
<th>Water</th>
<th>Transportation</th>
<th>Town/City</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+2</td>
</tr>
<tr>
<td>A2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td>A3</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+1</td>
</tr>
</tbody>
</table>

4. **Conference with the Assistant.** Discuss how information from all seven of the **Worksheet 12’s (Sector Map Grid)** will be collated and shown on **Worksheet 15 (Master Map Grid)**. You need to photocopy **Worksheet 15 (Master Map Grid)** before Round Table 4.

5. **Check each Sector’s Worksheet 12 (Sector Map Grid) BEFORE the Assistant collates this information.**
   • Check that each Sector has selected only the squares marked on their **Sector Map Information**. Sectors cannot choose squares that are blank on their **Sector Map Information**.
   • Each Sector must choose the correct number of squares:

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>12</td>
</tr>
<tr>
<td>Forestry</td>
<td>15</td>
</tr>
<tr>
<td>Conservation</td>
<td>20</td>
</tr>
<tr>
<td>Fishing</td>
<td>25</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
</tr>
</tbody>
</table>

6. **Conference with the Chair and Secretary.** Their assignment is to make two large maps of the Pangea River Basin. Both maps should include the grid.
   • How will the students enlarge the map? (freehand? overhead projector?)
   • One map needs to be done quickly and given to the Assistant. This map should be in black and white and should not have a legend.
   • The second map can be used by all students when discussing land in the Pangea Valley during the Round Tables and Task Times. This map should have colors, symbols and a legend.

7. **Discuss Round Table 3 with the Organizers:**
   • What worked well?
   • What could be improved?
   • What can be changed for Round Table 2?

8. **Evaluate the material from Task Time 4.**

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>list the strong and weak points of Round Table 3</td>
</tr>
<tr>
<td></td>
<td>2 large maps of Pangea Valley</td>
</tr>
<tr>
<td></td>
<td><strong>Worksheet 15 (Master Map Grid)</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Worksheet 12 (Sector Map Grid)</strong></td>
</tr>
<tr>
<td></td>
<td>enlarge <strong>Sector Map Information</strong></td>
</tr>
<tr>
<td></td>
<td>optional: criteria chart used to make decisions on <strong>Worksheet 12</strong></td>
</tr>
</tbody>
</table>
Round Table 4

1. At this Round Table the students discuss the results of Worksheet 12 (Sector Map Grid). This discussion should focus on each Sectors’ interests.

2. Optional: Students complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 4.

3. Evaluate material from Round Table 4.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Optional: Worksheet 6 (My Thoughts About The Meeting)

Optional: notes

Optional: Group Participation Checklist

Session 5

Teacher Time 5

During Teacher Time 5, students learn about the impacts of specific Sectors on the land and water by reading the E & E Report in their Role Files and by reading EcoTimes (the newspaper). Teacher Time 5 will likely require 8 - 10 hours.

1. Students read EcoTimes (the newspaper). As there are 3 issues of EcoTimes, divide the class into three groups and assign each group a different issue. (Separate the students from each Sector so that each Sector is exposed to each issue of EcoTimes.)

   - To accommodate students with lower reading levels, there are some articles in each Issue that are at a Grade 4 reading level.
   - This is another opportunity to teach students how to read content material. For more information, please refer to Directed Reading at the end of this file.
   - Each group reads the articles in their issue of EcoTimes. (Reading can be done silently by individuals or orally in small groups.)
   - After practicing in small groups, each student reads or summarizes one news item. (This is another opportunity to evaluate speaking skills.)

Grade 4 Reading Levels

<table>
<thead>
<tr>
<th>Issue 1</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editorial</td>
<td>page 2</td>
</tr>
<tr>
<td>Hotel Faces Dumping Charges</td>
<td>page 4</td>
</tr>
<tr>
<td>Laying Down The Law</td>
<td>page 4</td>
</tr>
<tr>
<td>No Scarecrows On This Farm</td>
<td>page 5</td>
</tr>
</tbody>
</table>

Issue 2

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tribal Council Helps Stream</td>
</tr>
<tr>
<td>Letter to the Editor</td>
</tr>
<tr>
<td>Lost A Billion</td>
</tr>
<tr>
<td>Loggers Block Road</td>
</tr>
<tr>
<td>Sport Fish Report</td>
</tr>
</tbody>
</table>

Issue 3

<table>
<thead>
<tr>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter To The Editor</td>
</tr>
<tr>
<td>Park Fees</td>
</tr>
<tr>
<td>More Than ABC’s</td>
</tr>
<tr>
<td>No Go On Dam</td>
</tr>
<tr>
<td>Millions Missing</td>
</tr>
</tbody>
</table>
• Allow time for discussion of individual news items. (You may not agree with the information, but these articles and advertisements are based on real articles and advertisements from British Columbia newspapers.)

• Discussion Questions for each News Items:

~ What is the main idea?
~ Which Sector is involved in this article?
~ What is the most important information?
~ Does this news item show how Sectors can share land? If yes, give the details.
~ If there is a problem in the news item: how can this problem be solved?
~ If there are two different sides presented in the news item: who do you think is right?
~ How would this news item be interpreted by someone in the Agriculture Sector? How would this news item be interpreted by someone in the Conservation Sector, etc.
~ Can you give another example from our school, community?
~ Why was this news item included in EcoTimes?

• Discussion Questions for each Issue of EcoTimes:

~ Are there news items with which you disagree? Why? Can you defend your opinion?
~ Are there news items that you think have bias? Which ones? How do you recognize bias?
~ How can you check if the information in the news item is accurate? (call the reporter and ask for his/her sources; call an expert and ask questions; do your own research in the library; read other reports from other newspapers; call someone mentioned in the article)
~ Do all the news items have anything in common?
~ Are there any news items that show how 2 or more Sectors can work together?
~ Why did the editors include the BackTalk column?
~ In your opinion, after reading the news items, is one of the Sectors: most/least important economically? most/least damaging to the environment? Did your opinion change after reading EcoTimes?
~ Are local newspapers a good source of environmental information? Why or why not?
~ What kinds of companies advertise in this kind of newspaper?

• To check if EcoTimes presents a ‘balanced view’ of the Sectors, work as a class to categorize the articles as positive or negative. Students use this information to help them complete Worksheet 7 (For The Record A) and Worksheet 8 (For The Record B).

<table>
<thead>
<tr>
<th></th>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>• No Scarecrows (Issue 1, page 5)</td>
<td></td>
</tr>
<tr>
<td>Conservation</td>
<td>• Environmentalists (Issue 1, page 6)</td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Involve all students in an activity with EcoTimes. One of the following activities may be suitable.

• After the articles have been discussed, divide students into small groups. Each group represents the main idea of four news articles using a different representation method for each article: web, sketch, chart, graph, mind map, etc. All four articles must be represented on one poster sized page.

• Assign one or two articles from EcoTimes to each student. Students find a related article from the local newspaper, write a paragraph to summarize the main idea of each article and explain how the articles are related.

• Form News Teams with three or four students per team. Each Team selects four articles. On an index card, each Team writes the headline, a 3-line summary of each article and an editorial comment. (Optional: On a poster-sized page, students make an illustration for each article.) Then, students act as TV News Anchors for the 6:00 pm news. Each ‘news program’ should be about 10 minutes long. The audience (the other News Teams) keeps track of each news item with a key word and phrase or sketch. At the end of each News Show, the teacher poses questions and awards points to the News Teams in the audience with the correct answers.
3. Students read the E & E Report in their Role Files. (Assign each Organizer to a Sector for this activity.)
   • Optional: Make overheads of Part A or B from two different E & E Reports. Model how to read the information in the E & E Report. (Please see the ideas in Directed Reading at the end of this file.)
   • Students should read the report 2 or 3 times, as they will be making a presentation on the information to the class. Some ideas for encouraging students to reread:
     ~ Make a list of 8 vocabulary words that are important to your Sector or that are unknown to you. Define each word.
     ~ Draw a picture for each section (A, B, and C) of the report.
     ~ Use a graphic organizer to show how you would present the information.
   • Reach For The Top game: Students sit in small groups. The teacher poses a question to the groups. Each group may discuss possible answers for 2 or 3 minutes. Then the teacher draws the name of one student from a random list of student names. This student has the opportunity to answer correctly and score for his/her team. If the student cannot answer, the teacher draws another name. Continue in this manner until all the questions are answered.
     ~ This method of asking questions ensures that all students are involved in discussing the answer because no-one knows who will be asked to give the answer.
     ~ Ask both factual and inferential questions.
     ~ Call some names twice so that all students continue to participate.

4. Each Sector presents information from the E & E Report.
The report should include 3 positive statements and 3 negative statements about the Sector. As the reports are given, the teacher records the positive and negative statements on chart paper. The audience is responsible for recording the information also. Remind students to use Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) while listening to the presentations.
   • Discussion Questions:
     ~ Are there any positive/negative statements about a Sector with which you disagree?
     ~ Can you give any other examples from our community of the positive or negative impacts on the environment of a Sector?
     ~ In your opinion, which Sector is the most important? Why?
     ~ In your opinion, could any Sector be eliminated? Why or why not?
     ~ Why do Sectors have to contribute money to the government? (Pays for many services: doctors, teachers, road construction, recreation facilities, etc.)
     ~ How are the economy and the environment linked? (Many of British Columbia’s industries rely on the environment. For example, logging requires healthy forests. Tourism requires scenic areas and rugged wilderness.)

5. Evaluate material from Teacher Time 5.
   □ EcoTimes discussion questions
   □ EcoTimes poster
   □ E & E Report presentation
   □ optional: E & E Report quiz
Photocopy 5

<table>
<thead>
<tr>
<th>Material</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worksheet 13 (The Rating Game)</td>
<td>Give 1 copy to each Sector.</td>
</tr>
<tr>
<td>Worksheet 14 (Clearing The Table)</td>
<td>1 copy to the Secretary to use at Round Table 5</td>
</tr>
</tbody>
</table>

Task Time 5

Sectors choose the criteria that they think should be used to divide the land in the Pangea Valley. (By this time, students have been exposed to positive and negative information about each of the Sectors. Depending on their values and viewpoints, students might choose criteria that make the division of land: equal between all Sectors or unequal between all Sectors. Both choices are valid in that they are reflected in the adult population in British Columbia.)

1. This is a quick summary of the tasks for each group of students.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>• read The Nitty Gritty</td>
<td></td>
</tr>
<tr>
<td>• read the Skit</td>
<td></td>
</tr>
<tr>
<td>• perform the skit</td>
<td>• read and discuss The Nitty Gritty</td>
</tr>
<tr>
<td></td>
<td>• do Worksheet 13 (The Rating Game)</td>
</tr>
<tr>
<td></td>
<td>• reread E &amp; E report</td>
</tr>
</tbody>
</table>

2. Conference with Sectors to discuss Worksheet 13 (The Rating Game).
   • What are criteria?
   • How will the criteria be used eventually?
   • How should the worksheet be completed?
   • Where will the information come from?
   • How will you defend this information at the Round Table meeting?

   To complete this worksheet, students can:
   • read The Nitty Gritty
   • reread the E & E Report
   • reread EcoTimes
   • watch Connections: Humans & Habitat again
   • use Worksheets 7 & 8 (For The Record A & B) to find sources of information about each Sector

3. Conference with the Organizers. The Organizers read the Skit in their Role File and then perform it for the class. The Skit looks at the difficulty of keeping a meeting running smoothly. The Organizers will have to "borrow" three other students to take roles in the skit.

4. Provide time for the Organizers to perform their Skit.
5. The **Proposal Groups** are the groups of students that work on a plan (Proposal) of how to allocate the land and water in the Pangea Valley to the seven Sectors. These groups will work together for the next 3 Task Times. Groups should have a maximum of 5 students. Think about how to assign students to the **Proposal Groups**:
   - mix all of the Sectors together so there is one Sector rep in each group
   - join two Sectors together so that one Proposal Group might only have Agriculture and Settlement members

   Decide if you want to choose the members of the Proposal Groups OR if you want the students to choose the members of the Proposal Groups. (If the students do the choosing, then you must live with the consequences.) In either case, meet with the Chair to let him/her know what you have decided. If you have chosen the Proposal Groups, give the Chair the list of students.

6. Evaluate the material from Task Time 5.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
<th>presentation of the Skit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   |           |        | *Worksheet 13 (The Rating Game)* |
   |           |        | --------------------------------|

---

**Round Table 5**

1. At this Round Table the students:
   - brainstorm for a list of **Criteria** for evaluating Proposals
   - come to consensus on the criteria
   - form Proposal Groups

2. Make sure the Secretary completes **Worksheet 14 (Clearing The Table)**. It must be photocopied and given to each Proposal Group at Task Time 6.

3. Optional: Students complete **Worksheet 6 (My Thoughts About The Meeting)** for Round Table 5.

4. Evaluate material from Round Table 5.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
<th><strong>Worksheet 14 (Clearing The Table)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   |           |        | Optional: notes                      |
   |           |        |                                      |

   |           |        | Optional: **Worksheet 6 (My Thoughts About The Meeting)** |
   |           |        |                                      |

   |           |        | optional: Group Participation Checklist |
   |           |        |                                      |

---

Some important questions to ask the students while the list of criteria is developed:

- **How will you know if a Proposal has followed the criteria?** (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that ‘people living in the Pangea Valley are happy’?)

- **Is there a way to measure the criteria?** (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

- **What will you do if none of the Proposals can meet these criteria?**
Session 6

Teacher Time 6

During Teacher Time 6, students read and stage different skits. These seven skits illustrate the pros and cons of various land-use issues and have information students need for Task Time 6 and Task Time 7. By performing these skits, students should come to recognize that land-use issues are complex and many-sided. Teacher Time 6 will likely require 5 - 7 hours.

1. Organize three or four of the Skits as Reader’s Theater or as staged ‘productions’.
   - As each skit has five or six characters, it is impossible to do all seven skits unless students take on more than one role.
   - Make 5 or 6 copies of each Skit. Keep the copies for the students for reference during Task Time 6 and Task Time 7.
   - Each Skit will take from 10 - 15 minutes to perform.
   - Students might use index cards as ‘cheat’ sheets for the dialogue.
   - Remind students to use Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) while watching the Skits.
   - Provide time for discussion of each skit after the performance.

   - Discussion Questions:
     ~ List the pros and cons to the arguments presented in this skit.
     ~ What were the points of view raised in this skit?
     ~ Which character was the most convincing?
     ~ Which character did you agree with? Why?
     ~ What do you think the solution should be in this skit?
     ~ Did any characters have biased opinions? Which ones? How do you know? Is it acceptable to have biases?
     ~ What is stereotyping? Do you think any characters were stereotyped? If yes, which characters were they? What made you think they were stereotyped?
     ~ Is there anything you would have added to the dialogue?
     ~ Do you have any suggestions for rewriting this skit?
• This is another opportunity to evaluate speaking skills. Make sure students understand the criteria that will be used to evaluate their performance (i.e. what does enunciation mean? what does it sound like?). Choose a scale (1 - 5; High, Medium, Low; Yes, No) that is most appropriate for each criteria. Explain the levels of competence for each of the skills. (For example, does a perfect score for pronunciation mean no errors? one error? two errors? Does a perfect score for expression mean the teacher must be kept interested? the class must be kept interested?). Some speaking skills that can be evaluated are:
  ~ volume (loudness)  ~ enunciation (clarity of sound)
  ~ expression  ~ pronunciation (standard usage)
  ~ pacing (speed)  ~ fluency (flow or smoothness)
  ~ use of gestures, facial expression

2. Evaluate material from Teacher Time 6.
   - Skit discussion questions
   - optional: speaking skills (Skit)

**Photocopy 6**

<table>
<thead>
<tr>
<th>Material</th>
<th>Distribution</th>
</tr>
</thead>
</table>
| Worksheet 16 (Proposal Map Grid) | • Give 1 copy to each member of each Proposal Group. Have extra copies available as students will likely make mistakes.  
• Make an overhead to use for a demonstration. |
| Worksheet 17 (Square Dancing) - 2 pages | • Give 1 copy of both pages to each member of each Proposal Group. Have extra copies available as students will likely make mistakes.  
• Make an overhead to use for a demonstration. |
| Worksheet 19A & 19B (Number Crunching) - 2 pages Please enlarge 19A (Number Crunching Chart) onto ledger sized paper before copying. | • Give 1 copy of both pages to each member of each Proposal Group. Have extra copies available as students will likely make mistakes.  
• Make an overhead of 19A and 19B to use for a demonstration. |
| Worksheet 20A & 20B (Data Sheet) - 3 pages | • Give 1 copy of both pages to each member of each Proposal Group. Have extra copies available as students will likely make mistakes.  
• Make an overhead of 20B (Data Sheet Chart) to use for a demonstration. |
| All 7 of the Sector Map Information pages: Agriculture Map Information, Conservation Map Information, etc. | Give a copy of each Sector Map Information to each Proposal Group. (Each group should have 7 of these Maps.) |
| A completed copy of Worksheet 14 (Clearing The Table) given to you by the Secretary | • Give one copy to each Proposal Group.  
• Keep a copy for yourself. |
Task Time 6

This is probably the most difficult Task Time for the students. They will be coordinating a great deal of information and may need teacher support.

There are three tasks for the Proposal Groups:

• to look at OPTIONS (the Proposal) for dividing the land in the Pangea Valley - Worksheet 16 (Proposal Map Grid)
• to EVALUATE their Proposal - Worksheet 19 (Number Crunching) and Worksheet 20 (Data Sheet)
• to explain how some of the land areas can be shared without conflict - Worksheet 17 (Square Dancing). This is a difficult task because students are juggling information from a variety of sources. Remind students to use Worksheet 8 (For The Record) to help them coordinate all this information.

1. This is a quick summary of the tasks for each group of students.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Proposal Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>• make enlarged maps of the Pangea Valley for each Proposal Group</td>
<td>• reread The Nitty Gritty</td>
</tr>
<tr>
<td></td>
<td>• do Worksheet 16 (Proposal Map Grid)</td>
</tr>
<tr>
<td></td>
<td>• do Worksheet 17 (Square Dancing)</td>
</tr>
<tr>
<td></td>
<td>• do Worksheet 19 (Number Crunching)</td>
</tr>
<tr>
<td></td>
<td>• do Worksheet 20 (Data Sheet)</td>
</tr>
<tr>
<td></td>
<td>• prepare to present the Proposal at Round Table 6</td>
</tr>
<tr>
<td></td>
<td>• optional: minutes of meetings of Proposal Groups</td>
</tr>
</tbody>
</table>

Important Note

Please read the following background information before beginning Task Time 6. Note: this information is included in the Sector Direction Files.

• Students must follow the criteria for dividing the land:
  - A square may not have more than 4 Sectors.
  - Agriculture, Settlement, Conservation and Forestry need large amounts of land. Only 2 of these Sectors may exist together in any one square.
  - The criteria made by the students at Round Table 5. (The Secretary will record all criteria onto Worksheet 14 (Clearing The Table). This can be photocopied and given to Proposal Groups.)
• The number of jobs protected depends on the 'type' of square that is given to a Sector. The 5 'types' of squares are listed in this chart.

<table>
<thead>
<tr>
<th>Type of Square</th>
<th>Jobs Protected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Sector in a square:</td>
<td>100% of the jobs</td>
</tr>
<tr>
<td>2 or 3 Sectors in a square:</td>
<td>75% of the jobs</td>
</tr>
<tr>
<td>4 Sectors in a square (and a good reason for sharing):</td>
<td>60% of the jobs</td>
</tr>
<tr>
<td>4 Sectors in a square (and a poor reason for sharing):</td>
<td>20% of the jobs</td>
</tr>
<tr>
<td>A Sector gets a square it did not want (shared or not shared):</td>
<td>20% of the jobs</td>
</tr>
</tbody>
</table>
2. Conference with the Proposal Groups. Please include the Organizers at this time so they understand the information that will be discussed at Round Table 6. (Note: Much of the following information is included in the Sector Direction Files.)

Using the overhead projector, demonstrate how to complete each worksheet according to the following instructions.

**Worksheet 16 (Proposal Map Grid).**

- Tell the students that each Proposal Group uses Worksheet 16 (Proposal Map Grid) to show how the land in the Pangea Valley should be divided.
- Demonstrate a system for allocating squares. Begin by looking at square A1 on Worksheet 15 (Master Map Grid).
  a. If there is no conflict (ie. 1, 2 or 3 Sectors in a square), allocate that square to those Sectors. Record this information on Worksheet 16 (Proposal Map Grid).
  b. If there is conflict, move to the next square (A2). Repeat steps a. and b. until all the ‘no conflict’ squares have been allocated.
  c. Go back to the ‘conflict’ squares (ie. 4 or more Sectors in a square). For each square, decide which Sectors ‘win’ the square and which Sectors ‘lose’ the square. Record this information on Worksheet 16 (Proposal Map Grid).
  d. Try to compensate ‘losing’ Sectors by giving them part or all of another square. Check the Sector Map Information pages to make sure that Sectors are given only those squares that are allowed.

- Questions to think about:
  ~ Is our plan meeting all of the criteria?
  ~ Is it better for Sectors that impact heavily on the land to be given squares in one area and concentrate the damage or to be given squares in many areas and dilute the damage?
  ~ Should some Sectors be given more of what they want than others? Why or why not?
  ~ What do we know about the way the Sectors work that will affect the way we allocate the land? (ie. Fishing only needs the river areas protected. As long as the other Sectors guarantee that they will not destroy all the riverbanks, Fishing will be satisfied. On the other hand, Settlement needs to build roads. It is less expensive to build roads in the ‘relatively flat’ valleys, right beside the river.)
- Students need encouragement to keep trying to work out a solution. It will not be easy.
- Give each Proposal Group multiple copies so they will try different ideas.
- Groups should begin working on Worksheet 16 (Proposal Map Grid). After 15 - 20 minutes, stop the groups and assess the progress. Re-explain if necessary.
- Explain Worksheet 19 (Number Crunching) when most groups are almost finished.

**The amount of habitat protected depends on the 'type' of square that is given to Conservation. The 5 'types' of squares are listed in this chart.**

<table>
<thead>
<tr>
<th>Type of Square</th>
<th>Habitat Protected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conservation has the whole square:</td>
<td>100% of the habitat</td>
</tr>
<tr>
<td>Conservation shares with 1 or 2 Sectors:</td>
<td>75% of the habitat</td>
</tr>
<tr>
<td>Conservation shares with 3 Sectors (good reason for sharing):</td>
<td>60% of the habitat</td>
</tr>
<tr>
<td>Conservation shares with 3 Sectors (poor reason for sharing):</td>
<td>20% of the habitat</td>
</tr>
<tr>
<td>Conservation gets a square it did not want (shared or not shared):</td>
<td>20% of the habitat</td>
</tr>
</tbody>
</table>
Worksheet 19A and 19B (Number Crunching).

- Tell students that this worksheet is used to find the number of squares and type of squares that have been allocated to each Sector. This information will eventually be used to determine how many jobs are saved and how much habitat is protected by each Proposal.

- Read Worksheet 19A (Number Crunching Directions) as a class. Make sure students understand the 5 ‘types’ of squares. Point out that the boxes all have different borders. These borders are repeated on Worksheet 19B (Number Crunching Chart).

- Demonstrate how to complete Worksheet 19B (Number Crunching Chart) by looking at square A1 on Worksheet 16 (Proposal Map Grid). Then go through the following steps.

a. If A1 was given to only one Sector, print ‘A1’ in that Sector’s column in the 1st row.
b. If A1 was given to a Sector and it was a square that Sector did not want, print ‘A1’ in that Sector’s column in the 2nd row.
c. If A1 was given to 2 or 3 Sectors, print ‘A1’ in each Sector’s column in the 3rd row.
d. If A1 was given to 4 Sectors, print ‘A1’ in each Sector’s column in the 4th row. (For now, these squares will be counted as though there were good reasons to explain how all four Sectors can share the square.)
e. Repeat steps a, b, c, and d for all the squares on the map.
f. When all of the squares are finished, count the number of coordinates in each box and print that number in the right hand corner of each box.

- In the sample chart:
  - A1 was given to Conservation and Fishing.
  - B6 was given only to Agriculture
  - E4 was given to Conservation, but Conservation did not want it originally.
  - C2 was given to Agriculture, Conservation, Fishing and Forestry.

- If this worksheet was not enlarged when it was photocopied (Photocopy 6), please suggest that students enlarge it now.

- Now explain Worksheet 20A and 20B (Data Sheet).
Worksheet 20A and 20B (Data Sheet).

- Tell students that this worksheet is used to determine how many jobs are saved and how much habitat is protected by each Proposal.
- Read Worksheet 20A (Data Sheet Directions) as a class.
- Demonstrate how to complete Worksheet 20B (Data Sheet Chart).
  a. Transfer the numbers from Worksheet 19B (Number Crunching Chart) into the appropriate places.
  b. Do the calculations on some of the charts on Worksheet 20B (Data Sheet Chart) to show how many jobs are protected. (For example, complete the Agriculture column for Chart 2, Chart 3, Chart 4, Chart 5 and Chart 6. Then transfer these numbers to the Agriculture column in Chart 7 to get a grand total of agriculture jobs protected.)
- Proposal Groups should complete Worksheet 16 (Proposal Map Grid) and then begin Worksheet 19B (Number Crunching Chart). During this time, circulate to each group to ensure that students have understood the directions. (Students may want to change Worksheet 16 (Proposal Map Grid) when they discover how jobs and habitat are affected.)
- Explain Worksheet 17 (Square Dancing) when one of the Proposal Groups is almost finished Worksheet 20B (Data Sheet Chart).

Worksheet 17 (Square Dancing)

- Tell the students to use this worksheet to explain how four Sectors can work together in the same area of land. (For example, Fishing, Mining, Forestry and Settlement can share this square because: The trees and plants along most of the rivers will be left alone to protect the rivers for fishing. This will make more people want to buy houses in the area, so the land will be more valuable for settlement. Mining can have 25% of the land, but agrees to let settlement use the land when the mine is closed. Forestry will clear the land for the mine and the settlement area. Then forestry will get 25% of the land to log.)
- Demonstrate how to complete Worksheet 17 (Square Dancing).
  a. Scan Worksheet 16 (Proposal Map Grid) and list the squares with four Sectors.
  b. Choose 5 of these squares to explain.
  c. Follow the directions on Worksheet 17 (Square Dancing).
- Students may need direct instruction to complete Worksheet 17:
  ~ Show students how to reread information sources (i.e. EcoTimes, Pot-Luck, E & E Report) to find data that shows how four Sectors can share a square. Worksheet 7 & 8 list the information sources.
  ~ Students can make telephone calls to ‘real-life’ representatives of various Sectors to ask for information about how each Sector can work with other Sectors.
  ~ With the class, brainstorm for ideas on how four Sectors can share by discussing one of the squares from each Proposal Group.
- The teacher will rate the explanations as Good or Poor when he/she marks Worksheet 17 (Square Dancing). All other squares with 4 Sectors will be counted as having ‘Good’ reasons for sharing.
- Remind students that if explanations are rated as ‘Poor’, the job and habitat protection numbers will change dramatically. Proposal Groups will have to redo Worksheet 19 (Number Crunching) and Worksheet 20 (Data Sheet).
- Students may find that some Sectors can share land more easily than other Sectors. It is perfectly acceptable for students to recognize this as a reality and to use this information to their advantage.

3. Complete the Good or Poor column on Worksheet 17 (Square Dancing) and return it to each Proposal Group. Provide more time for Proposal Groups to redo Worksheet 19 (Number Crunching) and Worksheet 20 (Data Sheet) if any of their explanations for sharing were rated as ‘Poor’.

62 Table Talk
4. Optional: Decide if you want the Proposal Groups to keep minutes of their meetings.

5. Organizers are making enlargements of the Pangea Valley Map for each Proposal Group.

6. Conference with Proposal Groups to discuss how to present the data at Round Table 6.
   • Proposal Groups use a large version of Worksheet 16 (Proposal Map Grid) to show how they allocated the land. (Note: This map is used at Round Table 6 and Round Table 7. To make changes easier, students can use the base map made by the Organizers and make construction paper 'cut-outs' or symbols to represent the Sectors. These paper symbols may be pinned or taped on temporarily.)
   • Proposal Groups use 2 large charts to show:
     ~ how many jobs are protected by their Proposal
     ~ how much land is protected by their Proposal
   • Each Proposal Group explains two squares from Worksheet 17 (Square Dancing).
   • Remind Proposal Groups to be ready to answer questions such as those listed in the directions for Round Table 6.

<table>
<thead>
<tr>
<th>Number of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
</tr>
<tr>
<td>Conservation</td>
</tr>
<tr>
<td>Fishing</td>
</tr>
<tr>
<td>TOTAL</td>
</tr>
</tbody>
</table>

7. Evaluate the material from Task Time 6.

Organizer   Proposal Groups

☐  Worksheet 16 (Proposal Map Grid)
☐  Worksheet 17 (Square Dancing)
☐  Worksheet 19 (Number Crunching)
☐  Worksheet 20 (Data Sheet)
☐  large maps of the Pangea Valley made for each Proposal Group

Round Table 6

1. At this Round Table the students listen to Proposal Group presentations. All the charts used in the presentations should be on display at the end of this meeting.
   • Discussion Questions for each Proposal Group:
     ~ What method did you use to divide the squares? Would you do it differently next time? Why?
   • Discussion Questions when all the presentations are finished:
     ~ Which Proposal saved the most number of jobs? Which Proposal saved the most amount of habitat?
     ~ What are some of the differences between the Proposals?
     ~ Why are the Proposals different? How did that happen? (Students made different choices based on their understanding of all the data.)
     ~ Is there a way to change any of the Proposals to make them save more jobs and more land?
     ~ Which Sectors seem to share easily and why? (Fishing & Conservation & Tourism?)
     ~ Which Sectors do not seem to share easily and why? (Conservation & Mining? Fishing & Agriculture? Settlement & Forestry?)
     ~ Why is it difficult for Forestry, Agriculture, Settlement and Conservation to share? (They all use large areas of land.)
~ Why is it relatively easy for Tourism to share land with other Sectors? (Tourism often uses the other Sectors. For example, tourists use the logging roads to get deep into the woods for fishing, dirtbiking, hunting and hiking. Tourists visit existing attractions in large cities.)

~ Should Sectors that cannot share easily be penalized? Why or why not?

~ Is it difficult for Conservation to share with any other Sector? Why or why not?

~ In British Columbia, most of the land is owned by the government. This is called Crown Land. Many Sectors lease this land. For example, logging companies are allowed to cut the trees on Crown Land, but they pay a certain amount of money to the government for that privilege. Ranchers also lease Crown Land for grazing cattle. What would happen if each Sector had to purchase and own its own land? Would this make a difference to the kinds of difficulties that Sectors now have? What would happen to Sectors like Fishing or Conservation? (There could be both positive and negative aspects to Sectors owning land. For example, perhaps logging companies would take better care of the land if they owned it. On the other hand, whole areas of land could be harmed if private owners did not have to follow environmental regulations.)

2. Depending on the length of each Proposal, Round Table 6 may have to be done in two parts.

3. Optional: Students complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 6.

4. Evaluate material from Round Table 6.

<table>
<thead>
<tr>
<th>Organizer Proposal Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ proposal presentations</td>
</tr>
<tr>
<td>☐ discussion questions</td>
</tr>
<tr>
<td>☐ Optional: notes</td>
</tr>
<tr>
<td>☐ Optional: Worksheet 6 (My Thoughts About The Meeting)</td>
</tr>
<tr>
<td>☐ optional: Group Participation Checklist</td>
</tr>
</tbody>
</table>

**Session 7**

**Teacher Time 7**

There are no activities scheduled for Teacher Time 7.

**Photocopy 7**

<table>
<thead>
<tr>
<th>Material</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worksheet 16 (Sudden Impact)</td>
<td>Give 2 copies to each Proposal Group.</td>
</tr>
<tr>
<td>Worksheet 16 (Proposal Map Grid)</td>
<td>Give to Proposal Groups that want to make changes.</td>
</tr>
<tr>
<td>Worksheet 16A and 16B (Number Crunching) - 2 pages</td>
<td>Give to Proposal Groups that want to make changes.</td>
</tr>
<tr>
<td>Worksheet 20A and 20B (Data Sheet) - 2 pages</td>
<td>Give to Proposal Groups that want to make changes.</td>
</tr>
</tbody>
</table>
Task Time 7

During Task Time 7, the Proposal Groups finalize their Proposal (OPTION).

Do all of the tasks.

1. This is a quick summary of the tasks for each group of students.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Proposal Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>• make a large Job Protection Chart, Habitat Protection Chart and Criteria Chart</td>
<td>• do Worksheet 18 (Sudden Impact)</td>
</tr>
<tr>
<td></td>
<td>• complete the Proposal package</td>
</tr>
<tr>
<td></td>
<td>• prepare to present final Proposal at Round Table 7</td>
</tr>
<tr>
<td></td>
<td>• optional: minutes of meetings of Proposal Group</td>
</tr>
</tbody>
</table>

2. Conference with the Organizers to discuss how to make a large Job Protection Chart, Habitat Protection Chart and Criteria Chart. (Sample charts and directions for completing them are included in the Assistant Role File.)

• Where will the data come from? (go to each Proposal group for the numbers)
• What size should the chart be?
• How can you use colour to make the data easier to interpret?
• What can be done if you have to wait for the data? (construct chart, print headings)

3. Conference with the Proposal Groups to discuss Worksheet 18 (Sudden Impact).

• Students look at the Proposal from the perspective of the economy, environment and the community.
• This is NOT an easy task.
• It may be easier for the students to assess each factor (i.e. community) by thinking about how it might affect their community. For example, if 20% of the parents in this school lost their jobs, how would that affect the school?
• Do NOT expect great results. The purpose of this task is to encourage students to recognize that the Proposals WILL IMPACT the economy, environment and community.

4. Conference with Proposal Groups to plan how to present their final Proposal. Some questions to ask:

• What information needs to be presented?
  ~ overall strategy or philosophy the group used to allocate land
  ~ proof that the Proposal meets all the criteria on Worksheet 14 (Clearing The Table)
  ~ summary of information on Worksheet 18 (Sudden Impact)
  ~ a large Map of the Pangea Valley to show how the land was allocated
  ~ the final job and habitat protection numbers

• Can you satisfy all the Sectors?
• Are the criteria working for your group?
• Would it help to meet with another Proposal Group to share ideas?
• How have you organized your group?
• How will your group present the Proposal?
• How will you make it interesting?
Paperwork needed for the Proposal Package. (All material must be on letter-sized paper so it can be photocopied. Students will use these copies to evaluate all the Proposals during Task Time 8.)

- Title Page (designed by the students).
- Worksheet 16 (Proposal Map Grid) OR a map that shows how the land is divided.
- Job Protection Chart
- Habitat Protection Chart
- Worksheet 17 (Square Dancing).
- Worksheet 18 (Sudden Impact).

5. Evaluate the material from Task Time 7.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Proposal Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Job Protection Chart</td>
</tr>
<tr>
<td></td>
<td>Habitat Protection Chart</td>
</tr>
<tr>
<td></td>
<td>Criteria Chart</td>
</tr>
<tr>
<td></td>
<td>Worksheet 18 (Sudden Impact)</td>
</tr>
<tr>
<td></td>
<td>Proposal paperwork package</td>
</tr>
</tbody>
</table>

Round Table 7

1. At this Round Table the students:
   - listen to Proposal Group presentations
   - decide if each Proposal meets the criteria agreed to at Round Table 5 (Assistant uses a large Criteria Chart to record this information.)

   - Discussion Questions for each Proposal Group:
     - What method did you use to divide the squares?
     - Would you do it differently next time? Why?

   - Discussion Questions when all the presentations are finished:
     - Which Proposal has saved the most number of jobs? Which Proposal has saved the most amount of habitat?
     - What are some of the differences between the Proposals?
     - Why are the Proposals different? How did that happen? (Students made different choices based on their understanding of all the data.)
     - Is there a way to change any of the Proposals to make them save more jobs and more land?
     - Which Sectors seem to share easily and why? (Fishing & Conservation & Tourism?)
     - Which Sectors do not seem to share easily and why? (Conservation & Mining? Fishing & Agriculture? Settlement & Forestry?)
     - Why is it difficult for Forestry, Agriculture, Settlement and Conservation to share? (They all use large areas of land.)
Why is it relatively easy for Tourism to share land with other Sectors? (Tourism often uses the other Sectors. For example, tourists use the logging roads to get deep into the woods for fishing, dirtbiking, hunting and hiking. Tourists visit existing attractions in large cities.)

Should Sectors that cannot share easily be penalized? Why or why not?

Is it difficult for Conservation to share with any other Sector? Why or why not?

In British Columbia, most of the land is owned by the government. This is called Crown Land. Many Sectors lease this land. For example, logging companies are allowed to cut the trees on Crown Land, but they pay a certain amount of money to the government for that privilege. Ranchers also lease Crown Land for grazing cattle. What would happen if each Sector had to purchase and own its own land? Would this make a difference to the kinds of difficulties that Sectors now have? What would happen to Sectors like Fishing or Conservation? (There could be both positive and negative aspects to Sectors owning land. For example, perhaps logging companies would take better care of the land if they owned it. On the other hand, whole areas of land could be harmed if private owners did not have to follow environmental regulations.)

2. Depending on the length of each Proposal, Round Table 7 may have to be done in two parts.

3. Optional: Students complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 7.

4. Evaluate material from Round Table 7.

   Organizer  Proposal Groups
   [ ]  [ ]  Optional: Worksheet 6 (My Thoughts About The Meeting)
   [ ]  [ ]  proposal presentations
   [ ]  [ ]  Optional: notes
   [ ]  [ ]  optional: Group Participation Checklist

Session 8

Teacher Time 8

There are no tasks scheduled for Teacher Time 8.

Photocopy 8

<table>
<thead>
<tr>
<th>Material</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proposal Packages (put together by students in Task Time 7)</td>
<td>Make 3 copies of each Proposal. Place each copy in a separate file folder and label it with the Proposal Group name. Proposal Groups need access to these copies during Task Time 8.</td>
</tr>
</tbody>
</table>
Task Time 8

Each Proposal Group evaluates the Proposals and makes suggestions for changes (if necessary). Remind students to make sure that each Proposal has met the criteria.

1. This is a quick summary of the tasks for each group of students.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Proposal Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>- read How To Decide</td>
<td>- make a list of pros and cons for each Proposal</td>
</tr>
<tr>
<td></td>
<td>- make a list of ways to improve Proposals</td>
</tr>
<tr>
<td></td>
<td>- discuss Proposals with other people</td>
</tr>
<tr>
<td></td>
<td>- optional: minutes of meetings of Proposal Groups</td>
</tr>
</tbody>
</table>

2. Read *How To Decide* in your Role File.

3. Conference with the Organizers to discuss the information in *How To Decide*.
   - When do you think these techniques might be useful?
   - What technique(s) should be used at Round Table 8 to help the Proposal Groups come to a decision?
   - How will the technique be explained?
   - How will the results be recorded?
   - Should the Organizers ‘practice’ using one of these techniques in a different situation first?

4. Conference with Proposal Groups. Discuss the list of pros and cons for the Proposals made by each Proposal Group:
   - Which Proposal do you think is best? Why?
   - Could any of the other Proposals be changed to make them better?
   - What about the criteria for evaluating the Proposals? Does it need to change?

5. Evaluate the material from Task Time 8.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Proposal Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>- list of the strengths and weaknesses of each Proposal</td>
<td></td>
</tr>
<tr>
<td>- list of ways to improve Proposals</td>
<td></td>
</tr>
</tbody>
</table>
Round Table 8

1. At this Round Table the students:
   • discuss and rank the Proposals
   • come to agreement on the final Proposal
     • Discussion Questions
     ~ Why is this Proposal the best?
     ~ Could it be made better?
     ~ Is this Proposal fair for all Sectors? Why or why not?
     ~ Would the Proposal work in the real world? Why or why not?
     ~ What process did the group use to choose this Proposal?
     ~ Was this process fair? Why or why not?
     ~ Should similar decisions be made in this way? Why or why not?

2. Optional: Students complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 8.

3. Evaluate material from Round Table 8.

   Organizer Proposal Group
   
   □ □ explaining the ranking of the proposals
   □ □ discussion questions
   □ □ Optional: Worksheet 6 (My Thoughts About The Meeting)
   □ □ Optional: notes
   □ □ optional: Group Participation Checklist

Session 9

Teacher Time 9

There are no tasks scheduled for Teacher Time 9.

Photocopy 9

There is nothing to be photocopied for Teacher Time 9.
Task Time 9

1. This is a quick summary of the tasks for each group of students.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>- do a project about experiences with Round Table</td>
<td></td>
</tr>
<tr>
<td>- begin draft of letter to Premier</td>
<td></td>
</tr>
<tr>
<td>- do a project about experiences with Round Table</td>
<td></td>
</tr>
</tbody>
</table>

2. Brainstorm a list of ideas for Projects of the Round Table. Projects might include: song, skit, poem, cartoon strip, news broadcast, children’s book or mural.

3. Conference with the Organizers. Discuss how to write a letter to the Premier giving the results of the Round Table meeting.
   - What are the main points?
   - What is a polite introduction and ending to the letter?
   - Are there any interesting details to personalize the information?
   - Organizers should have a draft version of this letter photocopied for the other students for Round Table 9.

4. Evaluate the material from Task Time 9.

   Organizer | Sector |
   -----------|--------|
   [ ] | [ ] paperwork for the Round Table project

Round Table 9

1. At this Round Table the students:
   - make changes to a draft letter to the Premier
   - present and listen to the Projects of the Round Table

2. Evaluate material from Round Table 9.

   Organizer | Sector |
   -----------|--------|
   [ ] | [ ] project presentations
   [ ] | [ ] optional: Group Participation Checklist
Debriefing

At the end of the simulation, it is important to provide students with the opportunity to think about their roles and their own personal growth, the process of decision-making, their role in the meetings and the process of the meetings and the relationships that have developed during the process.

Roles/Personal Growth

1. How could your role be improved?
2. What would you do differently if you had the same role again?
3. What role did you wish you could have had? Why?
4. What did you learn about yourself while taking this role?
5. Was there anything that you and your role had in common? Comment.
6. Give three differences between yourself and the role you played.

Decision-making

1. **Was the final Proposal fair for all Sectors? Why or why not?**
2. **Would this final Proposal work in the real world? Why or why not?**
3. **How did the group make a final decision (voting, compromise, total agreement, being 'ordered' by someone)?**
   - Was this process fair? Why or why not?
   - Was this process necessary? Why or why not?
   - Should all similar decisions be made in this way? Why or why not?
4. In the real world, the Round Table meetings took over a year. And in some cases, no final decisions were ever made. Why do you think this happened?
5. What information was the most useful to you in making decisions? Why?
6. Was there any information that you wished you had in order to make a better decision?
7. What point of view did you take? What values were behind your point of view?
8. Should what is best for whole community outweigh what is best for each Sector?

Meetings

1. What would someone say about you if he/she watched the Round Table meetings?
2. Was your role important in the Round Table meetings? Why or why not?
3. State the three most frustrating parts about the Round Table meetings.
4. How did your role improve or detract from the Round Table meetings?
5. Did the Round Table meetings get anything accomplished? Why or why not?
6. Give three suggestions that would make the Round Table meetings run more smoothly.
7. Compare your Round Table meetings with the Round Table meetings of adults. What do you think would be the same? What would be different?

Relationships

1. Which students were most helpful during the Round Table meetings? Why?
2. Which students made it hard to work in a group? Why?
3. When you tried to make a decision, who did you ask for help? Why?
4. Did you find out something new about a classmate? Comment.
5. Did you get to know any of your classmates any better? Comment.

Note: questions with the stars (**) were included at Round Table 8.
Role Taking

Role taking is an ideal strategy for examining various points of view because it encourages interaction and information sharing. It is also an effective method to engage in problem solving and decision making.

In order for role taking to be an effective strategy, careful planning and attention on the part of the teacher are required. It is important that students be:

- prepared for the experience
- given guidance and direction as they proceed
- given enough time to interact
- fully debriefed following the experience

Preparation

‘Set the scene’ by describing the situation, some of the attributes of individual characters, and the relationships between characters. This will give students determine how they should act.

Guidance

In some cases, it may be best to allow the students to work through the experience from start to finish without interruption. However, you can also act as a ‘side-coach’ to keep the players on track. You can call ‘freeze’ and stop the simulation to add information, examine what has happened up to that point, discuss what might happen in the future, ask how characters are feeling, identify assertive or non-assertive behaviour, etc. This is particularly true if the pace is lagging or if the teacher feels the need to intervene.

In role taking in a particularly controversial issue, students do not have to come to a conclusion or resolution of the controversy. Sometimes, this can increase students’ awareness of the complexity of an issue. However, students should discuss this development during the debriefing and analysis following the role taking.

Time

Give students enough time during the role taking to interact and thoroughly explore the many possibilities or aspects of the situation.

Debriefing and Analysis

After the role taking is finished, allow time for the students to react to the experience. Participants can express how they felt at certain points, clarify their thoughts and reactions and learn to distinguish between their opinions as participants in the role taking and their opinions as impartial analysts once the role taking has concluded.
# Presentation Skills

<table>
<thead>
<tr>
<th>Presentation Skill</th>
<th>Purpose of the Skill</th>
<th>Explanation/Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Know your topic!!!</td>
<td>Gives you confidence.</td>
<td>You must read, read, read and read some more. Then ask questions! If you understand your topic, then you will know how to organize it and present it so other people can understand it.</td>
</tr>
<tr>
<td>Introduce the topic.</td>
<td>Gets the audience ready to listen.</td>
<td><em>Good morning. Today I am going to talk about Whales. First I will talk about what whale's look like. Then I will talk about where they live and then about their family life.</em></td>
</tr>
</tbody>
</table>
| Organize the topic. Make a list of the main points on numbered cue-cards. | Helps the audience to understand your speech. (When people cannot understand the speaker, they don't pay attention.) | Card 1: Introduction  
- Good morning  
- what whales look like  
- where whales live  
- family life of whales |
| Use numbered cue-cards to remind you of the main points of your presentation. | Keeps your presentation in the right order. | Card 2: What Whales Look Like  
- largest animal: blue whale - 91 tons (90 trucks)  
- fish-like body with large heads  
(Give the details in complete sentences as you talk. For example, "The blue whale is the largest animal in the world. It can weigh as much as 91 tons, which is the same as 90 trucks") |
| Use and explain visual aids (charts, diagrams, etc.). | Helps the audience understand the information. (People who do not understand what you are saying will not pay attention.) | "This chart shows the different types of whales alive today." (Point to each whale and explain what makes it different from the other whales.) Take time to show how the chart is important in your presentation. |
| Speak loudly and clearly. Do not fidget. | Makes the audience listen and pay attention. | Your hands should not be in front of your mouth. This stops the sound from reaching the audience. |
| Be confident. | Makes the audience listen and pay attention. | Stand up tall. Look at people. |
| Face the audience (not the floor, or the chart, or the blackboard). | Makes the sound travel out to the audience. (When you look down, the audience cannot hear you. Then they stop listening.) | Ask a friend to hold your chart or tape it to the blackboard. Use a pointer so you don't turn and talk to the chart. This will also make sure you don't block the audience from seeing the chart. |
| Make eye contact with people. | Makes the audience listen and pay attention. | Look at each person for a few seconds. |
| Practice your presentation. | Makes your presentation better. (This makes the audience pay more attention.) | Practice in front of a mirror. The practice with a friend or partner. Then try in front of your parents or an older brother or sister. Try tape-recording yourself. Then listen and see how you like being an audience for yourself. |
| Be ready. Have all your papers, cards and visual aids with you. | Gives you confidence. Lets the audience know that you are a good speaker and someone they will want to listen to. | People get restless when they have to wait. People also think the speaker is disorganized and that may mean the speaker is not very good. You want the audience to feel you are a good speaker. |
Directed Reading

Students need to be taught how to read content material because it is very different than the ‘story’ material that students usually read. Content material is more difficult to read because of the following features: longer and more complex sentences; specialized vocabulary; concentrated information; graphic organizers (graphs, charts, timelines, diagrams and maps).

Pre-reading

1. Accessing prior knowledge: the students.

<table>
<thead>
<tr>
<th>Students’ Jobs</th>
<th>Teacher’s Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Choose a text for the students to read (1 page).</td>
<td></td>
</tr>
<tr>
<td>* Students divide a piece of lined paper into 2 columns with the headings: I Know and New Information.</td>
<td></td>
</tr>
<tr>
<td>* Brainstorm for information about the topic. List the information in the I Know column.</td>
<td>* Circulate to the groups and ask questions. (For example, “I heard someone say that geologists work in mines. What do geologists do?”)</td>
</tr>
<tr>
<td></td>
<td>* Record the information about the topic from each group. Ask questions as you record to help define vocabulary and concepts. (For example: Can anyone tell me what geologists do? What are minerals?)</td>
</tr>
<tr>
<td>* Read the text. Record new information in the New Information column</td>
<td>* Read each item in the I Know column. Ask students to indicate if, according to the text, the information is accurate (✓), inaccurate (X), or unknown (?). Discuss items as necessary.</td>
</tr>
<tr>
<td></td>
<td>* Read each item in the New Information column and discuss.</td>
</tr>
</tbody>
</table>

2. Accessing prior knowledge: the text.
* Read the main headings in the material. (What type of information will be in each heading?)
* Read and discuss any words that are highlighted (i.e. printed in italics or boldface).
* Preview the visual aids such as charts, maps, timelines, etc. (How do you read the visual aid?)
* Predict the information that will likely be contained in the text.
Reading

1. Directing the reading process: modeling.
   - Make an overhead of the content text (1 or 2 pages).
   - Follow the directions in the What You Do/What You Say chart.

<table>
<thead>
<tr>
<th>What You Do</th>
<th>What You Say</th>
</tr>
</thead>
<tbody>
<tr>
<td>* Read the title (Conservation).</td>
<td>* I know that conservation is about recycling, reducing and reusing. Conservationists are people who try to conserve our air, water, trees, etc.</td>
</tr>
<tr>
<td>* Preview the headings (What Is Conservation? Why Do We Need to Conserve?)</td>
<td>* This text will give me a definition of conservation and some ideas on why conservation is important.</td>
</tr>
<tr>
<td>* Read the first heading and the 1st sentence. (What Is Conservation? The natural world is full of activity and life.)</td>
<td>* The natural world - I guess they mean things like the forests and oceans, but without all the man-made things like buildings or power lines or railroad tracks. So this sentence means that there is lots going on in the natural world.</td>
</tr>
<tr>
<td>* Continue reading until text is finished.</td>
<td>* Show how you use reading strategies to 'unlock' the meaning of the text: rereading; reading ahead; summarizing in your own words; etc.</td>
</tr>
</tbody>
</table>

   - If you decide to get students to read the text aloud, please ask only competent readers to read. (Remember: your purpose is to teach strategies for reading content material, not to teach word attack skills.)
   - After you have modeled this approach, begin drawing the students into the process. Ask the students to: talk about what each sentence means, draw pictures to illustrate main ideas, discuss vocabulary and interpret charts.
   - Students will not become 'experts' at reading content material overnight. They need to 'see' how you read many times throughout the school year.

2. Becoming independent: strategies.
   - Students can be taught to use some or all of the following strategies when reading content material.
   - Read more slowly. Use the following method to help you slow down:
     ~ Read the 1st sentence of the 1st paragraph. STOP. Do you understand the sentence? Can you summarize it in your own words? Now read the 2nd sentence. STOP. Do you understand the sentence? Can you summarize it in your own words? Now finish the paragraph. STOP. Do you understand the paragraph? Can you summarize it in your own words? Can you give the main idea? Can you draw a picture?
   - Print comments or questions as you read.
   - Read with a partner. One person reads. The other person asks a question after the paragraph. The 1st person answers the question. Then switch roles for the next paragraph.
   - Read the title. Write down 5 things that you know about the topic.
   - Read the subtitles and ask a question for each. After you read that section, ask yourself the question.
   - Read ahead a few sentences. Sometimes information in the next sentences will help you understand something you have already read.
   - Reread the paragraph two or three times.
   - Print a key word or draw a small picture for each paragraph.
   - Write down the words you don’t understand.
     ~ Ask someone to tell you what the words mean when you are finished reading.
     ~ Look the words up in the dictionary.
   - Ask a friend (teacher, parent, etc.) for help.
   - Try telling someone about what you read. They will ask questions that might help you understand the information. (Pretend that you have to explain it to a 4-year old child.)
# Summary of Simulation Activities

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
<th>Teacher</th>
</tr>
</thead>
</table>
| Teacher Time A | | • introduce the Pangea Valley using the video (Snapshots)  
• explain the simulation  
• discuss role-taking with class and assign/decide roles for students |
| Task Time A | | • give out the Chair and Assistant Role Files  
• meet with Chair and Assistant  
• read How To Run A Meeting in the Facilitator Role File  
• optional: develop criteria for Group Participation Checklist  
• optional: cut name tags |
| Teacher Time 1 | | • distribute and explain Direction Files  
• explain Work Files and Worksheet 1 (Keeping Track)  
• optional: model presentation skills and develop criteria for evaluation |
| Task Time 1 | • Assistant gives out Role Files and does Worksheet 2 (Role With It)  
• read Role Information  
• do Worksheet 4 (Role Introduction)  
• practice introducing your role  
• optional: make Name Tag | • read Role Information  
• do Worksheet 4 (Role Introduction)  
• practice introducing your role  
• optional: make Name Tag |
| Round Table 1 | • introduce role  
• discuss how to vote and use Speaker’s List  
• optional: Worksheet 6 (My Thoughts About Meeting) | • introduce role  
• optional: do Worksheet 6 (My Thoughts About Meeting) |
| Teacher Time 2 | | • observe Round Table meeting  
• trouble-shoot if necessary  
• optional: explain Worksheet 6 (My Thoughts About The Meeting) to all students |
| Task Time 2 | • list strong and weak points of Round Table 1  
• read and discuss Worksheet 5 (Membership Agreement)  
• read Rules of Order and make own list | • read and discuss Worksheet 5 (Membership Agreement)  
• make a list of rules of order  
• optional: design a notepad for notes during the meetings |
| | | • discuss Round Table 1 with Organizers  
• discuss Worksheet 5 (Membership Agreement) with all roles  
• optional: discuss the notepad with Sectors  
• read Rules of Order |
## Summary of Simulation Activities

<table>
<thead>
<tr>
<th>Round Table 2</th>
<th>Organizer</th>
<th>Sector</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• discuss and decide on Rules of Order</td>
<td>• discuss and decide on Rules of Order</td>
<td>• observe Round Table meeting</td>
</tr>
<tr>
<td></td>
<td>• discuss Worksheet 5 (Membership Agreement)</td>
<td>• discuss Worksheet 5 (Membership Agreement)</td>
<td>• act as Meeting Facilitator if necessary</td>
</tr>
<tr>
<td></td>
<td>• optional: do Worksheet 6 (My Thoughts About Meeting)</td>
<td>• optional: take notes</td>
<td>• discuss the way Worksheet 6 (My Thoughts About Meeting) was completed for Round Table 1 - discuss ideas for improvement</td>
</tr>
<tr>
<td>Teacher Time 3</td>
<td>• teach strategies for reading content material</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Task Time 3</td>
<td>• list strong and weak points of Round Table 2</td>
<td>• read Viewpoint and About Your Sector</td>
<td>• discuss Worksheet 10 (Sector Secrets) with Sectors</td>
</tr>
<tr>
<td></td>
<td>• read Viewpoint</td>
<td>• do Worksheet 10 (Sector Secrets)</td>
<td>• discuss Round Table 2 with Organizers</td>
</tr>
<tr>
<td></td>
<td>• sign Rules of Order</td>
<td>• get ready to present information about your Sector</td>
<td>• discuss presentations by Sectors on About Your Sector</td>
</tr>
<tr>
<td></td>
<td>• Assistant makes a good copy of Rules of Order</td>
<td>• sign Rules of Order</td>
<td>• get organized for Pot-Luck in Teacher Time 4</td>
</tr>
<tr>
<td></td>
<td>• optional: do Worksheet 9 (Room For All Views)</td>
<td>• optional: design poster to represent Sector</td>
<td>• optional: discuss Worksheet 9 (Room For All Views) with Organizers and Sectors</td>
</tr>
<tr>
<td>Round Table 3</td>
<td>• listen to presentations from Sectors</td>
<td>• give presentations on information about your Sector and on Sector Poster</td>
<td>• optional: discuss Posters with Sectors</td>
</tr>
<tr>
<td></td>
<td>• optional: do Worksheet 6 (My Thoughts About Meeting)</td>
<td>• optional: take notes</td>
<td></td>
</tr>
<tr>
<td>Task Time 4</td>
<td>• optional: do Worksheet 6 (My Thoughts About Meeting)</td>
<td>• observe Round Table meeting</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• list strong and weak points of Round Table 3</td>
<td>• act as Meeting Facilitator if necessary</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• get 2 Sectors to explain Map Rap and Sector Map Information</td>
<td>• optional: discuss the way Worksheet 6 (My Thoughts About Meeting) was completed for Round Table 2 - brainstorm ideas for improvement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• make 2 large maps of the the Pangea River Basin Map (Chair, Secretary)</td>
<td>• read Pot-Luck</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• the Assistant uses Worksheet 15 (Master Map Grid) to collate the information from Worksheet 12 (Sector Map Grid) from all Sectors</td>
<td>• read Connections: Humans &amp; Habitats</td>
<td></td>
</tr>
<tr>
<td>Task Time 4</td>
<td>• read Map Rap</td>
<td>• study your Sector Map Information and the Pangea River Basin Map</td>
<td>• discuss Worksheet 12 (Sector Map Grid) with Sectors</td>
</tr>
<tr>
<td></td>
<td>• study your Sector Map Information and the Pangea River Basin Map</td>
<td>• do Worksheet 12 (Sector Map Grid)</td>
<td>• check completed copies of Worksheet 12 (Sector Map Grid) from all Sectors</td>
</tr>
<tr>
<td></td>
<td>• make large version of Sector Map</td>
<td>• make large version of Sector Map</td>
<td>• discuss collating information from Worksheet 15 (Master Map Grid) with Assistant</td>
</tr>
<tr>
<td></td>
<td>• discuss how to enlarge the Pangea River Basin Map with the Chair and Secretary</td>
<td>• discuss Round Table 3 with Organizers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• discuss Round Table 3 with Organizers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Summary of Simulation Activities

<table>
<thead>
<tr>
<th>Round Table 4</th>
<th>Organizer</th>
<th>Sector</th>
<th>Teacher</th>
</tr>
</thead>
</table>
|               | - The Assistant discusses **Worksheet 15 (Master Map Grid)**  
|               |   - optional: do Worksheet 6 *(My Thoughts About Meeting)*  
|               | post the enlarged copy of Sector Map Information  
|               | - discuss **Worksheet 15 (Master Map Grid)**  
|               | - optional: take notes  
|               | - optional: do Worksheet 6 *(My Thoughts About Meeting)*  
|               | - observe Round Table meetings  
|               | - act as Meeting Facilitator if necessary  
| Teacher Time 5 | read Ecolog  
|               | read the **E & E Report**  
| Task Time 5   | - read **The Nitty Gritty**  
|               | - read and perform the Skit  
|               | - read **The Nitty Gritty**  
|               | - reread **E & E report**  
|               | - do **Worksheet 13 (The Rating Game)**  
| Round Table 5 | lead discussion on criteria for Proposals  
|               | form Proposal Groups  
|               | optional: do Worksheet 6 *(My Thoughts About Meeting)*  
|               | do **Worksheet 14 (Clearing The Table)**  
|               | choose criteria for Proposals  
|               | - optional: take notes  
|               | - optional: do Worksheet 6 *(My Thoughts About Meeting)*  
|               | - observe Round Table meetings  
|               | - act as Meeting Facilitator if necessary  
| Teacher Time 6 | students read and perform Skits  
| Task Time 6   | - enlarge **Pangea River Basin Map for Proposal Groups**  
|               | reread **The Nitty Gritty**  
|               | do **Worksheet 16 (Proposal Map Grid)**  
|               | do **Worksheet 17 (Square Dancing)**  
|               | do **Worksheet 19 (Number Crunching)**  
|               | do **Worksheet 20 (Data Sheet)**  
|               | prepare for presentation  
|               | discuss **Worksheet 16 (Proposal Map Grid)**, **Worksheet 17 (Square Dancing)**, **Worksheet 19 (Number Crunching)** and **Worksheet 20 (Data Sheet)** with Proposal Groups and Organizers  
|               | mark and return **Worksheet 17 (Square Dancing)**  
|               | discuss proposal presentations  
|               | Note: The Sectors have joined together to form Proposal Groups.  
| Task Time 6   | - review Chapter 15 of the **Ecolog**  
|               | - read the **E & E Report**  
|               | - discuss **Worksheet 13 (The Rating Game)** with Sectors  
|               | - discuss Skit with Organizers  
|               | - provide class time for Skit by Organizers  
|               | - think about how Proposal Groups should be formed  

---

*Note: This table outlines the activities for each round and task time, including discussions, reading, and exercises related to simulation activities.*
# Summary of Simulation Activities

<table>
<thead>
<tr>
<th>Round Table 6</th>
<th>Organizer</th>
<th>Sector</th>
<th>Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>optional</strong>: do Worksheet 6 (<em>My Thoughts About Meeting</em>)</td>
<td>present proposal</td>
<td>observe Round Table meetings</td>
<td>act as Meeting Facilitator if necessary</td>
</tr>
<tr>
<td>Teacher Time 7</td>
<td>take notes</td>
<td>act as Meeting Facilitator if necessary</td>
<td></td>
</tr>
<tr>
<td>Task Time 7</td>
<td>do Worksheet 6 (<em>My Thoughts About Meeting</em>)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>make a large Job Protection Chart</strong></td>
<td>do Worksheet 18 (<em>Sudden Impact</em>)</td>
<td>discuss Worksheet 18 (<em>Sudden Impact</em>) with Proposal Groups</td>
<td></td>
</tr>
<tr>
<td><strong>make a large Habitat Protection Chart</strong></td>
<td>prepare to present Proposal</td>
<td>discuss paperwork for Proposal Package</td>
<td></td>
</tr>
<tr>
<td><strong>make a large Criteria Chart</strong></td>
<td>organize paperwork for Proposal Package</td>
<td>discuss Job Protection Chart, Habitat Protection Chart and Criteria Chart with the Organizers</td>
<td></td>
</tr>
<tr>
<td>Round Table 7</td>
<td>minutes of meetings of Proposal Groups</td>
<td>observe Round Table meeting</td>
<td>act as Meeting Facilitator if necessary</td>
</tr>
<tr>
<td><strong>explain Habitat and Job Protection Charts</strong></td>
<td>present Proposals</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ask Proposal Groups to make presentations</strong></td>
<td>decide if Proposals meet criteria on Criteria Chart</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>do Criteria Chart for each Proposal</strong></td>
<td>take notes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>optional</strong>: do Worksheet 6 (<em>My Thoughts About Meeting</em>)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Time 8</td>
<td></td>
<td>There are no activities planned for this time.</td>
<td></td>
</tr>
<tr>
<td>Task Time 8</td>
<td></td>
<td>There are no activities planned for this time.</td>
<td></td>
</tr>
<tr>
<td><strong>read How To Decide</strong></td>
<td>make a list of pros and cons for each Proposal</td>
<td>read How To Decide in the Facilitator Role File</td>
<td></td>
</tr>
<tr>
<td></td>
<td>make a list of ways to improve Proposals</td>
<td>discuss How To Decide with Organizers</td>
<td></td>
</tr>
<tr>
<td>Round Table 8</td>
<td>minutes of meetings of Proposal Groups</td>
<td>discuss Proposals with Proposal Groups (use lists of pros and cons)</td>
<td></td>
</tr>
<tr>
<td><strong>lead discussion to rank Proposals</strong></td>
<td>discuss and rank Proposals</td>
<td>observe Round Table meeting</td>
<td>act as Meeting Facilitator if necessary</td>
</tr>
<tr>
<td><strong>come to consensus on final Proposal</strong></td>
<td>agree on final Proposal</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>optional</strong>: do Worksheet 6 (<em>My Thoughts About Meeting</em>)</td>
<td>observe Round Table meeting</td>
<td>act as Meeting Facilitator if necessary</td>
<td></td>
</tr>
<tr>
<td>Teacher Time 9</td>
<td></td>
<td>There are no activities planned for this time.</td>
<td></td>
</tr>
<tr>
<td>Task Time 9</td>
<td></td>
<td>There are no activities planned for this time.</td>
<td></td>
</tr>
<tr>
<td><strong>do a project about experiences with Round Table</strong></td>
<td><strong>do a project about experiences with Round Table</strong></td>
<td>help Organizers with draft letter to Premier</td>
<td></td>
</tr>
<tr>
<td><strong>begin draft of letter to Premier</strong></td>
<td></td>
<td>encourage students with the projects</td>
<td></td>
</tr>
<tr>
<td>Round Table 9</td>
<td><strong>listen to and present projects</strong></td>
<td><strong>listen to and present projects</strong></td>
<td></td>
</tr>
<tr>
<td><strong>read draft letter to Premier and make changes</strong></td>
<td></td>
<td><strong>observe Round Table meeting</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>act as Meeting Facilitator if necessary</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>FORESTRY MAP RAP</td>
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<td>TOURISM MAP</td>
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<td>TOURISM MAP RAP</td>
<td>123</td>
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<td>MAP OF PANGEA VALLEY</td>
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At A Glance

You have been chosen to be part of the Pangea Round Table. As a member of this group you will go to meetings. You will help to come up with a plan for how land should be used by businesses and other groups in Pangea. The Pangea Round Table is made up of people from these businesses and other groups. Each of you has a different point of view. Everyone’s point of view should be considered when you make a plan for the land and water in the Pangea Valley.

Roles

Everyone in your class has a role. There are two types of student roles: Sector Representative, or Organizer. Make sure you know which type of role you have.

Each role has a Role File. This Role File has printed information that you will need to be part of Table Talk.

Task Times

Task Times are blocks of time to let you complete all the work that you need to do before or after a meeting. You do some tasks by yourself and some tasks with other students. The Directions file will tell you what to do at Task Time.

Round Table Meetings

All students go to all nine Round Table meetings. Each role has a job at each meeting. The Directions File will tell you what to do at the Round Table meetings.

Worksheets

There are about 20 worksheets in Table Talk. The Directions File will tell you which worksheets your role should complete. Worksheets should be kept in a separate file.

Responsibilities

1. Work as part of a team with your Group.
2. Go to the Round Table Meetings.
3. Help decide how the land in the Pangea Valley should be used in the future.
Memo

From: Office of Premier
Victoria, B.C.

To: Members of Round Table
Pangea, B.C.

Thank you for helping to plan the future of land and water use in Pangea.

The Pangea River Basin is under more pressure as more people visit or move into the area. The government does not want to tell the people of the Pangea Valley how to use their land and water. We want the people who live in the Pangea Basin to decide for themselves. The Round Table is a way to get input from the citizens of the Pangea River Basin. The members of the Round Table represent all the different points of view of the people who live in the basin. We want you to come up with a plan for the future. Planning is important because:

• without planning, there may be more conflict about how the land in the Pangea Valley should be used and who should use it.
• without planning, there could be more damage done to the land. This harms the environment.
• without planning, workers will be unsure if their jobs will last. This can be hard on workers, their families and the community around them.

The people and businesses who now live in the Pangea Basin will benefit from the planning this Round Table does. So will the people who will live in the Basin in the future. They will benefit from the plans you make today. The planning you do now will:

• let people put their time, money and energy into finding answers that will benefit each sector and the whole community
• allow each sector to make plans to keep their businesses running
• help build communities that are strong because they have many different ways to live, work and play.

Thank you again, on behalf of all British Columbians.

Premier of British Columbia

Signature: Premier

Date: August 10, 1996
How To Run A Meeting

There are four parts to How To Run A Meeting:

• the Chair’s Tasks
• the Assistant’s Tasks
• the Secretary’s Tasks
• Helpful Hints for meetings

Read all of the information so you know what each of the Organizers will be doing. Think about how this information will help you to run the meetings.

Chair’s Tasks

1. Your job is to make it easier for the Round Table members to do their jobs. You organize and run each meeting. Be prepared!
   • Read the Agenda before the meeting.
   • Read and understand any of the papers that will be talked about at the meeting.
   • Get help from the teacher if you need it.

2. Start your meetings on time! Here are some ways to start a meeting:
   • “I would like to call the meeting to order now.”
   • “I can see that everyone is ready. I would like to start the meeting now.”

3. Welcome the members to each meeting. Here are some ideas:
   • “Thank you for coming to the meeting today. I know some of you have had to travel a long distance to be here.”
   • “I would like to thank everyone for their attendance at this meeting. I hope today’s meeting can help us work towards planning the future of Pangea.”

4. Use a Speaker’s List. A Speaker’s List makes sure that everyone gets a chance to speak. It also makes sure that people are not holding their hands up and waving their hands around trying to get your attention. The Assistant will explain how the Speaker’s List works at Round Table 1.

5. Make sure everyone stays on the topic. When someone asks a question that is off the topic, say “Your question is off the topic. We are talking about . . . right now. You will have to wait until the Question Period.”
6. Teach members how to vote. You may want to use the following chart.

<table>
<thead>
<tr>
<th>What To Do</th>
<th>What To Say</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A member puts a motion on the Table. (This means he/she wants to vote.)</td>
<td>&quot;I would like to make a motion. I think that ...&quot;</td>
</tr>
<tr>
<td>2. Someone must second the motion. (This means someone must agree that a vote should be done.)</td>
<td>&quot;I second that motion.&quot;</td>
</tr>
<tr>
<td>3. The Chair asks the Secretary to record the motion. (The Secretary can ask for someone to repeat the motion.)</td>
<td>&quot;Andrew, will you please record the motion?&quot;</td>
</tr>
<tr>
<td>4. The Chair asks for comments or questions. (This means that members can talk about the motion.)</td>
<td>&quot;Does anyone have any questions or comments about the motion?&quot;</td>
</tr>
<tr>
<td>5. The Chair or a member calls for the vote to be taken.</td>
<td>&quot;It's time to take the vote now.&quot;</td>
</tr>
<tr>
<td>6. The Chair asks the Secretary to read the motion.</td>
<td>&quot;It was moved by Tom and seconded by Surinder that ...&quot;</td>
</tr>
<tr>
<td>7. The Chair asks the members who agree with the motion to vote.</td>
<td>&quot;All those in favour of (the motion), please raise your hands.&quot;</td>
</tr>
<tr>
<td>8. The Chair counts the number of people who raise their hands. The Secretary records the number of people in the minutes.</td>
<td>&quot;There are ... people in favour of the motion.&quot;</td>
</tr>
<tr>
<td>9. The Chair asks the members who disagree with the motion to vote.</td>
<td>&quot;All those not in favour of (the motion), please raise your hands.&quot;</td>
</tr>
<tr>
<td>10. The Chair counts the number of people who raise their hands. The Secretary records the number of people in the minutes.</td>
<td>&quot;There are ... people not in favour of the motion.&quot;</td>
</tr>
<tr>
<td>11. The Chair tells the members the result of the vote. (When most people vote for the motion, it passes. When most people vote against the motion, it does not pass.)</td>
<td>&quot;The motion has passed.&quot; OR &quot;The motion has not passed.&quot;</td>
</tr>
</tbody>
</table>

**Secretary’s Tasks**

1. Set up the room for the Round Table Meetings.
   - All members of the Round Table must be able to see each other.
   - Everyone will need a hard surface to write on. (Tables? Writing boards?)
   - Check with the teacher about moving furniture. Do you need help from other classmates?

2. Post the Agenda for each meeting.
   - Print it on chart paper. Think about: size of print, colour of ink, neatness and spacing.
   - The Agenda must be easy to see for all students.

3. Take notes of the meeting. These notes are called the ‘minutes’ of the meeting.
   - Use a new piece of lined paper. Record the date and time.
   - Write down each speaker’s name and the main points that he/she makes.
   - If you make a mistake:
     - Ask the speaker to summarize what he/she has said.
     - Read your minutes out loud and ask the speaker if that is what he/she said.
   - After each meeting, put the minutes up on the bulletin board.
Assistant’s Tasks

1. Be in charge of the Speaker’s List. A Speaker’s List makes sure that everyone gets a chance to speak. It also makes sure that people are not holding their hands up and waving their hands around trying to get the Chair’s attention. At Round Table 1, you need to explain how the Speaker’s List works:
   • Print the information in the box on a chart. Put the chart where everyone can see it at the meeting. Read the chart out loud.
   • Now show the students how the Speaker’s List will work. Ask seven people to raise their hands. Tell them that when their name is called, they should tell a story about what they did to get ready for school. Then ask the first person to speak. Now write down the names of the other six people. Point to each person when you write his/her name. Then the person can lower his/her hand. When the first person has finished talking, call out the name of the next person on the list.

   ![How the Speaker’s List Works](image)
   People raise their hands to show they want to speak. When lots of people raise their hands at one time, the Assistant calls the name of the first person. While this person is speaking, the Assistant writes down the names of the other students. (The Assistant points to the person so the person knows that he/she has been seen and can put his/her hand down.)
   When the first person finishes speaking, the Assistant asks the next person on the list to speak. As each person finishes speaking, the Assistant crosses his/her name off the list.

2. Fill out charts during some Round Table meetings.
   • Post the chart paper before the meeting. Make sure the chart can be seen by all students.
   • Make the chart easy to read: the size of print, colour of ink, neatness and spacing.
   • Use a ruler to make the chart outline. (This chart on Animals has rows and columns.)
   • Label the headings on the rows and columns. Make sure you explain the headings. (The headings on the Animals chart are: bear, wolf, rabbit, habitat, predators and prey.)
   • The empty boxes are called cells. Make sure students understand the information in the cells.

<table>
<thead>
<tr>
<th>Animals</th>
<th>Bear</th>
<th>Wolf</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat</td>
<td>cell</td>
<td>cell</td>
<td></td>
</tr>
<tr>
<td>Predators</td>
<td>cell</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prey</td>
<td>cell</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Explain the directions in Task Times to other students.
   • Be patient.
   • Make sure the student has first tried to get help from another member of his/her group. Look for the signature of one of these group members beside the direction.
   • Now ask the student to read the direction to you.
   • If the direction refers to a worksheet, ask the student to show you the worksheet.
   • Ask questions about the direction to see if you can get the student to understand what he/she is supposed to do.
   • Ask the student to read the direction again.
   • If you cannot help the student, sign your name beside the direction to show that you tried to help. Then send the student to the teacher.
Helpful Hints

1. At each Task Time, list all the tasks that each Organizer must do at the meeting. Print the name of the person responsible for the task. List the supplies that may be needed for that task. Try writing down what might be said for that task.

<table>
<thead>
<tr>
<th>Task</th>
<th>Person Responsible</th>
<th>Supplies Needed</th>
<th>What To Say</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Agenda</td>
<td>Secretary</td>
<td>Agenda printed on chart.</td>
<td>&quot;I would like to welcome everyone to this Round Table meeting.&quot;</td>
</tr>
<tr>
<td>Welcome</td>
<td>Chair</td>
<td>-</td>
<td>&quot;The Agenda for today’s meeting is...&quot; (Chair points to a large chart of the Agenda.)</td>
</tr>
<tr>
<td>Read Agenda</td>
<td>Chair</td>
<td>Copy of the Agenda.</td>
<td></td>
</tr>
</tbody>
</table>

2. Speak s-l-o-w-l-y, clearly and loudly at meetings.
   • Organize your thoughts ahead of time.
   • Use index cards to keep your speech on track.

3. Learn to manage groups. **Be confident.**
   • Be organized. Have everything ready.
   • Use people’s names and look at them directly (eye-to-eye).
   • Make instructions simple.
   • Make sure people get a chance to talk. Don’t let anyone take over the meeting.
   • Stay calm, even when other people are angry or excited.
   • If someone is not getting his/her point across, try summarizing what that person has said.
   • Keep the meeting moving. People get restless when someone talks too long.

4. Something goes wrong! **Stay calm** - do not get upset. Here are some solutions.

| **You forget an item on the agenda** | **Finish what you are doing. Then tell the group that you forgot the item and that you will do it now.** |
| **Someone keeps interrupting the meeting.** | **Finish what you are doing. Then politely tell the member what he/she is doing that is causing problems. Tell the member what you would like him/her to do differently. ("Susan, you are squirming around in your chair. This makes it hard for everyone to stay on task. Please sit still until the meeting is over.")** |
| **You forget what to do next.** | **Ask the members if you could have a short 5 minute break. Use this time to look at your Agenda. Ask the Assistant, Secretary or teacher for help.** |
| **Someone talks too long.** | **Politely interrupt the person. ("Excuse me, Jim. We need to keep the meeting moving along. Could you please make one last point? Then it will be Ann’s turn to speak.")** |
| **The group gets off the topic.** | **Politely interrupt the person speaking. Then remind everyone about the task. ("Excuse me, Jasmine. I think we have gotten off the topic. Remember, we are talking about... Jasmine, do you have anything to add on this topic? Does anyone else have something to say on this topic?")** |
Agendas for Round Table Meetings

The Chair, Assistant and Secretary are the only students that have the agendas in your Role File. The other students will not see these agendas until you print them onto chart paper.

**Agenda 1**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>5 min</td>
<td>3. Motions, voting and the Speaker’s List.</td>
</tr>
<tr>
<td>50 min</td>
<td>4. Role introductions.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>

**Agenda 2**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>20 min</td>
<td>3. Rules of Order.</td>
</tr>
<tr>
<td>20 min</td>
<td>4. Membership Agreement.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>

**Agenda 3**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>40 min</td>
<td>3. The Sectors give their ideas.</td>
</tr>
<tr>
<td>10 min</td>
<td>4. Organizers give their Viewpoints. They read a paragraph from the Viewpoint.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>

**Agenda 4**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>20 min</td>
<td>3. The Assistant shows which land areas are wanted by each of the Sectors. The Assistant gives a copy of Worksheet 15 (Master Map Grid) to each student.</td>
</tr>
<tr>
<td>20 min</td>
<td>4. Discussion of Map Grid.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>
### Agenda 5

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda</td>
</tr>
<tr>
<td>30 min</td>
<td>3. Criteria</td>
</tr>
<tr>
<td>7 min</td>
<td>4. Form Proposal Groups</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks</td>
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</tbody>
</table>

### Agenda 6

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda</td>
</tr>
<tr>
<td>60 min</td>
<td>3. Presentation of Proposals</td>
</tr>
<tr>
<td>10 min</td>
<td>4. Discussion</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks</td>
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### Agenda 7

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
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</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda</td>
</tr>
<tr>
<td>10 min</td>
<td>3. The Assistant talks about the Job Protection Chart and the Habitat Protection Chart.</td>
</tr>
<tr>
<td>50 min</td>
<td>4. Presentation and discussion of Proposals.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks</td>
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</tbody>
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### Agenda 8

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda</td>
</tr>
<tr>
<td>40 min</td>
<td>3. Rank the Proposals.</td>
</tr>
<tr>
<td>10 min</td>
<td>4. Come to agreement on a final Proposal.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks</td>
</tr>
</tbody>
</table>

### Agenda 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
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</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda</td>
</tr>
<tr>
<td>50 min</td>
<td>3. Letter to the Premier.</td>
</tr>
<tr>
<td>10 min</td>
<td>4. Projects of the Round Table.</td>
</tr>
<tr>
<td>1 min</td>
<td>5. Thanks</td>
</tr>
</tbody>
</table>
Rules of Order

The group members of the Round Table need to make a decision together. But each person may have different ideas, interests and feelings. It will be easier for the group members to make decisions if they trust, respect and understand each other. The Rules of Order will help group members develop this trust.

Rules of Order are guidelines about how to behave during the Round Table meetings. They are often thought of as ‘manners’. Rules of Order will:

- make the meetings run more smoothly
- remind group members how to behave during a meeting
- help group members communicate with each other and with the group
- help group members deal with anger or upset feelings in a more positive way

At Round Table 2, the Chair will ask the Sector representatives and Observers to brainstorm for a list of Rules of Order. After the brainstorm session, the Chair may suggest that the following ‘rules’ be added to this list:

- keep hands and feet to yourself
- make room for other members
- take turns - one person speaks at a time
- do not upset or provoke others
- no put downs
- concentrate
- stay calm when others are upset
- calm down when you are upset
- listen carefully when others are speaking
- speak clearly so everyone can hear
- use quiet voices

Here are some ideas to help make the meetings run more smoothly.

1. If someone criticizes you, remain calm. Try not to get angry.
   - Then summarize what the person has said.
   - Ask questions if you don’t understand. Make sure that you and the person agree completely on what the person has said.
   - Now respond to the criticism.

2. Learn how to mediate. This means trying to help two or more people resolve their differences.
   - Don’t take sides.
   - Get each person to describe the problem from his/her own point of view.
   - Ask each side to expand on ideas or clarify points.
   - Summarize both points of view. Check with the person to make sure the summary is accurate.
   - Brainstorm and list all possible solutions to the problem. (No negative feedback until all solutions are written down.)
   - Find a solution that meets everyone’s interests.
How To Decide

Here are some ideas to help the members of the Round Table choose a Proposal.

Pruning

Pruning is used to shorten a long list of choices.
1. List all of the choices on a piece of paper. Make a copy for each person.
2. Give each person one of these lists.
3. Each person ranks the Proposals from 1 to 4. The best Proposal gets 4 and the worst Proposal gets 1.
4. Collect the lists.
5. Add up the rankings from each list to make a total for each Proposal.
6. Eliminate the 2 Proposals with the lowest total.

Scanning

Scanning may also be used to shorten a long list of choices.
1. List all of the Proposals by name (chart paper or blackboard).
2. Call out the name of the first Proposal.
3. Anyone may object to this Proposal for these reasons:
   Practical: It is impossible because the technology, finances, etc. are not available.
   Values: It goes against the basic values of all members.
   Political: It goes against the values of the people needed to make the Proposal work.
4. Keep track of the number of objections for each Proposal.
5. Select the Proposal with the fewest number of objections and try to modify it.

Matrix

Matrix is used to compare two or three choices in detail.
1. List all of the choices (chart paper or blackboard).
2. Brainstorm for a list of factors that can be considered for each choice (ie. cost, amount of habitat lost, etc.)
3. Make a chart to show the list of factors for each choice.
4. Decide if each if the factors is good (+) or poor (-) for each of the choices.
5. Compare the number of (+)'s to the number of (-)'s for each choice.
6. Select the choice with the greatest number of (+)'s.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs Lost</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Jobs Created</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
</tr>
<tr>
<td>Impact to Habitat</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>
Ranking Matrix

Ranking is a more detailed form of the Matrix.
1. Follow steps 1 and 2 from the Matrix.
2. Use a scale from 1 - 10 (1 as poor and 10 as excellent) to rate each factor for each choice.
3. Add up the factors for each Proposal. The Proposal with the greatest total is the best.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs Lost</td>
<td>10</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Jobs Created</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Impact on Habitat</td>
<td>6</td>
<td>4</td>
<td>10</td>
</tr>
</tbody>
</table>

Keyword Checklist

The Keyword Checklist is used to modify a choice that is close to what everyone wants.
1. Summarize the main points of the choice. (For example, the main points of Proposal A are that: 50% of all farm workers keep their jobs, but only 10% of all the other Sectors keep their jobs.)
2. Read one key word and the key questions from the Keyword Checklist. The key words are printed in **boldface** on the chart. The key questions for each key word are printed in *italics*.
3. Use the key word and key questions to brainstorm for ideas about the Proposal. (Record and number each idea.)
4. Read another key word and its questions. Brainstorm for more ideas. Record and number each idea.
5. Choose the best ideas from the brainstorm list. Give one idea to each person.
6. In small groups, consider how the idea would change Proposal A. (Look at the advantages and disadvantages.)
7. Report back to the larger group and discuss possible changes to Proposal A.

### Keyword Checklist

<table>
<thead>
<tr>
<th>Adapt</th>
<th>Modify</th>
<th>Magnify</th>
<th>Minimize</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What else is this like?</td>
<td>• New twist?</td>
<td>• Stronger?</td>
<td>• Smaller?</td>
</tr>
<tr>
<td>• What other idea does this suggest?</td>
<td>• Change meaning, color, motion, sound, form, shape?</td>
<td>• Higher?</td>
<td>• Miniature?</td>
</tr>
<tr>
<td>• Copy something?</td>
<td></td>
<td>• Multiply?</td>
<td>• Shorter?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substitute</th>
<th>Rearrange</th>
<th>Reverse</th>
<th>Combine</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Other ingredient, material, process, power, place, approach?</td>
<td>• Other pattern, layout, sequence?</td>
<td>• Opposite order?</td>
<td>• Blend?</td>
</tr>
<tr>
<td>• What instead?</td>
<td>• Change pace?</td>
<td>• Go the opposite way?</td>
<td>• Assortment?</td>
</tr>
<tr>
<td></td>
<td>• Change schedule?</td>
<td></td>
<td>• Combine purposes?</td>
</tr>
</tbody>
</table>

The Keyword Checklist is adapted from the Osborn Checklist in a book by Scheidel & Crowell (1979).
E & E REPORT

☑️ ENVIRONMENT ☑️ ECONOMY
This report looks at the economy and the environment from your sector’s point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.
A. An environmental study has shown that Agriculture may harm the environment.

1. Too many chemicals from fertilizers, pesticides and manure may leach into the soil, underground water or streams.
2. Farmers may take too much water from the streams and rivers for their crops and livestock. The stream can dry up and leave fish and other aquatic life stranded. The intake structures may suck up young fish and kill them.
3. Cattle may be allowed to walk in streams or rivers. This damages the stream banks, the streambed habitat and the fish. Manure may pollute the water.
4. The crops may be grown too close to the stream. Pesticides and fertilizers may get into the stream. Natural streamside plants may be removed when crops are planted.
5. Tilling and plowing on slopes may cause soil erosion
6. Through farming 22.7 billion tonnes of topsoil is lost each year.

B. Farmers and ranchers interviewed said, “We do not harm the environment.”

1. We farm organically. We don’t use any pesticides.
2. We have an irrigation system that uses less water and helps control evaporation. We put screens on our intakes to keep out the fish.
3. We put up fences to make sure our cattle don’t wander into the streams.
4. We leave a strip of land with natural vegetation beside the streams. The plant roots help to filter toxins out of the run-off before it reaches the stream.
5. We plow and till across our slopes instead of up and down.
6. We supply food to people. Each year there are more and more people living on the planet.”
C. The Ministry of Agriculture pointed out that:

1. People need and want farm products such as beef, poultry, eggs, vegetables and milk.

2. Everyone in the Pangea Basin and in British Columbia needs food. It is better if we grow at least some of our own food here in British Columbia. This creates jobs for people in our province. Also, food grown in other countries may be too expensive if that country has a bad growing year.

3. Farm and ranch land provide green spaces.

4. Agriculture is important to the economy of the Pangea Basin.
   - There are 12,000 people with direct jobs in agriculture.
   - There are 1,000 working farms and ranches in the Pangea Basin. There are 50 agriculture supply businesses and 30 food processing businesses.
   - Many other businesses make money because of agriculture. These are spin-off businesses. For example, farmers must buy work boots, gloves and other clothing to wear outdoors while they are farming. They buy gas to run the machines and pay mechanics to fix the machines. These spin-off businesses were not started just for farming, but they do make money from agriculture.
   - The money earned by workers in the agriculture sector is good for other parts of the economy. Farmers and ranchers use their money to buy clothes, cars, food and go on holidays.
   - Each year money goes to the government from agriculture. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Rental fees: Farmers pay money to use government land.
     Water licences: Farmers pay money to use water from the rivers.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
A. An environmental study has shown that Conservation may harm the environment.

1. An area set aside for park or wilderness may be too small to make good habitat for the animals or plants. These species may not survive.

2. People conserve one or two species, instead of a whole ecosystem. This harms the balance between predators and prey. (e.g. If seals and whales are protected, their numbers may rapidly increase. If they prey on unprotected species, such as salmon, the salmon populations may be threatened.)

3. People may not know enough about the natural world. What the best scientists think is safe today may be found to be harmful in 20 or 30 years.

4. People think they are being environmentally friendly, but they may be harming the environment. For example, some people buy recycled goods (e.g. park benches made from plastic bottles). But this does not really reduce pollution or the consumption of new materials.

B. Conservationists who were interviewed said, “We do not harm the environment.”

1. We try to convince people to set aside enough land to preserve wildlife habitat. (For example, we make sure that every grizzly bear has enough habitat to survive.)

2. We try to conserve whole ecosystems so that all the species will survive and maintain a natural balance.

3. We teach people about conservation. Everyone should learn how the natural world works because it is their habitat.

4. We help maintain and restore heritage sites.
C. The Ministry of Environment pointed out that:

1. Information about the environment is changing all the time. We do the best we can to understand this information and use it correctly.

2. We are learning more about how everything is connected in the natural world. We try to think globally, but act locally.

3. The more support we get from citizens, the easier it is to protect the natural world.

4. There are some economic benefits to conservation:
   - There are 2,000 direct conservation jobs (conservation officer, park ranger, wildlife manager).
   - Some businesses benefit from conservation. These are spin-off businesses. For example, conservation helps to:
     - protect salmon habitat which protects fish numbers. The fishing industry makes more money if there are more salmon to catch. Native fishers have more salmon to catch.
     - protect wildlife and their habitat. The tourism industry makes more money because wildlife attracts more visitors and photographers.
     - keep some places as wilderness. More people may want to settle in an area if there is a wilderness area nearby. More tourists will also want to visit.
     - keep some natural forests. In the future, the forest industry may study these natural forest areas to help them solve problems in reforested areas. Also, new species are being discovered which may benefit medicine and agriculture.
     - protect watersheds. This makes sure that people have access to clean water.
   - Each year money goes to the government from conservation. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Park fees: People who visit parks pay money to the government.
     Sales tax: Tourists buy goods and services.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
A. An environmental study has shown that Fishing may harm the environment.
   1. Too many fish may be caught. There will not be enough fish to spawn.
   2. Fishers may use gear to get an **unbalanced catch**.
   3. Fishers try to catch certain kinds of fish. But they may also catch other kinds of fish by accident.
   4. Fish processing plants use a lot of water. They also discharge wastes into the water.
   5. People can harm plant and wildlife habitat while they are fishing. They may disturb the streambed or the streambank.

B. People interviewed in the fishing sector said, “We do not harm the environment.
   1. We do not overfish. We obey the catch limits.
   2. We use special **fishing gear** that makes sure we get a balanced catch. For example, we can use nets with large openings to catch one kind of fish or we can use nets with small openings to catch a different kind of fish.
   3. We fish in the right places and at the right time to reduce the number of wrong fish caught.
   4. The processing plants are inspected and follow environmental standards.
   5. We are members of a Fish & Game Club that teaches how to fish without harming the environment. We also belong to a volunteer group that repaired a damaged stream and built small hatcheries to raise fish.
C. The Department of Fisheries & Oceans pointed out that:

1. Native people, for hundreds of years, have caught fish for their food and their ceremonies.
2. When fish are in our waters it is a sign of a healthy environment.
3. Fish is an important source of food for many people.
4. Fishing is important to the economy.
   - There are 2,000 people with direct jobs in fishing.
   - There are 2,000 commercial fishers who depend on the salmon that spawn and rear in Pangea. There are 1,700 sportfishers who catch fish in Pangea Basin. There are 1,300 native people who may catch salmon for food.
   - Many other businesses make money because of fishing. These are spin-off businesses. For example, fishers must buy boots, gloves, jackets and other clothing to wear outdoors while they are fishing. Then they buy gas to run the boats and pay mechanics to fix the boats. These spin-off businesses were not started just for fishing, but they do make money from fishing.
   - Each year money goes to the government from fishing. This money comes from:
     - Personal taxes: Workers pay some of the money they earn to the government each year.
     - Business taxes: Businesses pay some of the money they earn to the government each year.
     - Fishing Licences: Commercial and sport fishers pay money to the government for the right to fish.
     - Boat Licences: Commercial fishers pay money to the government so they can use a boat to fish.
     - Sales Tax: Fishers pay money to the government for gas, food and equipment needed when they are fishing.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
A. An environmental study has shown that the Forest Industry may harm the environment.
   1. Logging roads may cause mudslides if they are not built right. Part of the road can slide into a stream and the mud can run down the stream channel. This harms fish habitat.
   2. When all the trees in a large area are cut down over a short period of time, soil erosion increases. The rain washes the soil into streams and harms habitat.
   3. If replanting is done incorrectly, a new forest will not grow properly.
   4. Logging debris (small logs and branches) may fall into a stream. Fish cannot swim past.
   5. Pulp mills and sawmills use lots of water. They may also discharge wastes into the water.
   6. The habitat for many species may be destroyed. Some plants and animals that live in old growth forests cannot live anywhere else.

B. People interviewed in the forest sector said, “We do not harm the environment.”
   1. We don’t build roads near streams. When we build our logging roads we put in lots of culverts. We also make sure the culverts don’t get blocked.
   2. We cut smaller areas of the forest. We wait for the new forest to regrow before we log again.
   3. We replant the cut area as soon as we have logged it.
   4. We don’t log right to the edge of the streams. We leave a strip of trees near the stream. This keeps the stream habitat healthy.
   5. Many pulp mills and use new methods and meet environmental standards.
   6. We have set aside areas of old growth forest to protect species that depend on that habitat. In some places we manage the forest in a special way. We make sure that the old growth features are in the new forest as it grows back.
C. The Ministry of FORESTS pointed out that:

1. People need and want forest products such as paper, lumber, and furniture.
2. Many people in the forest industry (foresters, loggers) work to keep the forests healthy.
3. There are 4 tree nurseries in Pangea. Hundreds of hectares were replanted last year. In fact, more trees were planted than cut.
4. People in the FOREST Industry work with people in the Ministry of the Environment, the Department of Fisheries & Oceans and the public. They work to find ways to prevent habitat loss and environmental damage due to logging.
5. The forest industry is important to the economy of the Pangea Basin.
   - There are 22,500 people with direct jobs in forestry.
   - In Pangea, there are 25 logging companies, 4 pulp and paper mills, 14 sawmills and 8 panel mills that make money because of the forest industry. If there were no trees, all the logging would end and the mills would shut down. The workers would have no jobs.
   - Many other businesses make money because of forestry. These are spin-off businesses. For example, roads must be built to get the trucks into the forest to haul the trees. Road construction businesses build the roads for the logging company. Forest workers must buy workboots, gloves and jackets to wear outdoors while they are working. These spin-off businesses were not started just for the forest industry, but they do make money because of forestry.
   - Each year money goes to the government from forestry. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Stumpage fees: Forest companies pay money to the government for the volume of trees that are cut down.
     Leases: Forest companies pay rent to government for the right to use the land.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
A. An environmental study has shown that Mining may harm the environment.

1. Large areas of wildlife habitat are disturbed when the land is explored for minerals. Many roads have to be built. Large holes have to be drilled to see if the land contains minerals.

2. A lot of earth must be removed for some types of mines (e.g. open pit mines). Roads, buildings, tailings ponds, airstrips, docks and ramps may all have to be built.

3. Tailings ponds may contain toxic chemicals that can leech into rivers and lakes.

4. Substances in the waste rock may form acids when the rock is exposed to air and water. These acids can pollute streams and lakes. This is called acid mine drainage. It is hard to control acid mine drainage because water can come from many parts of the mine.

5. Mining can use a lot of water. This water must be taken from rivers, streams and lakes. The change in water levels may affect fish and wildlife.

B. People interviewed in the mining sector said, “We don’t cause problems to the environment.”

1. We only explore where we are allowed to. When we finish exploring we fill in the holes and replant the roads.

2. We only build mines where we are allowed to. We reclaim the mine site as soon as we are done.

3. We build the tailings ponds correctly. We inspect and look after the tailings ponds. This helps stop the chemicals from leaking into the soil or streams.

4. Most of our mines are built underground. We do not disturb the surface area where the trees, water and wildlife are.

5. We use the right water controls and equipment. This means most of the water we use in the mine can be recirculated. Not much water is wasted.
C. The Ministry of Mines pointed out that:

1. People need and want mineral products such as cars, bicycles, motorcycles, stoves, computers and energy (oil, coal, gas).

2. Mining is important to the economy of Pangea Basin.
   - There are 20,000 people with direct jobs in mining.
   - There are 7 mines and mills that make money only from mining. If the minerals run out, these operations would shut down. The workers would have no jobs.
   - Many other businesses make money because of mining. These are spin-off businesses. For example, miners must buy footwear and other clothes to wear when they are mining. Mines must hire construction companies to build offices, roads and mills. These spin-off businesses were not started just for mines, but they do make money because of mining.
   - Each year money goes to the government from mining. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Business pay some of the money they earn to the government each year.
     Inspection fees: Mine owners must pay the government to have mines inspected.
     Mine permits: Mine owners must pay the government for the right to operate a mine.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
A. An environmental study has shown that Settlement may harm the environment.
   1. Hard surfaces such as roads, sidewalks, parking lots and buildings stop soil from soaking up rain water. Run off from these hard surfaces carries pollution into streams and raises stream levels too quickly.
   2. Wildlife and wildlife habitat is lost when trees are cut down and soil is eroded.
   3. Wastes from homes and industries are discharged into streams and rivers.
   4. Water is diverted from (taken from) streams and rivers for human use. This leaves less water for fish and wildlife.
   5. Air pollution is caused by too many cars.
   6. Cultural and historical sites may be destroyed during land development.

B. Developers and builders interviewed said, “We do not harm the environment.”
   1. We construct buildings so more people can live and work in a smaller area. (For example, we might build a tall building in one block of land instead of a short building on 20 blocks of land.) That way we don’t cover as much land with hard surfaces.
   2. We set aside wildlife habitat as parkland.
   3. We treat our wastes in sewage treatment plants.
   4. We educate people about ways to conserve water. We support laws to stop people from watering their lawns in the summer. We use water meters so people pay more if they use more water.
   5. We build public transit systems to reduce the use of cars.
   6. We identify cultural and historical sites and preserve them.
C. The Ministry of Lands and Housing pointed out that:

1. Anyone planning to build in the Pangea Basin must get permission from the environmental committee. This committee looks at effects on the environment and has input from many citizens in Pangea.

2. Development in Pangea is planned.

3. Pangea has a Heritage Preservation Society. Over 100 members make sure heritage sites are found and preserved.

4. Settlement is important to the economy of the Pangea Basin.
   - There are 12,000 people with direct jobs in settlement.
   - There are 1,286 businesses in all of the cities in Pangea Basin.
   - All businesses make money because of settlement. These are spin-off businesses. For example, a construction company buys materials from a lumber store or a hardware store. It may use the services of a tree removal company, a paving company or a roofing company (not to mention plumbers and electricians).
   - Each year money goes to the government from settlement. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Property taxes: Each person who owns property must pay some money for services to the government each year.
     Building permits: Builders must pay money to the government for the right to build.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
A. An environmental study has shown that TOURISM and outdoor recreation may harm the environment.

1. Wildlife and wildlife habitat can be disturbed or destroyed by tourists and their activities. Tourists may not be as careful about protecting the environment in the places they visit because they don’t have to live there.

2. Tourists need places to stay and to eat. They need highways and airports. This means land must be cleared and developed.

3. Tourists and people in outdoor recreation use water, wood, food products and mineral products which produce wastes. This leads to more trees logged, more land cleared for farming and more mines built.


B. People interviewed in the tourist industry said, “We do not harm the environment.”

1. We try to protect the plants and animals in the places we visit. We stay on the hiking trails and put our garbage in the proper cans.

2. We recycle and practice conservation just as we would at home.

3. We belong to an outdoor recreation club that teaches how to respect the environment. We are also members of a volunteer group that built a walkway into a marsh area so hikers do not disturb the marsh habitat.

4. We follow the rules on the hunting and fishing licences that we must buy. We only kill the number of fish and other animals allowed by the government.
C. The Ministry of Tourism pointed out that:

1. Tourism is quite a “clean” industry.

2. People in the tourism industry try to preserve wilderness (ecotourism), natural features (white water rafting and skiing) and heritage sites (museums and historical landmarks).

3. Tourism is important to the economy of Pangea.
   - There are 22,000 people with direct jobs in tourism.
   - There are 500 businesses that make money only from tourism. If fewer tourists came to the Pangea Basin, these businesses would lose money. The workers might lose their jobs.
   - Many other businesses make money because of tourism. These are spin-off businesses. For example, tourists come to Pangea and spend money to learn about the history of the Gold Rush. But these people may also spend money at gas stations, grocery stores and movie theatres. These spin-off businesses were not started just for tourists, but they do make money from tourists.
   - Each year money goes to the government from tourism. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Sales taxes: Stores give some of the money spent by tourists to the government.
     Licences: Hunters and fishers pay money to the government to be allowed to hunt.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
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Agriculture Map Information

- Ranch
- Crops
Agriculture Map Rap

Agriculture needs 12 squares of land on the map. This will give jobs to all of the 12,000 agriculture workers for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best 12 squares, think about:

- **Is there transportation nearby?** (Farmers need a way to get the crops or livestock to the people who want them. The greater the distance the crops and livestock have to be shipped, the more money it costs the farmers and the less money they make.)

- **Is there a city/town nearby?** (It is easier and less costly to sell to a large group of people in one place rather than a small number of people scattered over a large area.)

- **Is there water nearby?** (Farmers need lots of water from streams, lakes and underground wells for the crops and livestock.)

- Read **About Your Sector** in your Role File. Is there information that would help you choose the squares?

This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
- the amount of money given to the government in each square (Gov’t Revenue/Square)

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### Conservation Map Information

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<tbody>
<tr>
<td>1</td>
<td>• grasslands, wetlands, forests and alpine tundra</td>
<td>• corridor for grizzly and bighorn sheep</td>
<td>• many small lakes</td>
<td>• wetlands</td>
<td>• alpine tundra</td>
<td>• wetlands along river valley bottoms</td>
</tr>
<tr>
<td></td>
<td>• bighorn sheep, caribou and grizzly</td>
<td>• grasslands and wetlands</td>
<td>• wetlands</td>
<td>• moose, songbird habitat</td>
<td>• fish, waterbirds, caribou</td>
<td>• fish, waterbirds, caribou</td>
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<td></td>
<td>• untouched by people</td>
<td></td>
<td></td>
<td>• 2 untouched watersheds</td>
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<tr>
<td></td>
<td>• historic cattle route</td>
<td></td>
<td></td>
<td>• historic trail, native burial ground</td>
<td></td>
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<tr>
<td>2</td>
<td></td>
<td>• grasslands grazed by cattle for many years</td>
<td>• wetlands</td>
<td>• unusually shallow lake and wetland nearby is only</td>
<td>• lakes and wetlands</td>
<td>• forests and alpine tundra</td>
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<td></td>
<td></td>
<td></td>
<td>• many kinds of animals and birds</td>
<td>nesting habitat for pelicans</td>
<td>• waterbirds, otter, mink, beaver, moose</td>
<td>• many endangered animals</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>• moose</td>
<td>• otter, mink, beaver, moose</td>
<td>• land and water habitat damaged by logging may recover with help</td>
<td>• fish habitat damaged</td>
</tr>
<tr>
<td>3</td>
<td>• corridor for grizzly as they move from one salmon run to another</td>
<td>• local town uses water from the watersheds in this area</td>
<td>• wetlands and old growth forests</td>
<td>• unusual canyon has been carved out by River as it drops from</td>
<td>• wetlands</td>
<td>• forests and wetlands</td>
</tr>
<tr>
<td></td>
<td>• old abandoned gold mines from earlier gold rush</td>
<td>• fish habitat damaged</td>
<td>• otter, mink, beaver and moose</td>
<td>the plateau to join the River</td>
<td></td>
<td>• many kinds of animals</td>
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<td></td>
<td>• untouched watersheds</td>
<td></td>
<td></td>
<td>• endangered lake trout</td>
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<tr>
<td>4</td>
<td></td>
<td>• river boils and churns over a falls and through a narrow gorge</td>
<td>• wetlands</td>
<td>• 100% natural grasslands cover most of this area</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• stand of old growth forest just upstream of gorge</td>
<td>• many species of birds use area for feeding, breeding, or resting as they migrate north or south</td>
<td>• bighorn sheep</td>
<td></td>
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<td></td>
<td>• river is corridor for fish as they migrate to or from ocean</td>
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<td>• grizzly and bighorn sheep</td>
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</table>
Conservation Map Rap

Conservation wants to protect all 20 squares marked on the Conservation Map. But the other sectors may want these squares too, so you need to rank them in order of importance. This will help you identify the squares you might be willing to lose or share. To rank the squares, think about:

- Is there a variety of habitats: alpine tundra, wetlands, forests and grasslands? (This helps to protect biodiversity.)
- Are there any unusual features? These can be natural features (canyons, waterfalls) or historic sites (Native burial grounds)?
- Are there healthy wildlife populations that need to be protected?
- Are there endangered wildlife populations that need to be conserved?
- Do you need the square next to the square you want to protect?
- Read About Your Sector in this Role File. Is there information that would help you choose the squares?

This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
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Fish 🐟 | Migration Corridor 🌅 | Value of Fish 💲
Fishing Map Rap

Fishing wants to protect all 25 squares marked on the Fishing Map. This will make sure there are jobs for the 2,000 commercial fishers and enough salmon and fresh water fish for the 1,700 sport and 1,300 native fishers for the next five years.

But the other sectors may want these squares too, so you need to rank them in order of importance. This will help you identify the squares you might be willing to lose or share. To rank the squares, think about:

• Do you need all the land in a square? (Think about how the activities done by other sectors might affect the watershed.)

• How important is the square to the fishers? (This is the value in terms of money, enjoyment and culture.)

• Will fixing damaged habitat benefit your sector?

• Where are the greatest number of fish produced?

• Where do the fish live? (Some fish spawn and rear in Pangea and then migrate to the ocean. Other fish spend their whole lives in freshwater rivers and lakes in Pangea.)

• Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

• the number of squares each Sector needs (# of Squares)

• the total number of people employed by each Sector (Total # of Jobs)

• the number of people employed in each square (# of Jobs/Square)

• the total amount of money each Sector gives to the government (Gov’t Revenue)

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## Forestry Map Information

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The % of Land Covered by Forest

Value of Timber $
Forestry Map Rap

Forestry needs 15 squares of land on the map. This will give jobs to all of the 22,500 forestry workers for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best squares, think about:

• Are there any mills nearby? (Forest companies sell the trees to the mills.)
• Is there transportation nearby? (Mills need a way to get the wood or wood products to the people who want them. The greater the distance the trees have to be shipped, the more money it costs the forest companies and the less money they make.)
• Is there a city/town nearby? (It is easier and less costly to sell to a large group of people in one place rather than a small number of people scattered over a large area.)
• Is there water nearby? (Mills need lots of water from streams, lakes and underground wells to make electricity to run the machines. Pulp and paper mills need water to make the paper.)
• Read About Your Sector in this Role File. Is there information that would help you choose the squares?

This chart shows:

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Amount of Minerals

Value of Minerals $
Mining Map Rap

The mining industry wants to build mines in 4 squares of land on the map. They also want the right to explore for minerals in 6 squares of land on the map. This will give jobs to all of the 20,000 mining workers for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best 10 squares, think about:

- How valuable are the minerals? (Mines make more money if people will pay lots of money for the minerals.)
- How much of the mineral is in the ground? (Mines make more money if the land contains many minerals rather than few minerals.)
- How much land do you need? (Mining companies need the right to explore all of the land in a square to find minerals. A single mine does not need all of the land in a square.)
- Is there transportation nearby? (Mines need a way to get the minerals to the people who want them. The greater the distance the crops and livestock have to be shipped, the more money it costs the farmers and the less money they make.)
- Is there a city/town nearby? (It is easier and less costly to sell to a large group of people in one place rather than a small number of people scattered over a large area.)
- Is there water nearby? (Mines need lots of water from streams, lakes and underground wells for milling and to make electricity to run the machines.)
- Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

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<td>1,000</td>
<td>$840,000</td>
<td>$70,000</td>
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<tr>
<td>Conservation</td>
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<td>2,000</td>
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<td>$200,000</td>
<td>$2,000</td>
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<td>Fishing</td>
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<tr>
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Land for Settlement

Town/City
Settlement Map Rap

Settlement needs 8 squares of land on the map so that people moving to Pangea in the next five years will have somewhere to live. This will also give jobs to 12,000 people for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best 8 squares, think about:

- People often want to live in places that are already settled. This means that cities and towns need room to grow.
- Settlement is easier and less costly if power, water and transportation are nearby.
- Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

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- the number of people employed in each square (# of Jobs/Square)
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<tr>
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<tr>
<td>Fishing</td>
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<td>5,000</td>
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**Legend:**
- Trail 🐎
- Wilderness 🎵
- Urban 🏛️
- Scenic 🎵
- Wildlife 🦆
- Water 🛥️
- Value of Tourism $
Tourism Map Rap

Tourism needs 15 squares of land on the map. This will give jobs to 22,500 tourism workers for the next five years. The map shows land that might be good for Tourism. But some squares are better than others. To choose the best 15 squares, think about:

- Where are the activities located? (Some people want to do activities that are near where they live. Some people want to do activities that are far away from where people live.)
- Is the activity close to transportation or to cities or towns? (An activity costs more if the tourist has to travel farther. But some tourists will pay large sums of money to vacation in wilderness areas.)
- How much money is now being made by tourism in the square? (This may indicate how much money can be made in the future. But remember that tourism could develop new activities in an area.)
- Is there a variety of activities? (Tourism makes more money if there are many activities because there will be something of interest for everyone.) This list shows the activities in the Pangea Valley.

<table>
<thead>
<tr>
<th>Wilderness</th>
<th>Trail</th>
<th>Wildlife</th>
</tr>
</thead>
<tbody>
<tr>
<td>backpacking, skiing, mountaineering</td>
<td>horseback riding, biking, hiking, snowshoeing, snowmobiling, camping</td>
<td>hunting, wildlife viewing, nature study, photography</td>
</tr>
<tr>
<td>Water</td>
<td>Urban</td>
<td>Scenic</td>
</tr>
<tr>
<td>fishing and fly-in fishing, canoeing, river rafting, swimming</td>
<td>golf, theater, museum, zoo, bowling, concert, fair, waterslide</td>
<td>touring, historic sites, waterfall, canyon, mountain range, views</td>
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</table>
Pangea River Valley Map

There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.

- River
- Mountain
- City
- Town
- Road
- Railroad
- Airport
- Lake
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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THE NITTY GRITTY ....................................................... 15
HOW TO DECIDE ......................................................... 16
MAP OF PANGEA VALLEY ............................................... 18
Role Information

ANNIE PENG: Chairperson

Personal Profile:

- 37 years old
- single
- lives with her parents and grandparents
- interested in sailing, marathon running, watching movies, chess, camping
- other activities: the Sierra Club; The Business & Professional Women's Association; the Pangea Chinese-Canadian Club

Education/Work History:

- graduated from University of British Columbia with a degree in Geography.
- worked for the Ministry of Forests for 2 years.
- returned to university and got a Law degree.
- worked as a lawyer for a large mining company for 2 years.
- worked for the Department of Agriculture for 2 years.
- worked as a government lawyer for the Department of Fisheries and Oceans for 5 years.
- accepted the job as chairperson of the Pangea Round Table. (Annie believes that land-use conflicts should be solved by members of the community. She thinks they should come together to discuss their concerns.)

---

Annie became an expert in environmental law. She got a job with a large mining company. The mining company needed to know if the way it was mining was breaking environmental laws. It was worried that it might be charged with polluting.

At the Department of Fisheries and Oceans, Annie helped fisheries people (technicians, fishery officers, biologists) investigate pollution offences. She made sure they collected the evidence such as water samples, properly. She told them whether they had enough evidence against a person or a company to lay legal charges. If the company or person was charged, Annie would help with the court case.
Viewpoint

The other day I was watching my nieces (15-year-old twins) argue over who would have the last orange in the fruit bowl. Their mother, my sister, stepped in to try and solve their fight. But to my surprise, she didn’t cut the orange in half. She didn’t ask them to flip a coin. She didn’t take the orange away or send them to their rooms. She asked them to figure out a win-win solution. I watched and waited. After only a few minutes of huddling, they emerged with twin smiles. To make a long story short, it turned out that Alice wanted the orange peel to bake a cake and Alex wanted to eat the fruit.

The orange situation got me thinking about land-use conflicts. How should we divide up the trees, the rocks and the fish in this province? How should we decide how much development to allow in an area? What is the compromise between those that want all wilderness and those that want all development? Do jobs have to be lost if we have more parkland? Do fish have to be sacrificed if we harvest trees? Can hikers enjoy an area where a mine is? Is the solution always win-lose? Whenever you win, I lose?

What would happen if all the different groups looked at an area and tried to come up with an "all-win" solution? Could miners, loggers, environmentalists, land developers, fishers and farmers figure out all-win solutions for an area of land?

I think they could. With some simple rules of order I truly think they could all sit around the same table and work out a win-win solution. The members would need to be prepared to listen and not just stick to their usual positions. For example, loggers and miners would have to truly look at proposals by conservationists. And, in turn, those that want more wilderness would have to listen to those who felt that more parkland would threaten their jobs and communities. Everyone would need to be flexible rather than rigid. They would need to figure out what their common interests were.

The first step in any such "all-win" negotiations would be to make sure that everyone has access to well-researched data. This data would have to be gathered from a number of sources. It would have to include research about the environment and the economy. The information would also have to be current.

The second major part of these win-win talks would be the hardest. All sectors would have to "come to the table" with a feeling of goodwill towards the other members. They would have to respect each other’s viewpoint.

Finally, there would have to be a commitment, made by all members to look at all options. Creativity would have to play a big part in the solution.

I think it could happen so that there were smiles all around - just like my nieces.
The Skit: Nightmare Meeting

Characters:
Annie Peng (Chairperson)
Christine Walker (Assistant)
Andrew Todd Millar (Secretary)
Mr. Beebrian (Guest Speaker)
Tom (Round Table member)
Bob (Round Table member)

Narrator: Annie Peng, Chairperson of the Pangea Round Table often has "bad" dreams the night before the Round Table Meetings. These dreams aren't nightmares. They are just the kind of dream many people have when they are anxious or nervous. You know the kind of dream you have the night before something big is happening. In your dream you just can't seem to get where you want to go. These dreams happen, for example, when you know you have to go to school early the next day and you have a big test. In your dream, you end up missing the bus, forgetting your books, going to the wrong room and, worse still, you are either dressed in some weird clothes or even worse, you are in your underwear. The very worst dreams are the ones where you are trying to get somewhere or do something with a group of people and you are naked.

We've all had these bad dreams. In Annie's dreams, she doesn't miss the bus or go to the wrong room or even end up chairing the meeting naked, but she does end up with a group of Round Table members that are rowdy, don't listen and disrupt the meeting.

This is one of Annie's bad dreams. She has imagined her Round Table meeting attended by a guy named Tom (in real life that's her obnoxious big brother) and Bob (the name of the family dog). In this same dream, or rather, this nightmare, Andrew Todd Millar (Andy) and Christine Walker (Chris) her real-life very efficient secretary and assistant, are totally wierd.

Annie: The Pangea Round Table Meeting will now come to order. Please look at the agenda. Does anyone have anything to add or change?

Tom: What agenda? We don't have an agenda.

Annie: Andrew, didn't you post the agenda for the meeting?

Andy: Oh, I was playing a really cool video game last night. It got so late, I guess I forgot.

Annie: We will take a 5 minute break now so that Andrew can post the agenda. Thank you all for your patience. (Pause for a few seconds. Andrew and Annie rustle around and put up a piece of paper with Agenda written at top. The rest of the paper is blank) Now would you all please look at the agenda. Are there any changes that need to be made? (Pause, no one speaks.) Fine, let's move along to item Number 1. We have a guest speaker who is going to give us information about a very important part of our Round Table discussions. I'd like you...
to welcome Mr. Pea Brain, I mean, Mr. PeaBee. Excuse me, I mean Mr. Bee Brain, or no, I'm sorry, it's Mr. Bean Pea. Please excuse me for a moment. *(Annie, very embarrassed, leaves the room, fans herself, tries to compose herself and then returns.)* Round Table members, please welcome Mr. Beebrian.

Mr. B: Thank you Ms. Peng. Members of the Round Table, I would like to give you some data about the new Forest Practices Code.

Bob: When is the coffee break?

Annie: It's at 10 o'clock. Please continue Mr. Bee Bee, I mean Mr. Beebrian.

Mr. B: As I was saying, I will explain exactly what the Forest Practices codes means to . . .

Bob: What kind of trees are being cut down in the Timber Valley by Northwest Lumber?

Mr. B: I will get to that later. First, I think it would be better if we all understood what the Forest Practices Code means. This code has been developed to . . .

Bob: Is Northwest Lumber going to be allowed to clear-cut in the Timber Valley?

Annie: Excuse me Mr. Bee bee bee Brian. Bob, although I'm sure you have a lot of interesting questions for Mr. Beebrain, or Mr. Beebrian, you are interrupting him. Could you please save your questions until he is finished. Jot your questions down if you think you'll forget, but please do not interrupt our speaker again.

Mr. B: Thank you Madame Chairperson. As I was saying, the Forest Practices Code is intended to give the forest companies a set of rules for logging in this province. These rules must be adhered to. Ms. Walker will hand you out some specific material now so we can discuss the details of this new code which deals with how logging will be carried out in the future in B.C. Ms. Walker, could you hand out the papers I gave you last week. I asked you to type the information and then photocopy enough copies for the whole group.

Chris: *(Looking blankly at Mr. Beebrian, then at Annie.)* Whoops, they are still in the photocopier. *(Christine gets up, knocking over water glasses and chairs and runs out of the room.)*

Annie: We'll take a short break now. *(Trying to smile, but gritting her teeth)* Why don't we have coffee a little early this morning. *(Pause for a few minutes. Andrew rushes around getting coffee cups and pouring coffee for everyone.)*

Chris: *(Comes back carrying a whole stack of papers. They are falling out of her hands. She picks some up, shoves them back in the pile. The papers are not neatly stacked but rather in complete disarray. Christine is also now in her bathrobe, slippers and wearing hair curlers and eating toast. I've got them Annie. (Munches on her toast and talks with her mouth full.) Here's old Pea brain's precious papers. Who cares about the Forest Practices Code anyway. This stuff all looks Greek to me. I've got to go to work. Does anyone have a hair dryer? (Andrew hands Christine a hair dryer and she sits down and begins to dry her hair. She takes her curlers out one by one, and puts them in the middle of the round table. She puts her feet, fluffy slippers and all, up on the table as well.)*
(Andrew, Tom and Bob are laughing loudly and telling jokes, making faces and pointing at Annie and Mr. Beebrian.)

Annie: All right everyone, we can get started again. Please, will you all come back to the table. Andrew, since Christine is busy (Annie shoots Christine a dirty look) will you please hand out Mr. Brain Brain, Mr. Brain Bran, Mr. Beebrian's Forest Practices Code information. (Instead of handing out the Forest Practices Code information, Andrew passes out bowls of breakfast cereal to Bob and Tom).

Mr. B: Please look over pages 1 and 2. If there are any questions please feel free to ask them now.

Tom: In your expert opinion, what is the difference between Crunchy Munchy Cereal and Crispy Crumbly Cereal?

Bob: That's easy. Everyone knows that Crunchy Munchy Cereal is really crunchy and Crispy Crumbly Cereal is really crispy.

Tom: Bet you couldn't tell the difference if I were to blindfold you and then give you a bowl of each.

Chris: (Still taking curlers out and munching on toast.) Hey, I'm starved. I'll take a couple of bowls of each. I've just got to get ready for work.

Andy: You guys should play this terrific video game I rented last night. It was called ...

Annie: Please, please. Could the meeting please come to order. You people are all off the topic. The topic was the Forest Practices Code and Mr. (pause - speaking very slowly) Beebrian is our guest. If no one has any questions about the material that has been handed out, I will ask our guest to continue his talk.

Mr. B: Thank you Ms. Peng. As I was saying, the Forest Practices Code ...

(Beebrian continues to read on and on in a slow droning voice. Christine is still drying her hair and eating. Andrew is playing a game on his Game Boy. Bob and Tom are chit-chatting between themselves. Annie is yawning and nodding off.)

Annie: (Regaining her composure.) Excuse me, Mr. Bee Bee, I mean Mr. Pea Pea. For heavens sake, don't you have a first name?

Mr. B: Yes, of course, it's Brian.

Chris, Bob, Tom & Andrew: What else. (Laughing and pointing and chanting, Brian, Brian, Brian.)

Annie: Please, please, everyone quiet. Well, Brian Beebrian, you've talked for over an hour now. Could you please make one last point and then change your name and leave this meeting and take these other idiots with you. (Everyone leaves the room.)

Annie puts her hands over her face then pinches herself and realizes she has been dreaming and goes back to sleep.
How To Run A Meeting

There are four parts to How To Run A Meeting:
• the Chair's Tasks
• the Assistant's Tasks
• the Secretary's Tasks
• Helpful Hints for meetings

Read all of the information so you know what each of the Organizers will be doing. Think about how this information will help you to run the meetings.

Chair's Tasks

1. Your job is to make it easier for the Round Table members to do their jobs. You organize and run each meeting. Be prepared!
   • Read the Agenda before the meeting.
   • Read and understand any of the papers that will be talked about at the meeting.
   • Get help from the teacher if you need it.

2. Start your meetings on time! Here are some ways to start a meeting:
   • "I would like to call the meeting to order now."
   • "I can see that everyone is ready. I would like to start the meeting now."

3. Welcome the members to each meeting. Here are some ideas:
   • "Thank you for coming to the meeting today. I know some of you have had to travel a long distance to be here."
   • "I would like to thank everyone for their attendance at this meeting. I hope today's meeting can help us work towards planning the future of Pangea."

4. Use a Speaker's List. A Speaker's List makes sure that everyone gets a chance to speak. It also makes sure that people are not holding their hands up and waving their hands around trying to get your attention. The Assistant will explain how the Speaker's List works at Round Table 1.

5. Make sure everyone stays on the topic. When someone asks a question that is off the topic, say "Your question is off the topic. We are talking about... right now. You will have to wait until the Question Period."
6. Teach members how to vote. You may want to use the following chart.

<table>
<thead>
<tr>
<th>What To Do</th>
<th>What To Say</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A member puts a motion on the Table. (This means he/she wants to vote.)</td>
<td>&quot;I would like to make a motion. I think that ...&quot;</td>
</tr>
<tr>
<td>2. Someone must second the motion. (This means someone must agree that a vote should be done.)</td>
<td>&quot;I second that motion.&quot;</td>
</tr>
<tr>
<td>3. The Chair asks the Secretary to record the motion. (The Secretary can ask for someone to repeat the motion.)</td>
<td>&quot;Andrew, will you please record the motion?&quot;</td>
</tr>
<tr>
<td>4. The Chair asks for comments or questions. (This means that members can talk about the motion.)</td>
<td>&quot;Does anyone have any questions or comments about the motion?&quot;</td>
</tr>
<tr>
<td>5. The Chair or a member calls for the vote to be taken.</td>
<td>&quot;It's time to take the vote now.&quot;</td>
</tr>
<tr>
<td>6. The Chair asks the Secretary to read the motion.</td>
<td>&quot;It was moved by Tom and seconded by Surinder that . . .&quot;</td>
</tr>
<tr>
<td>7. The Chair asks the members who agree with the motion to vote.</td>
<td>&quot;All those in favour of [the motion], please raise your hands.&quot;</td>
</tr>
<tr>
<td>8. The Chair counts the number of people who raise their hands. The Secretary records the number of people in the minutes.</td>
<td>&quot;There are . . . people in favour of the motion.&quot;</td>
</tr>
<tr>
<td>9. The Chair asks the members who disagree with the motion to vote.</td>
<td>&quot;All those not in favour of [the motion], please raise your hands.&quot;</td>
</tr>
<tr>
<td>10. The Chair counts the number of people who raise their hands. The Secretary records the number of people in the minutes.</td>
<td>&quot;There are . . . people not in favour of the motion.&quot;</td>
</tr>
<tr>
<td>11. The Chair tells the members the result of the vote. (When most people vote for the motion, it passes. When most people vote against the motion, it does not pass.)</td>
<td>&quot;The motion has passed.&quot; OR &quot;The motion has not passed.&quot;</td>
</tr>
</tbody>
</table>

**Secretary's Tasks**

1. Set up the room for the Round Table Meetings.
   - All members of the Round Table must be able to see each other.
   - Everyone will need a hard surface to write on. (Tables? Writing boards?)
   - Check with the teacher about moving furniture. Do you need help from other classmates?

2. Post the Agenda for each meeting.
   - Print it on chart paper. Think about: size of print, colour of ink, neatness and spacing.
   - The Agenda must be easy to see for all students.

3. Take notes of the meeting. These notes are called the ‘minutes’ of the meeting.
   - Use a new piece of lined paper. Record the date and time.
   - Write down each speaker’s name and the main points that he/she makes.
   - If you make a mistake:
     - Ask the speaker to summarize what he/she has said.
     - Read your minutes out loud and ask the speaker if that is what he/she said.
   - After each meeting, put the minutes up on the bulletin board.
Assistant’s Tasks

1. Be in charge of the Speaker’s List. A Speaker’s List makes sure that everyone gets a chance to speak. It also makes sure that people are not holding their hands up and waving their hands around trying to get the Chair’s attention. At Round Table 1, you need to explain how the Speaker’s List works:
   - Print the information in the box on a chart. Put the chart where everyone can see it at the meeting. Read the chart out loud.
   - Now show the students how the Speaker’s List will work. Ask seven people to raise their hands. Tell them that when their name is called, they should tell a story about what they did to get ready for school. Then ask the first person to speak. Now write down the names of the other six people. Point to each person when you write his/her name. Then the person can lower his/her hand. When the first person has finished talking, call out the name of the next person on the list.

   How the Speaker’s List Works
   People raise their hands to show they want to speak. When lots of people raise their hands at one time, the Assistant calls the name of the first person. While this person is speaking, the Assistant writes down the names of the other students. (The Assistant points to the person so the person knows that he/she has been seen and can put his/her hand down.)
   When the first person finishes speaking, the Assistant asks the next person on the list to speak. As each person finishes speaking, the Assistant crosses his/her name off the list.

2. Fill out charts during some Round Table meetings.
   - Post the chart paper before the meeting. Make sure the chart can be seen by all students.
   - Make the chart easy to read: the size of print, colour of ink, neatness and spacing.
   - Use a ruler to make the chart outline. (This chart on Animals has rows and columns.)
   - Label the headings on the rows and columns. Make sure you explain the headings. (The headings on the Animals chart are: bear, wolf, rabbit, habitat, predators and prey.)
   - The empty boxes are called cells. Make sure students understand the information in the cells.

3. Explain the directions in Task Times to other students.
   - Be patient.
   - Make sure the student has first tried to get help from another member of his/her group. Look for the signature of one of these group members beside the direction.
   - Now ask the student to read the direction to you.
   - If the direction refers to a worksheet, ask the student to show you the worksheet.
   - Ask questions about the direction to see if you can get the student to understand what he/she is supposed to do.
   - Ask the student to read the direction again.
   - If you cannot help the student, sign your name beside the direction to show that you tried to help. Then send the student to the teacher.
Helpful Hints

1. At each Task Time, list all the tasks that each Organizer must do at the meeting. Print the name of the person responsible for the task. List the supplies that may be needed for that task. Try writing down what might be said for that task.

<table>
<thead>
<tr>
<th>Task</th>
<th>Person Responsible</th>
<th>Supplies Needed</th>
<th>What To Say</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Agenda</td>
<td>Secretary</td>
<td>Agenda printed on chart.</td>
<td></td>
</tr>
<tr>
<td>Welcome</td>
<td>Chair</td>
<td></td>
<td>&quot;I would like to welcome everyone to this Round Table meeting.&quot;</td>
</tr>
<tr>
<td>Read Agenda</td>
<td>Chair</td>
<td>Copy of the Agenda.</td>
<td>&quot;The Agenda for today's meeting is...&quot; (Chair points to a large chart of the Agenda.)</td>
</tr>
</tbody>
</table>

2. Speak s-l-o-w-l-y, clearly and **loudly** at meetings.
   - Organize your thoughts ahead of time.
   - Use index cards to keep your speech on track.

3. Learn to manage groups. **Be confident.**
   - Be organized. Have everything ready.
   - Use people's names and look at them directly (eye-to-eye).
   - Make instructions simple.
   - Make sure people get a chance to talk. Don't let anyone take over the meeting.
   - Stay calm, even when other people are angry or excited.
   - If someone is not getting his/her point across, try summarizing what that person has said.
   - Keep the meeting moving. People get restless when someone talks too long.

4. Something goes wrong! **Stay calm** - do not get upset. Here are some solutions.

<table>
<thead>
<tr>
<th>You forget an item on the agenda</th>
<th>Finish what you are doing. Then tell the group that you forgot the item and that you will do it now.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Someone keeps interrupting the meeting.</td>
<td>Finish what you are doing. Then politely tell the member what he/she is doing that is causing problems. Tell the member what you would like him/her to do differently. (&quot;Susan, you are squirming around in your chair. This makes it hard for everyone to stay on task. Please sit still until the meeting is over.&quot;)</td>
</tr>
<tr>
<td>You forget what to do next.</td>
<td>Ask the members if you could have a short 5 minute break. Use this time to look at your Agenda. Ask the Assistant, Secretary or teacher for help.</td>
</tr>
<tr>
<td>Someone talks too long.</td>
<td>Politey interrupt the person. (&quot;Excuse me, Jim. We need to keep the meeting moving along. Could you please make one last point? Then it will be Ann's turn to speak.&quot;)</td>
</tr>
<tr>
<td>The group gets off the topic.</td>
<td>Politey interrupt the person speaking. Then remind everyone about the task. (&quot;Excuse me, Jasmine. I think we have gotten off the topic. Remember, we are talking about... . . . . Jasmine, do you have anything to add on this topic? Does anyone else have something to say on this topic?&quot;)</td>
</tr>
</tbody>
</table>
Agendas for Round Table Meetings

The Chair, Assistant and Secretary are the only students that have the agendas in your Role File. The other students will not see these agendas until you print them onto chart paper.

<table>
<thead>
<tr>
<th>Agenda 1</th>
<th>Agenda 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 min 1. Welcome.</td>
<td>1 min 1. Welcome.</td>
</tr>
<tr>
<td>3 min 2. Read Agenda.</td>
<td>3 min 2. Read Agenda.</td>
</tr>
<tr>
<td>50 min 4. Role introductions.</td>
<td>20 min 4. Membership Agreement.</td>
</tr>
<tr>
<td>5 min 5. Questions.</td>
<td>5 min 5. Questions.</td>
</tr>
<tr>
<td>1 min 6. Thanks.</td>
<td>1 min 6. Thanks.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agenda 3</th>
<th>Agenda 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min 1. Welcome.</td>
<td>1 min 1. Welcome.</td>
</tr>
<tr>
<td>3 min 2. Read Agenda.</td>
<td>3 min 2. Read Agenda.</td>
</tr>
<tr>
<td>40 min 3. The Sectors give their ideas.</td>
<td>20 min 3. The Assistant shows which land areas are wanted by each of the Sectors. The Assistant gives a copy of Worksheet 15 (Master Map Grid) to each student.</td>
</tr>
<tr>
<td>10 min 4. Organizers give their Viewpoints. They read a paragraph from the Viewpoint.</td>
<td>20 min 4. Discussion of Map Grid.</td>
</tr>
<tr>
<td>5 min 5. Questions.</td>
<td>5 min 5. Questions.</td>
</tr>
<tr>
<td>1 min 6. Thanks.</td>
<td>1 min 6. Thanks.</td>
</tr>
</tbody>
</table>
Agenda 5
1 min 1. Welcome.
3 min 2. Read Agenda.
30 min 3. Criteria.
7 min 4. Form Proposal Groups.
5 min 5. Questions.
1 min 6. Thanks.

Agenda 6
1 min 1. Welcome.
3 min 2. Read Agenda.
60 min 3. Presentation of Proposals.
10 min 4. Discussion.
5 min 5. Questions.
1 min 6. Thanks.

Agenda 7
1 min 1. Welcome.
3 min 2. Read Agenda.
10 min 3. The Assistant talks about the Job Protection Chart and the Habitat Protection Chart.
50 min 4. Presentation and discussion of Proposals.
5 min 5. Questions.
1 min 6. Thanks.

Agenda 8
1 min 1. Welcome.
3 min 2. Read Agenda.
40 min 3. Rank the Proposals.
10 min 4. Come to agreement on a final Proposal.
5 min 5. Questions.
1 min 6. Thanks.

Agenda 9
1 min 1. Welcome.
3 min 2. Read Agenda.
50 min 3. Letter to the Premier.
10 min 4. Projects of the Round Table.
1 min 5. Thanks.
Rules of Order

The group members of the Round Table need to make a decision together. But each person may have
different ideas, interests and feelings. It will be easier for the group members to make decisions if they
trust, respect and understand each other. The Rules of Order will help group members develop this trust.

Rules of Order are guidelines about how to behave during the Round Table meetings. They are often
thought of as ‘manners’. Rules of Order will:

• make the meetings run more smoothly
• remind group members how to behave during a meeting
• help group members communicate with each other and with the group
• help group members deal with anger or upset feelings in a more positive way

At Round Table 2, the Chair will ask the Sector representatives and Observers to brainstorm for a list of
Rules of Order. After the brainstorm session, the Chair may suggest that the following ‘rules’ be added
to this list:

• keep hands and feet to yourself
• make room for other members
• take turns - one person speaks at a time
• do not upset or provoke others
• no put downs
• concentrate
• stay calm when others are upset
• calm down when you are upset
• listen carefully when others are speaking
• speak clearly so everyone can hear
• use quiet voices

Here are some ideas to help make the meetings run more smoothly.

1. If someone criticizes you, remain calm. Try not to get angry.
   • Then summarize what the person has said.
   • Ask questions if you don’t understand. Make sure that you and the person agree completely on
     what the person has said.
   • Now respond to the criticism.

2. Learn how to mediate. This means trying to help two or more people resolve their differences.
   • Don’t take sides.
   • Get each person to describe the problem from his/her own point of view.
   • Ask each side to expand on ideas or clarify points.
   • Summarize both points of view. Check with the person to make sure the summary is accurate.
   • Brainstorm and list all possible solutions to the problem. (No negative feedback until all solutions
     are written down.)
   • Find a solution that meets everyone’s interests.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.
How To Decide

Here are some ideas to help the members of the Round Table choose a Proposal.

Pruning

Pruning is used to shorten a long list of choices.
1. List all of the choices on a piece of paper. Make a copy for each person.
2. Give each person one of these lists.
3. Each person ranks the Proposals from 1 to 4. The best Proposal gets 4 and the worst Proposal gets 1.
4. Collect the lists.
5. Add up the rankings from each list to make a total for each Proposal.
6. Eliminate the 2 Proposals with the lowest total.

Scanning

Scanning may also be used to shorten a long list of choices.
1. List all of the Proposals by name (chart paper or blackboard).
2. Call out the name of the first Proposal.
3. Anyone may object to this Proposal for these reasons:
   - Practical: It is impossible because the technology, finances, etc. are not available.
   - Values: It goes against the basic values of all members.
   - Political: It goes against the values of the people needed to make the Proposal work.
4. Keep track of the number of objections for each Proposal.
5. Select the Proposal with the fewest number of objections and try to modify it.

Matrix

Matrix is used to compare two or three choices in detail.
1. List all of the choices (chart paper or blackboard).
2. Brainstorm for a list of factors that can be considered for each choice (i.e. cost, amount of habitat lost, etc.)
3. Make a chart to show the list of factors for each choice.
4. Decide if each if the factors is good (+) or poor (-) for each of the choices.
5. Compare the number of (+)’s to the number of (-)’s for each choice.
6. Select the choice with the greatest number of (+)’s.
Ranking Matrix

Ranking is a more detailed form of the Matrix.

1. Follow steps 1 and 2 from the Matrix.
2. Use a scale from 1 - 10 (1 as poor and 10 as excellent) to rate each factor for each choice.
3. Add up the factors for each Proposal. The Proposal with the greatest total is the best.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs Lost</td>
<td>10</td>
<td>9</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Jobs Created</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Impact to Habitat</td>
<td>6</td>
<td>4</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>

Keyword Checklist

The Keyword Checklist is used to modify a choice that is close to what everyone wants.

1. Summarize the main points of the choice. (For example, the main points of Proposal A are that: 50% of all farm workers keep their jobs, but only 10% of all the other Sectors keep their jobs.)
2. Read one key word and the key questions from the Keyword Checklist. The key words are printed in **boldface** on the chart. The key questions for each key word are printed in *italics*.
3. Use the key word and key questions to brainstorm for ideas about the Proposal. (Record and number each idea.)
4. Read another key word and its questions. Brainstorm for more ideas. Record and number each idea.
5. Choose the best ideas from the brainstorm list. Give one idea to each person.
6. In small groups, consider how the idea would change Proposal A. (Look at the advantages and disadvantages.)
7. Report back to the larger group and discuss possible changes to Proposal A.

Keyword Checklist

<table>
<thead>
<tr>
<th>Adapt</th>
<th>Modify</th>
<th>Magnify</th>
<th>Minimize</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>What else is this like?</em></td>
<td><em>New twist?</em></td>
<td><em>Stronger?</em></td>
<td><em>Smaller?</em></td>
</tr>
<tr>
<td><em>What other idea does this suggest?</em></td>
<td><em>Change meaning, color, motion, sound, form, shape?</em></td>
<td><em>Higher?</em></td>
<td><em>Miniature?</em></td>
</tr>
<tr>
<td><em>Copy something?</em></td>
<td></td>
<td><em>Multiply?</em></td>
<td><em>Shorter?</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td><em>Duplicate?</em></td>
<td><em>Lighter?</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substitute</th>
<th>Rearrange</th>
<th>Reverse</th>
<th>Combine</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Other ingredient, material, process, power, place, approach?</em></td>
<td><em>Other pattern, layout, sequence?</em></td>
<td><em>Opposite order?</em></td>
<td><em>Blend?</em></td>
</tr>
<tr>
<td><em>What instead?</em></td>
<td></td>
<td><em>Go the opposite way?</em></td>
<td><em>Assortment?</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><em>Combine purposes?</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><em>Combine ideas?</em></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><em>Ensemble?</em></td>
</tr>
</tbody>
</table>

The Keyword Checklist is adapted from the Osborn Checklist in a book by Scheidel & Crowell (1979).
There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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Role Information

ANDREW TODD-MILLAR: Secretary

Personal Profile:

- 22 years old
- single
- interested in reading, photography, computer games, short-wave radio
- other activities: a church group; Big Brothers (especially interested in helping children with physical handicaps); teaches a course called "Computers for Beginners"

When he was sixteen, Andrew was hurt in a motorcycle accident. He cannot walk. He gets around in "Rusty". This is the name his younger sister gave to Andrew's wheelchair. She began teasing him about always oiling his wheelchair so it wouldn't get rusty and squeak.

Education/Work History:

- graduated from high school. (He had to take Grade 12 at home after the accident.)
- went to college for one year.
- works as a secretary in a small law firm. (Andrew has a van with special hand controls. This way he can drive himself to and from work.)
- would like to get into computer programming. (Mary Ann, the girl Andrew is engaged to marry, is a computer programmer.)
Viewpoint

I read an article in the paper last week about NIMBY (NIMBY stands for Not In My Back Yard). I had never heard of this before. But it got me thinking.

First of all, Not In My Back Yard really means Not in My Neighbourhood. NIMBY means people can think something is a good idea but when it comes to figuring how or where to do it, they don't like the idea anymore. An example could be finding shelters for the homeless. Everyone thinks this is a good idea. Then when it comes to decide where to build the shelter, everyone says, "Not in my backyard! Not in my neighbourhood."

NIMBY happens when the government says it is going to put more land aside for parks. At first everyone thinks, "Hey, great, parks are good." Then when it comes time to decide just where to find the park land, it's NIMBY. Some people say you can't stop logging in an area for a park because people will lose their jobs. Other people say you can't take away a farmer's land for a park because he produces food. Still other people don't want the park in their area because they want a mall instead.

I think we all have to start thinking of what's best for us as the human race and for us as part of the whole environment. After all, my backyard is part of my community, and what happens in my community is connected to other communities. Instead of NIMBY maybe we should say SOBY (Share Our BackYards).
The Skit: Nightmare Meeting

Characters:
Annie Peng (Chairperson)
Christine Walker (Assistant)
Andrew Todd Millar (Secretary)
Mr. Beebrian (Guest Speaker)
Tom (Round Table member)
Bob (Round Table member)

Narrator: Annie Peng, Chairperson of the Pangea Round Table often has "bad" dreams the night before the Round Table Meetings. These dreams aren't nightmares. They are just the kind of dream many people have when they are anxious or nervous. You know the kind of dream you have the night before something big is happening. In your dream you just can't seem to get where you want to go. These dreams happen, for example, when you know you have to go to school early the next day and you have a big test. In your dream, you end up missing the bus, forgetting your books, going to the wrong room and, worse still, you are either dressed in some weird clothes or even worse, you are in your underwear. The very worst dreams are the ones where you are trying to get somewhere or do something with a group of people and you are naked.

We've all had these bad dreams. In Annie's dreams, she doesn't miss the bus or go to the wrong room or even end up chairing the meeting naked, but she does end up with a group of Round Table members that are rowdy, don’t listen and disrupt the meeting.

This is one of Annie's bad dreams. She has imagined her Round Table meeting attended by a guy named Tom (in real life that’s her obnoxious big brother) and Bob (the name of the family dog). In this same dream, or rather, this nightmare, Andrew Todd Millar (Andy) and Christine Walker (Chris) her real-life very efficient secretary and assistant, are totally weird.

Annie: The Pangea Round Table Meeting will now come to order. Please look at the agenda. Does anyone have anything to add or change?

Tom: What agenda? We don't have an agenda.

Annie: Andrew, didn't you post the agenda for the meeting?

Andy: Oh, I was playing a really cool video game last night. It got so late, I guess I forgot.

Annie: We will take a 5 minute break now so that Andrew can post the agenda. Thank you all for your patience. (Pause for a few seconds. Andrew and Annie rustle around and put up a piece of paper with Agenda written at top. The rest of the paper is blank) Now would you all please look at the agenda. Are there any changes that need to be made? (Pause, no one speaks.) Fine, let's move along to item Number 1. We have a guest speaker who is going to
give us information about a very important part of our Round Table discussions. I'd like you to welcome Mr. Pea Brain, I mean, Mr. PeaBee. Excuse me, I mean Mr. Bee Brain, or no, I'm sorry, it's Mr. Bean Pea. Please excuse me for a moment. (Annie, very embarrassed, leaves the room, fans herself, tries to compose herself and then returns.) Round Table members, please welcome Mr. Beebrian.

Mr. B: Thank you Ms. Peng. Members of the Round Table, I would like to give you some data about the new Forest Practices Code.

Bob: When is the coffee break?

Annie: It's at 10 o'clock. Please continue Mr. Bee Bee, I mean Mr. Beebrian.

Mr. B: As I was saying, I will explain exactly what the Forest Practices codes means to . . .

Bob: What kind of trees are being cut down in the Timber Valley by Northwest Lumber?

Mr. B: I will get to that later. First, I think it would be better if we all understood what the Forest Practices Code means. This code has been developed to ...

Bob: Is Northwest Lumber going to be allowed to clear-cut in the Timber Valley?

Annie: Excuse me Mr. Bee bee bee Brian. Bob, although I'm sure you have a lot of interesting questions for Mr. Beebrain, or Mr. Beebrian, you are interrupting him. Could you please save your questions until he is finished. Jot your questions down if you think you'll forget, but please do not interrupt our speaker again.

Mr. B: Thank you Madame Chairperson. As I was saying, the Forest Practices Code is intended to give the forest companies a set of rules for logging in this province. These rules must be adhered to. Ms. Walker will hand you out some specific material now so we can discuss the details of this new code which deals with how logging will be carried out in the future in B.C. Ms. Walker, could you hand out the papers I gave you last week. I asked you to type the information and then photocopy enough copies for the whole group.

Chris: (Looking blankly at Mr. Beebrian, then at Annie.) Whoops, they are still in the photocopier. (Christine gets up, knocking over water glasses and chairs and runs out of the room.)

Annie: We'll take a short break now. (Trying to smile, but gritting her teeth) Why don't we have coffee a little early this morning. (Pause for a few minutes. Andrew rushes around getting coffee cups and pouring coffee for everyone.)

Chris: (Comes back carrying a whole stack of papers. They are falling out of her hands. She picks some up, shoves them back in the pile. The papers are not neatly stacked but rather in complete disarray. Christine is also now in her bathrobe, slippers and wearing hair curlers and eating toast. I've got them Annie. (Munches on her toast and talks with her mouth full.) Here's old Pea brain's precious papers. Who cares about the Forest Practices Code anyway. This stuff all looks Greek to me. I've got to go to work. Does anyone have a hair dryer? (Andrew hands Christine a hair dryer and she sits down and begins to dry her hair. She takes her curlers out one by one, and puts them in the middle of the round table. She puts her feet, fluffy slippers and all, up on the table as well.)
(Andrew, Tom and Bob are laughing loudly and telling jokes, making faces and pointing at Annie and Mr. Beebrian.)

Annie: All right everyone, we can get started again. Please, will you all come back to the table. Andrew, since Christine is busy (Annie shoots Christine a dirty look) will you please hand out Mr. Brain Brain, Mr. Brain Bran, Mr. Beebrian’s Forest Practices Code information. (Instead of handing out the Forest Practices Code information, Andrew passes out bowls of breakfast cereal to Bob and Tom).

Mr. B: Please look over pages 1 and 2. If there are any questions please feel free to ask them now.

Tom: In your expert opinion, what is the difference between Crunchy Munchy Cereal and Crispy Crumbly Cereal?

Bob: That's easy. Everyone knows that Crunchy Munchy Cereal is really crunchy and Crispy Crumbly Cereal is really crispy.

Tom: Bet you couldn't tell the difference if I were to blindfold you and then give you a bowl of each.

Chris: (Still taking curlers out and munching on toast.) Hey, I'm starved. I'll take a couple of bowls of each. I've just got to get ready for work.

Andy: You guys should play this terrific video game I rented last night. It was called ...

Annie: Please, please. Could the meeting please come to order. You people are all off the topic. The topic was the Forest Practices Code and Mr. (pause - speaking very slowly) Beebrian is our guest. If no one has any questions about the material that has been handed out, I will ask our guest to continue his talk.

Mr. B: Thank you Ms. Peng. As I was saying, the Forest Practices Code ...

(Beebrian continues to read on and on in a slow droning voice. Christine is still drying her hair and eating. Andrew is playing a game on his Game Boy. Bob and Tom are chit-chatting between themselves. Annie is yawning and nodding off.)

Annie: (Regaining her composure.) Excuse me, Mr. Bee Bee, I mean Mr. Pea Pea. For heavens sake, don't you have a first name?

Mr. B: Yes, of course, it's Brian.

Chris, Bob, Tom & Andrew: What else. (Laughing and pointing and chanting, Brian, Brian, Brian.)

Annie: Please, please, everyone quiet. Well, Brian Beebrian, you've talked for over an hour now. Could you please make one last point and then change your name and leave this meeting and take these other idiots with you. (Everyone leaves the room.)

Annie puts her hands over her face then pinches herself and realizes she has been dreaming and goes back to sleep.
How To Run A Meeting

There are four parts to How To Run A Meeting:
• the Chair’s Tasks
• the Assistant’s Tasks
• the Secretary’s Tasks
• Helpful Hints for meetings

Read all of the information so you know what each of the Organizers will be doing. Think about how this information will help you to run the meetings.

Chair’s Tasks

1. Your job is to make it easier for the Round Table members to do their jobs. You organize and run each meeting. Be prepared!
   • Read the Agenda before the meeting.
   • Read and understand any of the papers that will be talked about at the meeting.
   • Get help from the teacher if you need it.

2. Start your meetings on time! Here are some ways to start a meeting:
   • “I would like to call the meeting to order now.”
   • “I can see that everyone is ready. I would like to start the meeting now.”

3. Welcome the members to each meeting. Here are some ideas:
   • “Thank you for coming to the meeting today. I know some of you have had to travel a long distance to be here.”
   • “I would like to thank everyone for their attendance at this meeting. I hope today’s meeting can help us work towards planning the future of Pangea.”

4. Use a Speaker’s List. A Speaker’s List makes sure that everyone gets a chance to speak. It also makes sure that people are not holding their hands up and waving their hands around trying to get your attention. The Assistant will explain how the Speaker’s List works at Round Table 1.

5. Make sure everyone stays on the topic. When someone asks a question that is off the topic, say “Your question is off the topic. We are talking about . . . right now. You will have to wait until the Question Period.”
6. Teach members how to vote. You may want to use the following chart.

<table>
<thead>
<tr>
<th>What To Do</th>
<th>What To Say</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A member puts a motion on the Table. (This means he/she wants to vote.)</td>
<td>“I would like to make a motion. I think that ...”</td>
</tr>
<tr>
<td>2. Someone must second the motion. (This means someone must agree that a vote should be done.)</td>
<td>“I second that motion.”</td>
</tr>
<tr>
<td>3. The Chair asks the Secretary to record the motion. (The Secretary can ask for someone to repeat the motion.)</td>
<td>“Andrew, will you please record the motion?”</td>
</tr>
<tr>
<td>4. The Chair asks for comments or questions. (This means that members can talk about the motion.)</td>
<td>“Does anyone have any questions or comments about the motion?”</td>
</tr>
<tr>
<td>5. The Chair or a member calls for the vote to be taken.</td>
<td>“It’s time to take the vote now.”</td>
</tr>
<tr>
<td>6. The Chair asks the Secretary to read the motion.</td>
<td>“It was moved by Tom and seconded by Surinder that ...”</td>
</tr>
<tr>
<td>7. The Chair asks the members who agree with the motion to vote.</td>
<td>“All those in favour of (the motion), please raise your hands.”</td>
</tr>
<tr>
<td>8. The Chair counts the number of people who raise their hands. The Secretary records the number of people in the minutes.</td>
<td>“There are . . . people in favour of the motion.”</td>
</tr>
<tr>
<td>9. The Chair asks the members who disagree with the motion to vote.</td>
<td>“All those not in favour of (the motion), please raise your hands.”</td>
</tr>
<tr>
<td>10. The Chair counts the number of people who raise their hands. The Secretary records the number of people in the minutes.</td>
<td>“There are . . . people not in favour of the motion.”</td>
</tr>
<tr>
<td>11. The Chair tells the members the result of the vote. (When most people vote for the motion, it passes. When most people vote against the motion, it does not pass.)</td>
<td>“The motion has passed.” OR “The motion has not passed.”</td>
</tr>
</tbody>
</table>

**Secretary’s Tasks**

1. Set up the room for the Round Table Meetings.
   - All members of the Round Table must be able to see each other.
   - Everyone will need a hard surface to write on. (Tables? Writing boards?)
   - Check with the teacher about moving furniture. Do you need help from other classmates?

2. Post the Agenda for each meeting.
   - Print it on chart paper. Think about: size of print, colour of ink, neatness and spacing.
   - The Agenda must be easy to see for all students.

3. Take notes of the meeting. These notes are called the ‘minutes’ of the meeting.
   - Use a new piece of lined paper. Record the date and time.
   - Write down each speaker’s name and the main points that he/she makes.
   - If you make a mistake:
     - Ask the speaker to summarize what he/she has said.
     - Read your minutes out loud and ask the speaker if that is what he/she said.
   - After each meeting, put the minutes up on the bulletin board.
Assistant’s Tasks

1. Be in charge of the Speaker’s List. A Speaker’s List makes sure that everyone gets a chance to speak. It also makes sure that people are not holding their hands up and waving their hands around trying to get the Chair’s attention. At Round Table 1, you need to explain how the Speaker’s List works:

   - Print the information in the box on a chart. Put the chart where everyone can see it at the meeting. Read the chart out loud.
   - Now show the students how the Speaker’s List will work. Ask seven people to raise their hands. Tell them that when their name is called, they should tell a story about what they did to get ready for school. Then ask the first person to speak. Now write down the names of the other six people. Point to each person when you write his/her name. Then the person can lower his/her hand. When the first person has finished talking, call out the name of the next person on the list.

2. Fill out charts during some Round Table meetings.

   - Post the chart paper before the meeting. Make sure the chart can be seen by all students.
   - Make the chart easy to read: the size of print, colour of ink, neatness and spacing.
   - Use a ruler to make the chart outline. (This chart on Animals has rows and columns.)
   - Label the headings on the rows and columns. Make sure you explain the headings. (The headings on the Animals chart are: bear, wolf, rabbit, habitat, predators and prey.)
   - The empty boxes are called cells. Make sure students understand the information in the cells.

3. Explain the directions in Task Times to other students.

   - Be patient.
   - Make sure the student has first tried to get help from another member of his/her group. Look for the signature of one of these group members beside the direction.
   - Now ask the student to read the direction to you.
   - If the direction refers to a worksheet, ask the student to show you the worksheet.
   - Ask questions about the direction to see if you can get the student to understand what he/she is supposed to do.
   - Ask the student to read the direction again.
   - If you cannot help the student, sign your name beside the direction to show that you tried to help. Then send the student to the teacher.
Helpful Hints

1. At each Task Time, list all the tasks that each Organizer must do at the meeting. Print the name of the person responsible for the task. List the supplies that may be needed for that task. Try writing down what might be said for that task.

<table>
<thead>
<tr>
<th>Task</th>
<th>Person Responsible</th>
<th>Supplies Needed</th>
<th>What To Say</th>
</tr>
</thead>
</table>
| Post Agenda   | Secretary          | Agenda printed on chart.         | "I would like to welcome everyone to this Round Table meeting."
| Welcome       | Chair              |                                  |                                                                   |
| Read Agenda   | Chair              | Copy of the Agenda.              | "The Agenda for today’s meeting is . . ." (Chair points to a large chart of the Agenda.) |

2. Speak s-l-o-w-l-y, clearly and **loudly** at meetings.
   - Organize your thoughts ahead of time.
   - Use index cards to keep your speech on track.

3. Learn to manage groups. **Be confident.**
   - Be organized. Have everything ready.
   - Use people’s names and look at them directly (eye-to-eye).
   - Make instructions simple.
   - Make sure people get a chance to talk. Don’t let anyone take over the meeting.
   - Stay calm, even when other people are angry or excited.
   - If someone is not getting his/her point across, try summarizing what that person has said.
   - Keep the meeting moving. People get restless when someone talks too long.

4. Something goes wrong! **Stay calm** - do not get upset. Here are some solutions.

<table>
<thead>
<tr>
<th>You forget an item on the agenda</th>
<th>Finish what you are doing. Then tell the group that you forgot the item and that you will do it now.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Someone keeps interrupting the meeting.</td>
<td>Finish what you are doing. Then politely tell the member what he/she is doing that is causing problems. Tell the member what you would like him/her to do differently. (&quot;Susan, you are squirming around in your chair. This makes it hard for everyone to stay on task. Please sit still until the meeting is over.&quot;)</td>
</tr>
<tr>
<td>You forget what to do next.</td>
<td>Ask the members if you could have a short 5 minute break. Use this time to look at your Agenda. Ask the Assistant, Secretary or teacher for help.</td>
</tr>
<tr>
<td>Someone talks too long.</td>
<td>Politely interrupt the person. (&quot;Excuse me, Jim. We need to keep the meeting moving along. Could you please make one last point? Then it will be Ann’s turn to speak.&quot;)</td>
</tr>
<tr>
<td>The group gets off the topic.</td>
<td>Politely interrupt the person speaking. Then remind everyone about the task. (&quot;Excuse me, Jasmine. I think we have gotten off the topic. Remember, we are talking about . . . . Jasmine, do you have anything to add on this topic? Does anyone else have something to say on this topic?&quot;)</td>
</tr>
</tbody>
</table>
Agendas for Round Table Meetings

The Chair, Assistant and Secretary are the only students that have the agendas in your Role File. The other students will not see these agendas until you print them onto chart paper.

**Agenda 1**

8 min 1. Welcome.
3 min 2. Read Agenda.
5 min 3. Motions, voting and the Speaker's List.
50 min 4. Role introductions.
5 min 5. Questions.
1 min 6. Thanks.

**Agenda 2**

1 min 1. Welcome.
3 min 2. Read Agenda.
20 min 3. Rules of Order.
20 min 4. Membership Agreement.
5 min 5. Questions.
1 min 6. Thanks.

**Agenda 3**

1 min 1. Welcome.
3 min 2. Read Agenda.
40 min 3. The Sectors give their ideas.
10 min 4. Organizers give their Viewpoints. They read a paragraph from the Viewpoint.
5 min 5. Questions.
1 min 6. Thanks.

**Agenda 4**

1 min 1. Welcome.
3 min 2. Read Agenda.
20 min 3. The Assistant shows which land areas are wanted by each of the Sectors. The Assistant gives a copy of *Worksheet 15 (Master Map Grid)* to each student.
20 min 4. Discussion of Map Grid.
5 min 5. Questions.
1 min 6. Thanks.
### Agenda 5

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>30 min</td>
<td>3. Criteria.</td>
</tr>
<tr>
<td>7 min</td>
<td>4. Form Proposal Groups.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>

### Agenda 6

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>60 min</td>
<td>3. Presentation of Proposals.</td>
</tr>
<tr>
<td>10 min</td>
<td>4. Discussion.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>

### Agenda 7

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>10 min</td>
<td>3. The Assistant talks about the Job Protection Chart and the Habitat Protection Chart.</td>
</tr>
<tr>
<td>50 min</td>
<td>4. Presentation and discussion of Proposals.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>

### Agenda 8

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>40 min</td>
<td>3. Rank the Proposals.</td>
</tr>
<tr>
<td>10 min</td>
<td>4. Come to agreement on a final Proposal.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>

### Agenda 9

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>50 min</td>
<td>3. Letter to the Premier.</td>
</tr>
<tr>
<td>10 min</td>
<td>4. Projects of the Round Table.</td>
</tr>
<tr>
<td>1 min</td>
<td>5. Thanks.</td>
</tr>
</tbody>
</table>
Rules of Order

The group members of the Round Table need to make a decision together. But each person may have different ideas, interests and feelings. It will be easier for the group members to make decisions if they trust, respect and understand each other. The Rules of Order will help group members develop this trust.

Rules of Order are guidelines about how to behave during the Round Table meetings. They are often thought of as ‘manners’. Rules of Order will:

• make the meetings run more smoothly
• remind group members how to behave during a meeting
• help group members communicate with each other and with the group
• help group members deal with anger or upset feelings in a more positive way

At Round Table 2, the Chair will ask the Sector representatives and Observers to brainstorm for a list of Rules of Order. After the brainstorm session, the Chair may suggest that the following ‘rules’ be added to this list:

• keep hands and feet to yourself
• make room for other members
• take turns - one person speaks at a time
• do not upset or provoke others
• no put downs
• concentrate
• stay calm when others are upset
• calm down when you are upset
• listen carefully when others are speaking
• speak clearly so everyone can hear
• use quiet voices

Here are some ideas to help make the meetings run more smoothly.

1. If someone criticizes you, remain calm. Try not to get angry.
   • Then summarize what the person has said.
   • Ask questions if you don’t understand. Make sure that you and the person agree completely on what the person has said.
   • Now respond to the criticism.

2. Learn how to mediate. This means trying to help two or more people resolve their differences.
   • Don’t take sides.
   • Get each person to describe the problem from his/her own point of view.
   • Ask each side to expand on ideas or clarify points.
   • Summarize both points of view. Check with the person to make sure the summary is accurate.
   • Brainstorm and list all possible solutions to the problem. (No negative feedback until all solutions are written down.)
   • Find a solution that meets everyone’s interests.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with 'dining' get their squares.
- Sectors with 4 syllables don't get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure 'most people'? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

| Task Time 8 | Choose the criteria to rate the Proposals. |
| Task Time 7 | Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares. |
| Task Time 7 | Use Worksheet 24 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each proposal. |
| Round Table 7 | Present a Proposal and listen to other groups present their Proposal. |
| Task Time 8 | Think about the strong and weak points of each proposal. Give ideas for changes that will make them better. |
How To Decide

Here are some ideas to help the members of the Round Table choose a Proposal.

Pruning

Pruning is used to shorten a long list of choices.
1. List all of the choices on a piece of paper. Make a copy for each person.
2. Give each person one of these lists.
3. Each person ranks the Proposals from 1 to 4. The best Proposal gets 4 and the worst Proposal gets 1.
4. Collect the lists.
5. Add up the rankings from each list to make a total for each Proposal.
6. Eliminate the 2 Proposals with the lowest total.

Scanning

Scanning may also be used to shorten a long list of choices.
1. List all of the Proposals by name (chart paper or blackboard).
2. Call out the name of the first Proposal.
3. Anyone may object to this Proposal for these reasons:
   Practical: It is impossible because the technology, finances, etc. are not available.
   Values: It goes against the basic values of all members.
   Political: It goes against the values of the people needed to make the Proposal work.
4. Keep track of the number of objections for each Proposal.
5. Select the Proposal with the fewest number of objections and try to modify it.

Matrix

Matrix is used to compare two or three choices in detail.
1. List all of the choices (chart paper or blackboard).
2. Brainstorm for a list of factors that can be considered for each choice (ie. cost, amount of habitat lost, etc.)
3. Make a chart to show the list of factors for each choice.
4. Decide if each if the factors is good (+) or poor (-) for each of the choices.
5. Compare the number of (+)'s to the number of (-)'s for each choice.
6. Select the choice with the greatest number of (+)'s.
Ranking Matrix

Ranking is a more detailed form of the Matrix.
1. Follow steps 1 and 2 from the Matrix.
2. Use a scale from 1 - 10 (1 as poor and 10 as excellent) to rate each factor for each choice.
3. Add up the factors for each Proposal. The Proposal with the greatest total is the best.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs Lost</td>
<td>10</td>
<td>9</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Jobs Created</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Impact to Habitat</td>
<td>6</td>
<td>4</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>

Keyword Checklist

The Keyword Checklist is used to modify a choice that is close to what everyone wants.
1. Summarize the main points of the choice. (For example, the main points of Proposal A are that: 50% of all farm workers keep their jobs, but only 10% of all the other Sectors keep their jobs.)
2. Read one key word and the key questions from the Keyword Checklist. The key words are printed in boldface on the chart. The key questions for each key word are printed in italics.
3. Use the key word and key questions to brainstorm for ideas about the Proposal. (Record and number each idea.)
4. Read another key word and its questions. Brainstorm for more ideas. Record and number each idea.
5. Choose the best ideas from the brainstorm list. Give one idea to each person.
6. In small groups, consider how the idea would change Proposal A. (Look at the advantages and disadvantages.)
7. Report back to the larger group and discuss possible changes to Proposal A.

Keyword Checklist

<table>
<thead>
<tr>
<th>Adapt</th>
<th>Modify</th>
<th>Magnify</th>
<th>Minimize</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What else is this like?</td>
<td>• New twist?</td>
<td>• Stronger?</td>
<td>• Smaller?</td>
</tr>
<tr>
<td>• What other idea does this suggest?</td>
<td>• Change meaning, color, motion, sound, form, shape?</td>
<td>• Higher?</td>
<td>• Miniature?</td>
</tr>
<tr>
<td>• Copy something?</td>
<td>• Multiply?</td>
<td>• Smaller?</td>
<td>• Shorter?</td>
</tr>
<tr>
<td></td>
<td>• Duplicate?</td>
<td></td>
<td>• Lighter?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substitute</th>
<th>Rearrange</th>
<th>Reverse</th>
<th>Combine</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Other ingredient, material, process, power, place, approach?</td>
<td>• Other pattern, layout, sequence?</td>
<td>• Opposite order?</td>
<td>• Blend?</td>
</tr>
<tr>
<td>• What instead?</td>
<td>• Change pace?</td>
<td>• Go the opposite way?</td>
<td>• Assortment?</td>
</tr>
<tr>
<td></td>
<td>• Change schedule?</td>
<td></td>
<td>• Combine purposes?</td>
</tr>
</tbody>
</table>

The Keyword Checklist is adapted from the Osborn Checklist in a book by Scheidel & Crowell (1979).
There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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Role Information

CHRISTINE WALKER: Assistant

Personal Profile:

• 48 years old
• two children: Karen, 20, and Diane, 22, both at university
• widowed
• interested in bridge, golf, jazz (plays the saxophone), travel (takes one major trip every two years)
• other activities: Caregivers for Alzheimer's Patients; Weight Watchers; Bookworms (adults read to children at the library.)

Education/Work History:

• got her Bachelor of Education degree at University of Victoria.
• taught elementary school for 10 years.
• went back to university and got a Masters of Education degree.
• taught senior secondary school for 8 years.
• was a principal at Cariboo High School for 3 years.
• now looking forward to taking a few courses at the local college.

Christine’s husband, Hank, was a logger. He was killed in an accident while he was working. Christine had 2 young children (ages 2 and 4) and no career. She decided to go to university and become a teacher. She moved to Victoria where her parents lived. Christine’s mother looked after Karen and Diane while Christine got her degree in education.

Christine’s mother, who has Alzheimer’s disease, lives with her now. Last year, Christine took early retirement from teaching to look after her mother because she didn’t want to put her in a nursing home. Christine has never forgotten how grateful she was to her mother for helping her when she went back to school.
Viewpoint

I want to set the record straight about young people and their attitudes towards the environment. The other day, I read an article about the trash left in the park by young people after a rock concert. I got angry as I read the article and I am still angry.

Just because a few students took part in an act of vandalism doesn't mean all students are irresponsible.

You just have to stroll down to Bentley Creek to see responsible action by our students. Gone are the shopping carts. Gone are the beer and pop bottles. Gone is the Bentley Creek “garbage dump.”

The students of Bentley Creek School adopted the stream six years ago. First they got the OK from the Department of Fisheries to remove the junk in the creek. Then they got permission to sample water in the creek to find out if salmon could live in the water. Then they put a fish tank in their school library with help from fisheries people. Soon they were raising coho salmon in the tank. For five years in a row they have released 200 salmon fry into the creek. This past year, they got their first results. A pair of coho salmon spawned in Bentley Creek for the first time in 40 years.

Here are more "facts" to back up my argument that young people are helping, not harming, the environment:

• Students at Fifth Avenue Secondary School planted trees along Fisher Creek to prevent stream bank erosion.

• Local Girl Guides and Boy Scouts have marked all the storm drains in the community to let people know that pouring pollutants down storm drains can kill wildlife in the water.

• Students at our local community college are making a film to show the effects of air pollution.

• Young people from our town went to a province-wide meeting about sustainability.

In fact, most young people are good citizens. I’d say most young people would get good grades on their environmental report cards.

You see examples of kids acting responsibly all the time. Look at how many young people have part-time jobs. They show up on time, are polite and work hard.

Maybe more people should check out more positive stories about young people. They'd find lots of them.
The Skit: Nightmare Meeting

Characters:
Annie Peng (Chairperson)
Christine Walker (Assistant)
Andrew Todd Millar (Secretary)
Mr. Beebrian (Guest Speaker)
Tom (Round Table member)
Bob (Round Table member)

Narrator: Annie Peng, Chairperson of the Pangea Round Table often has "bad" dreams the night before the Round Table Meetings. These dreams aren't nightmares. They are just the kind of dream many people have when they are anxious or nervous. You know the kind of dream you have the night before something big is happening. In your dream you just can't seem to get where you want to go. These dreams happen, for example, when you know you have to go to school early the next day and you have a big test. In your dream, you end up missing the bus, forgetting your books, going to the wrong room and, worse still, you are either dressed in some weird clothes or even worse, you are in your underwear. The very worst dreams are the ones where you are trying to get somewhere or do something with a group of people and you are naked.

We've all had these bad dreams. In Annie's dreams, she doesn't miss the bus or go to the wrong room or even end up chairing the meeting naked, but she does end up with a group of Round Table members that are rowdy, don't listen and disrupt the meeting.

This is one of Annie's bad dreams. She has imagined her Round Table meeting attended by a guy named Tom (in real life that's her obnoxious big brother) and Bob (the name of the family dog). In this same dream, or rather, this nightmare, Andrew Todd Millar (Andy) and Christine Walker (Chris) her real-life very efficient secretary and assistant, are totally wierd.

Annie: The Pangea Round Table Meeting will now come to order. Please look at the agenda. Does anyone have anything to add or change?

Tom: What agenda? We don't have an agenda.

Annie: Andrew, didn't you post the agenda for the meeting?

Andy: Oh, I was playing a really cool video game last night. It got so late, I guess I forgot.

Annie: We will take a 5 minute break now so that Andrew can post the agenda. Thank you all for your patience. (Pause for a few seconds. Andrew and Annie rustle around and put up a piece of paper with Agenda written at top. The rest of the paper is blank) Now would you all please look at the agenda. Are there any changes that need to be made? (Pause, no one speaks.) Fine, let's move along to item Number 1. We have a guest speaker who is going to
give us information about a very important part of our Round Table discussions. I’d like you
to welcome Mr. Pea Brain, I mean, Mr. PeaBee. Excuse me, I mean Mr. Bee Brain, or no,
I’m sorry, it's Mr. Bean Pea. Please excuse me for a moment. *(Annie, very embarrassed,
leaves the room, fans herself, tries to compose herself and then returns.)* Round Table
members, please welcome Mr. Beebrian.

**Mr. B:** Thank you Ms. Peng. Members of the Round Table, I would like to give you some data
about the new Forest Practices Code.

**Bob:** When is the coffee break?

**Annie:** It's at 10 o'clock. Please continue Mr. Bee Bee, I mean Mr. Beebrian.

**Mr. B:** As I was saying, I will explain exactly what the Forest Practices codes means to . . .

**Bob:** What kind of trees are being cut down in the Timber Valley by Northwest Lumber?

**Mr. B:** I will get to that later. First, I think it would be better if we all understood what the Forest
Practices Code means. This code has been developed to ...

**Bob:** Is Northwest Lumber going to be allowed to clear-cut in the Timber Valley?

**Annie:** Excuse me Mr. Bee bee bee Brian. Bob, although I'm sure you have a lot of interesting
questions for Mr. Beebrain, or Mr. Beebrian, you are interrupting him. Could you please
save your questions until he is finished. Jot your questions down if you think you'll forget,
but please do not interrupt our speaker again.

**Mr. B:** Thank you Madame Chairperson. As I was saying, the Forest Practices Code is intended to
give the forest companies a set of rules for logging in this province. These rules must be
adhered to. Ms. Walker will hand you out some specific material now so we can discuss the
details of this new code which deals with how logging will be carried out in the future in
B.C. Ms. Walker, could you hand out the papers I gave you last week. I asked you to type
the information and then photocopy enough copies for the whole group.

**Chris:** *(Looking blankly at Mr. Beebrian, then at Annie.)* Whoops, they are still in the photocopier.
*(Christine gets up, knocking over water glasses and chairs and runs out of the room.)*

**Annie:** We'll take a short break now. *(Trying to smile, but gritting her teeth)* Why don't we have
coffee a little early this morning. *(Pause for a few minutes. Andrew rushes around getting
coffee cups and pouring coffee for everyone.)*

**Chris:** *(Comes back carrying a whole stack of papers. They are falling out of her hands. She picks
some up, shoves them back in the pile. The papers are not neatly stacked but rather in
complete disarray. Christine is also now in her bathrobe, slippers and wearing hair curlers
and eating toast. I've got them Annie. *(Munches on her toast and talks with her mouth full.)*
This stuff all looks Greek to me. I've got to go to work. Does anyone have a hair dryer?
*(Andrew hands Christine a hair dryer and she sits down and begins to dry her hair. She
takes her curlers out one by one, and puts them in the middle of the round table. She puts
her feet, fluffy slippers and all, up on the table as well.)*
(Andrew, Tom and Bob are laughing loudly and telling jokes, making faces and pointing at Annie and Mr. Beebrian.)

**Annie:** All right everyone, we can get started again. Please, will you all come back to the table. Andrew, since Christine is busy *(Annie shoots Christine a dirty look)* will you please hand out Mr. Brain Brain, Mr. Brain Bran, Mr. Beebrain's Forest Practices Code information. *(Instead of handing out the Forest Practices Code information, Andrew passes out bowls of breakfast cereal to Bob and Tom).*

**Mr. B:** Please look over pages 1 and 2. If there are any questions please feel free to ask them now.

**Tom:** In your expert opinion, what is the difference between Crunchy Munchy Cereal and Crispy Crumbly Cereal?

**Bob:** That's easy. Everyone knows that Crunchy Munchy Cereal is really crunchy and Crispy Crumbly Cereal is really crispy.

**Tom:** Bet you couldn't tell the difference if I were to blindfold you and then give you a bowl of each.

**Chris:** *(Still taking curlers out and munching on toast.)* Hey, I'm starved. I'll take a couple of bowls of each. I've just got to get ready for work.

**Andy:** You guys should play this terrific video game I rented last night. It was called ...

**Annie:** Please, please. Could the meeting please come to order. You people are all off the topic. The topic was the Forest Practices Code and Mr. *(pause - speaking very slowly)* Beebrian is our guest. If no one has any questions about the material that has been handed out, I will ask our guest to continue his talk.

**Mr. B:** Thank you Ms. Peng. As I was saying, the Forest Practices Code ...

*(Beebrian continues to read on and on in a slow droning voice. Christine is still drying her hair and eating. Andrew is playing a game on his Game Boy. Bob and Tom are chit-chatting between themselves. Annie is yawning and nodding off.)*

**Annie:** *(Regaining her composure.)* Excuse me, Mr. Bee Bee, I mean Mr. Pea Pea. For heavens sake, don't you have a first name?

**Mr. B:** Yes, of course, it's Brian.

**Chris, Bob, Tom & Andrew:** What else. *(Laughing and pointing and chanting, Brian, Brian, Brian.)*

**Annie:** Please, please, everyone quiet. Well, Brian Beebrian, you've talked for over an hour now. Could you please make one last point and then change your name and leave this meeting and take these other idiots with you. *(Everyone leaves the room.)*

*Annie puts her hands over her face then pinches herself and realizes she has been dreaming and goes back to sleep.*
How To Run A Meeting

There are four parts to How To Run A Meeting:
• the Chair’s Tasks
• the Assistant’s Tasks
• the Secretary’s Tasks
• Helpful Hints for meetings

Read all of the information so you know what each of the Organizers will be doing. Think about how this information will help you to run the meetings.

Chair’s Tasks

1. Your job is to make it easier for the Round Table members to do their jobs. You organize and run each meeting. Be prepared!
   • Read the Agenda before the meeting.
   • Read and understand any of the papers that will be talked about at the meeting.
   • Get help from the teacher if you need it.

The Agenda is a list of items that the group needs to discuss. All of the Round Table Agendas are listed in this Role File. The Agenda:
- helps keep the meeting on track
- may be changed by a vote to add or subtract items
- is read aloud at each meeting

2. Start your meetings on time! Here are some ways to start a meeting:
   • “I would like to call the meeting to order now.”
   • “I can see that everyone is ready. I would like to start the meeting now.”

3. Welcome the members to each meeting. Here are some ideas:
   • “Thank you for coming to the meeting today. I know some of you have had to travel a long distance to be here.”
   • “I would like to thank everyone for their attendance at this meeting. I hope today’s meeting can help us work towards planning the future of Pangea.”

4. Use a Speaker’s List. A Speaker’s List makes sure that everyone gets a chance to speak. It also makes sure that people are not holding their hands up and waving their hands around trying to get your attention. The Assistant will explain how the Speaker’s List works at Round Table 1.

5. Make sure everyone stays on the topic. When someone asks a question that is off the topic, say “Your question is off the topic. We are talking about . . . right now. You will have to wait until the Question Period.”
6. Teach members how to vote. You may want to use the following chart.

<table>
<thead>
<tr>
<th>What To Do</th>
<th>What To Say</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. A member puts a motion on the Table. (This means he/she wants to vote.)</td>
<td>&quot;I would like to make a motion. I think that ...&quot;</td>
</tr>
<tr>
<td>2. Someone must second the motion. (This means someone must agree that a vote should be done.)</td>
<td>&quot;I second that motion.&quot;</td>
</tr>
<tr>
<td>3. The Chair asks the Secretary to record the motion. (The Secretary can ask for someone to repeat the motion.)</td>
<td>&quot;Andrew, will you please record the motion?&quot;</td>
</tr>
<tr>
<td>4. The Chair asks for comments or questions. (This means that members can talk about the motion.)</td>
<td>&quot;Does anyone have any questions or comments about the motion?&quot;</td>
</tr>
<tr>
<td>5. The Chair or a member calls for the vote to be taken.</td>
<td>&quot;It's time to take the vote now.&quot;</td>
</tr>
<tr>
<td>6. The Chair asks the Secretary to read the motion.</td>
<td>&quot;It was moved by Tom and seconded by Surinder that ...&quot;</td>
</tr>
<tr>
<td>7. The Chair asks the members who agree with the motion to vote.</td>
<td>&quot;All those in favour of (the motion), please raise your hands.&quot;</td>
</tr>
<tr>
<td>8. The Chair counts the number of people who raise their hands. The Secretary records the number of people in the minutes.</td>
<td>&quot;There are ... people in favour of the motion.&quot;</td>
</tr>
<tr>
<td>9. The Chair asks the members who disagree with the motion to vote.</td>
<td>&quot;All those not in favour of (the motion), please raise your hands.&quot;</td>
</tr>
<tr>
<td>10. The Chair counts the number of people who raise their hands. The Secretary records the number of people in the minutes.</td>
<td>&quot;There are ... people not in favour of the motion.&quot;</td>
</tr>
<tr>
<td>11. The Chair tells the members the result of the vote. (When most people vote for the motion, it passes. When most people vote against the motion, it does not pass.)</td>
<td>&quot;The motion has passed.&quot; OR &quot;The motion has not passed.&quot;</td>
</tr>
</tbody>
</table>

**Secretary’s Tasks**

1. Set up the room for the Round Table Meetings.
   - All members of the Round Table must be able to see each other.
   - Everyone will need a hard surface to write on. (Tables? Writing boards?)
   - Check with the teacher about moving furniture. Do you need help from other classmates?

2. Post the Agenda for each meeting.
   - Print it on chart paper. Think about: size of print, colour of ink, neatness and spacing.
   - The Agenda must be easy to see for all students.

3. Take notes of the meeting. These notes are called the ‘minutes’ of the meeting.
   - Use a new piece of lined paper. Record the date and time.
   - Write down each speaker’s name and the main points that he/she makes.
   - If you make a mistake:
     - Ask the speaker to summarize what he/she has said.
     - Read your minutes out loud and ask the speaker if that is what he/she said.
   - After each meeting, put the minutes up on the bulletin board.
Assistant’s Tasks

1. Be in charge of the Speaker’s List. A Speaker’s List makes sure that everyone gets a chance to speak. It also makes sure that people are not holding their hands up and waving their hands around trying to get the Chair’s attention. At Round Table 1, you need to explain how the Speaker’s List works:

   • Print the information in the box on a chart. Put the chart where everyone can see it at the meeting. Read the chart out loud.
   
   • Now show the students how the Speaker’s List will work. Ask seven people to raise their hands. Tell them that when their name is called, they should tell a story about what they did to get ready for school. Then ask the first person to speak. Now write down the names of the other six people. Point to each person when you write his/her name. Then the person can lower his/her hand. When the first person has finished talking, call out the name of the next person on the list.

   How the Speaker’s List Works
   People raise their hands to show they want to speak. When lots of people raise their hands at one time, the Assistant calls the name of the first person. While this person is speaking, the Assistant writes down the names of the other students. (The Assistant points to the person so the person knows that he/she has been seen and can put his/her hand down.) When the first person finishes speaking, the Assistant asks the next person on the list to speak. As each person finishes speaking, the Assistant crosses his/her name off the list.

2. Fill out charts during some Round Table meetings.
   • Post the chart paper before the meeting. Make sure the chart can be seen by all students.
   • Make the chart easy to read: the size of print, colour of ink, neatness and spacing.
   • Use a ruler to make the chart outline. (This chart on Animals has rows and columns.)
   • Label the headings on the rows and columns. Make sure you explain the headings. (The headings on the Animals chart are: bear, wolf, rabbit, habitat, predators and prey.)
   • The empty boxes are called cells. Make sure students understand the information in the cells.

<table>
<thead>
<tr>
<th>Animals</th>
<th>Bear</th>
<th>Wolf</th>
<th>Rabbit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Habitat</td>
<td>cell</td>
<td>cell</td>
<td></td>
</tr>
<tr>
<td>Predators</td>
<td>cell</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prey</td>
<td>cell</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Explain the directions in Task Times to other students.
   • Be patient.
   • Make sure the student has first tried to get help from another member of his/her group. Look for the signature of one of these group members beside the direction.
   • Now ask the student to read the direction to you.
   • If the direction refers to a worksheet, ask the student to show you the worksheet.
   • Ask questions about the direction to see if you can get the student to understand what he/she is supposed to do.
   • Ask the student to read the direction again.
   • If you cannot help the student, sign your name beside the direction to show that you tried to help. Then send the student to the teacher.
Helpful Hints

1. At each Task Time, list all the tasks that each Organizer must do at the meeting. Print the name of the person responsible for the task. List the supplies that may be needed for that task. Try writing down what might be said for that task.

<table>
<thead>
<tr>
<th>Task</th>
<th>Person Responsible</th>
<th>Supplies Needed</th>
<th>What To Say</th>
</tr>
</thead>
<tbody>
<tr>
<td>Post Agenda</td>
<td>Secretary</td>
<td>Agenda printed on chart.</td>
<td>&quot;I would like to welcome everyone to this Round Table meeting.&quot;</td>
</tr>
<tr>
<td>Welcome</td>
<td>Chair</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Read Agenda</td>
<td>Chair</td>
<td>Copy of the Agenda.</td>
<td>&quot;The Agenda for today's meeting is . . .&quot; (Chair points to a large chart of the Agenda.)</td>
</tr>
</tbody>
</table>

2. Speak slowly, clearly and loudly at meetings.
   - Organize your thoughts ahead of time.
   - Use index cards to keep your speech on track.

3. Learn to manage groups. Be confident.
   - Be organized. Have everything ready.
   - Use people's names and look at them directly (eye-to-eye).
   - Make instructions simple.
   - Make sure people get a chance to talk. Don't let anyone take over the meeting.
   - Stay calm, even when other people are angry or excited.
   - If someone is not getting his/her point across, try summarizing what that person has said.
   - Keep the meeting moving. People get restless when someone talks too long.

4. Something goes wrong! Stay calm - do not get upset. Here are some solutions.

<table>
<thead>
<tr>
<th>You forget an item on the agenda</th>
<th>Finish what you are doing. Then tell the group that you forgot the item and that you will do it now.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Someone keeps interrupting the meeting</td>
<td>Finish what you are doing. Then politely tell the member what he/she is doing that is causing problems. Tell the member what you would like him/her to do differently. (&quot;Susan, you are squirming around in your chair. This makes it hard for everyone to stay on task. Please sit still until the meeting is over.&quot;)</td>
</tr>
<tr>
<td>You forget what to do next.</td>
<td>Ask the members if you could have a short 5 minute break. Use this time to look at your Agenda. Ask the Assistant, Secretary or teacher for help.</td>
</tr>
<tr>
<td>Someone talks too long.</td>
<td>Politely interrupt the person. (&quot;Excuse me, Jim. We need to keep the meeting moving along. Could you please make one last point? Then it will be Ann's turn to speak.&quot;)</td>
</tr>
<tr>
<td>The group gets off the topic.</td>
<td>Politely interrupt the person speaking. Then remind everyone about the task. (&quot;Excuse me, Jasmine. I think we have gotten off the topic. Remember, we are talking about . . . . Jasmine, do you have anything to add on this topic? Does anyone else have something to say on this topic?&quot;)</td>
</tr>
</tbody>
</table>
Agendas for Round Table Meetings

The Chair, Assistant and Secretary are the only students that have the agendas in your Role File. The other students will not see these agendas until you print them onto chart paper.

**Agenda 1**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>5 min</td>
<td>3. Motions, voting and the Speaker’s List.</td>
</tr>
<tr>
<td>50 min</td>
<td>4. Role introductions.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>

**Agenda 2**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>20 min</td>
<td>3. Rules of Order.</td>
</tr>
<tr>
<td>20 min</td>
<td>4. Membership Agreement.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>

**Agenda 3**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>40 min</td>
<td>3. The Sectors give their ideas.</td>
</tr>
<tr>
<td>10 min</td>
<td>4. Organizers give their Viewpoints. They read a paragraph from the Viewpoint.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>

**Agenda 4**

<table>
<thead>
<tr>
<th>Time</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 min</td>
<td>1. Welcome.</td>
</tr>
<tr>
<td>3 min</td>
<td>2. Read Agenda.</td>
</tr>
<tr>
<td>20 min</td>
<td>3. The Assistant shows which land areas are wanted by each of the Sectors. The Assistant gives a copy of Worksheet 15 (Master Map Grid) to each student.</td>
</tr>
<tr>
<td>20 min</td>
<td>4. Discussion of Map Grid.</td>
</tr>
<tr>
<td>5 min</td>
<td>5. Questions.</td>
</tr>
<tr>
<td>1 min</td>
<td>6. Thanks.</td>
</tr>
</tbody>
</table>
Agenda 5

1 min  1. Welcome.
3 min  2. Read Agenda.
30 min 3. Criteria.
7 min  4. Form Proposal Groups.
5 min  5. Questions.
1 min  6. Thanks.

Agenda 6

1 min  1. Welcome.
3 min  2. Read Agenda.
60 min 3. Presentation of Proposals.
10 min 4. Discussion.
5 min  5. Questions.
1 min  6. Thanks.

Agenda 7

1 min  1. Welcome.
3 min  2. Read Agenda.
10 min 3. The Assistant talks about the Job Protection Chart and the Habitat Protection Chart.
50 min 4. Presentation and discussion of Proposals.
5 min  5. Questions.
1 min  6. Thanks.

Agenda 8

1 min  1. Welcome.
3 min  2. Read Agenda.
40 min 3. Rank the Proposals.
10 min 4. Come to agreement on a final Proposal.
5 min  5. Questions.
1 min  6. Thanks.

Agenda 9

1 min  1. Welcome.
3 min  2. Read Agenda.
50 min 3. Letter to the Premier.
10 min 4. Projects of the Round Table.
1 min  5. Thanks.
Rules of Order

The group members of the Round Table need to make a decision together. But each person may have different ideas, interests and feelings. It will be easier for the group members to make decisions if they trust, respect and understand each other. The Rules of Order will help group members develop this trust.

Rules of Order are guidelines about how to behave during the Round Table meetings. They are often thought of as ‘manners’. Rules of Order will:

• make the meetings run more smoothly
• remind group members how to behave during a meeting
• help group members communicate with each other and with the group
• help group members deal with anger or upset feelings in a more positive way

At Round Table 2, the Chair will ask the Sector representatives and Observers to brainstorm for a list of Rules of Order. After the brainstorm session, the Chair may suggest that the following ‘rules’ be added to this list:

• keep hands and feet to yourself
• make room for other members
• take turns - one person speaks at a time
• do not upset or provoke others
• no put downs
• concentrate
• stay calm when others are upset
• calm down when you are upset
• listen carefully when others are speaking
• speak clearly so everyone can hear
• use quiet voices

Here are some ideas to help make the meetings run more smoothly.

1. If someone criticizes you, remain calm. Try not to get angry.
   • Then summarize what the person has said.
   • Ask questions if you don’t understand. Make sure that you and the person agree completely on what the person has said.
   • Now respond to the criticism.

2. Learn how to mediate. This means trying to help two or more people resolve their differences.
   • Don’t take sides.
   • Get each person to describe the problem from his/her own point of view.
   • Ask each side to expand on ideas or clarify points.
   • Summarize both points of view. Check with the person to make sure the summary is accurate.
   • Brainstorm and list all possible solutions to the problem. (No negative feedback until all solutions are written down.)
   • Find a solution that meets everyone’s interests.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with 'dining' get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

| Round Table 5 | Choose the criteria to rate the Proposals. |
| Task Time 6   | Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares. |
| Task Time 7   | Use Worksheet 24 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal |
| Round Table 7 | Present a Proposal and listen to other groups present their Proposal. |
| Task Time 8   | Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better. |
How To Decide

Here are some ideas to help the members of the Round Table choose a Proposal.

Pruning

Pruning is used to shorten a long list of choices.
1. List all of the choices on a piece of paper. Make a copy for each person.
2. Give each person one of these lists.
3. Each person ranks the Proposals from 1 to 4. The best Proposal gets 4 and the worst Proposal gets 1.
4. Collect the lists.
5. Add up the rankings from each list to make a total for each Proposal.
6. Eliminate the 2 Proposals with the lowest total.

Scanning

Scanning may also be used to shorten a long list of choices.
1. List all of the Proposals by name (chart paper or blackboard).
2. Call out the name of the first Proposal.
3. Anyone may object to this Proposal for these reasons:
   - Practical: It is impossible because the technology, finances, etc. are not available.
   - Values: It goes against the basic values of all members.
   - Political: It goes against the values of the people needed to make the Proposal work.
4. Keep track of the number of objections for each Proposal.
5. Select the Proposal with the fewest number of objections and try to modify it.

Matrix

Matrix is used to compare two or three choices in detail.
1. List all of the choices (chart paper or blackboard).
2. Brainstorm for a list of factors that can be considered for each choice (ie. cost, amount of habitat lost, etc.)
3. Make a chart to show the list of factors for each choice.
4. Decide if each if the factors is good (+) or poor (-) for each of the choices.
5. Compare the number of (+)'s to the number of (-)'s for each choice.
6. Select the choice with the greatest number of (+)'s.
Ranking Matrix

Ranking is a more detailed form of the Matrix.
1. Follow steps 1 and 2 from the Matrix.
2. Use a scale from 1 - 10 (1 as poor and 10 as excellent) to rate each factor for each choice.
3. Add up the factors for each Proposal. The Proposal with the greatest total is the best.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs Lost</td>
<td>10</td>
<td>9</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Jobs Created</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Impact to Habitat</td>
<td>6</td>
<td>4</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>

Keyword Checklist

The Keyword Checklist is used to modify a choice that is close to what everyone wants.
1. Summarize the main points of the choice. (For example, the main points of Proposal A are that 50% of all farm workers keep their jobs, but only 10% of all the other Sectors keep their jobs.)
2. Read one key word and the key questions from the Keyword Checklist. The key words are printed in boldface on the chart. The key questions for each key word are printed in italics.
3. Use the key word and key questions to brainstorm for ideas about the Proposal. (Record and number each idea.)
4. Read another key word and its questions. Brainstorm for more ideas. Record and number each idea.
5. Choose the best ideas from the brainstorm list. Give one idea to each person.
6. In small groups, consider how the idea would change Proposal A. (Look at the advantages and disadvantages.)
7. Report back to the larger group and discuss possible changes to Proposal A.

Keyword Checklist

<table>
<thead>
<tr>
<th>Adapt</th>
<th>Modify</th>
<th>Magnify</th>
<th>Minimize</th>
</tr>
</thead>
<tbody>
<tr>
<td>• What else is this like?</td>
<td>• New twist?</td>
<td>• Stronger?</td>
<td>• Smaller?</td>
</tr>
<tr>
<td>• What other idea does this suggest?</td>
<td>• Change meaning, color, motion, sound, form, shape?</td>
<td>• Higher?</td>
<td>• Miniature?</td>
</tr>
<tr>
<td>• Copy something?</td>
<td></td>
<td>• Multiply?</td>
<td>• Shorter?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substitute</th>
<th>Rearrange</th>
<th>Reverse</th>
<th>Combine</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Other ingredient, material, process, power, place, approach?</td>
<td>• Other pattern, layout, sequence?</td>
<td>• Opposite order?</td>
<td>• Blend?</td>
</tr>
<tr>
<td>• What instead?</td>
<td>• Change pace?</td>
<td>• Go the opposite way?</td>
<td>• Assortment?</td>
</tr>
<tr>
<td></td>
<td>• Change schedule?</td>
<td></td>
<td>• Combine purposes?</td>
</tr>
</tbody>
</table>

The Keyword Checklist is adapted from the Osborn Checklist in a book by Scheidel & Crowell (1979).
There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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<td>Map of Pangea Valley</td>
<td>16</td>
</tr>
</tbody>
</table>
Role Information

BILL VANDERPORTEN: Agriculture Spokesperson

Personal Profile:

• 58 years old
• married to Lila, a homemaker; has 3 children aged 30, 32 and 36
• interested in reading books about gardening, playing the stock market and line dancing
• other activities: Rotary Club, Toastmasters

Bill didn’t spend as much time with his children as he would have liked. He missed out on a lot of their growing up because he was so involved in business and politics. He is looking forward to being a much better grandparent. His oldest daughter Pamela is expecting her first child this spring.

Education/Work History:

• family immigrated to Canada from Holland when Bill was 13.
• quit school in Grade 11.
• held a series of sales jobs (shoes, cars, real estate).
• got involved in land development and made a lot of money in the 1970s and 1980s.
• inherited the family farm (still operates the small chicken and egg portion and sells locally.)
• owns 12 large plant nurseries.
• involved in several other businesses (seed company, lawn ornaments, live Christmas trees.)

Bill gets a real kick out of doing his weekly gardening call-in program, called Weeds N’ Seeds. He is amazed at how many people call in with questions about their gardens and house plants. He is thinking about starting a call-in TV show about gardening. He wants to write a book using the most often asked questions and his answers. His youngest daughter has agreed to help him write the book and his son’s wife has offered to illustrate it.
Viewpoint

I have been involved in agriculture in B.C. for my whole life. (My parents and grand-parents were farmers in Holland.) I read an article in the newspaper last week that made me see red. I think I know what I'm talking about when I say the article about the high cost of fresh fruits and vegetables costing so much was full of cow patties.

Let me tell you what costs a lot (besides fancy cappuccino coffee and foreign sports cars). Running a farm costs plenty. First you have to buy the land. Decent farmland is harder and harder to find and there are so many "gentlemen farmers" driving up the prices. Then you have to buy and plant your crop. That means you pay now and don't get paid until long after you harvest your crops.

That is if you harvest. I say if you harvest because there are so many things that can happen. Too much rain. Too little rain. Too much sun. Not enough sun when you need it. Insects. Hail. Early or late frost. These are only the weather problems. I haven't even mentioned worker problems. Or market problems. (One year yams are the cure for everything. The next year they cause every disease known to humans.) Or strikes by the transportation people. It seems like every year someone decides to strike. When truckers or dock workers strike our food doesn't get to the market. Then there's the water. It would take me 2 hours just to tell you about irrigation. (A 30-hectare orchard costs $8,000 a year to water.)

And if I really got into it, I'd take another 2 hours to tell you about all the environmental things we must and must not do. In this day and age, a farmer needs to be a business manager, a technician, a financial wizard and a super environmentalist. When you take into account how risky our business is and how fickle the public is, it's a miracle that there are any farmers left!

Maybe if the paper had done some better research for the article it would have found out how really cheap good, high-quality local farm produce really is. Everyone, especially the media should be telling people to BUY LOCAL!
About Your Sector

Agriculture
How Farming Works

Agriculture is another name for farming. Agriculture means growing crops and raising livestock (animals) for food.

Farming is different from other jobs. A dentist or a truck driver or a plumber may be able to choose when to start or finish a task. Farmers must work when the animals and crops need them. Cows must be milked and pigs must be fed each day. Crops must be watered and cared for each day. Animals and crops that are well cared for will have more value for the farmer when they are sold.

The kind of animal that is raised or the kind of crop that is farmed affects the way farming works. For example, chickens are raised in barns or on small areas of land. Cattle are raised outdoors on large areas of land. About 50% of the farming in Pangea is cattle ranching.

Beef cattle are raised on ranches and sold as meat. There are two or three kinds of cattle ranches. One kind of ranch has both cows and calves. The calves are raised to be sold as meat. The adult animals are kept for breeding.

Cows are bred in the spring so the calves are born the next winter. For the first two months, the calves and their mothers are kept outside near the farm buildings. The calves drink their mother’s milk.

Then the calves and cows go out to the rangeland. The young calves keep drinking milk but begin to graze on grass as well.
In late summer, the calves are six to eight months old. They are taken away from their mothers. At this time, some ranchers move the calves to **feedlots** and some ranchers move the calves to **backgrounders**.

A feedlot is an open space outdoors that is fenced. It holds 400-800 head of cattle. The young cattle are fed barley, oats and wheat. They gain about 1.5 kg of weight a day on this diet. In December or January, the cattle weigh about 500 kg and are sold.

A backgrounder is just like a ranch, except there are no adult animals. The young cattle are fed for 8 - 12 months. They are sold in the spring or fall and weigh about 500 kg.

The adult animals are not sold. They are kept close to the ranch and fed over the winter. The cows will have calves again in January or February. The cycle starts again.

Cattle need lots of land so they can get enough grass to eat. The amount of land they need depends on the soil. In wetter places, with rich soil, the cow and calf may need only one hectare of land. In dry grasslands, the cow and calf may need as much as 20 hectares of land. (This is the amount of land needed for 130 houses.)

A family-run ranch may have as many as 150 - 200 cattle. In the dry grasslands of the Pangea River Basin, this ranch would need 3,000 - 4,000 hectares of land. It is too costly for most ranchers to own all of this land, so the government rents forest land to them.

On a small farm, all of the jobs may be done by one or two people. On a large farm, 10 - 15 people may be needed to do all the work. These workers may only be needed for a short time. Sometimes they work on two or more farms during the harvest times.
Food Processing Plant

A food processing plant is a place where crops or livestock are turned into food products. At a fruit plant, berries are inspected and washed or vacuumed. The fruit may be frozen, canned, or made into jam, juice or fruit leather. At a meat plant, the animal carcass is cut in half and inspected. Then it is sold to grocery stores and butcher shops. These stores cut the sides of beef into smaller portions.

Agriculture in the Pangea Valley

Everyone in the Pangea Valley and in British Columbia needs food. It is much better if we grow at least some of our own food here in British Columbia. Some of the reasons we want to support our agriculture industry are:

- it creates jobs for people in British Columbia
- food grown in other countries may be too expensive if that country has a bad year for crops and cannot give us enough food

There is a wide variety of farm products in the Pangea Basin: beef cattle, dairy cattle, sheep, pigs, poultry, eggs, honey, vegetables, potatoes, forage and mushrooms. But beef cattle is the main farm product. Beef cattle graze in open forests and grasslands. Food crops grow best beside the rivers in open fields.

Farmers in the Pangea Valley need:

- land for grazing so more cattle can be raised.
- water for livestock so water must be taken out of the rivers and lakes.
E & E REPORT

☑ ENVIRONMENT ☑ ECONOMY
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.
A. An environmental study has shown that Agriculture may harm the environment.

1. Too many chemicals from fertilizers, pesticides and manure may leach into the soil, underground water or streams.

2. Farmers may take too much water from the streams and rivers for their crops and livestock. The stream can dry up and leave fish and other aquatic life stranded. The intakes may suck up young fish and kill them.

3. Cattle may be allowed to walk in streams or rivers. This damages the stream banks, the streambed habitat and the fish. Manure may pollute the water.

4. The crops may be grown too close to the stream. Pesticides and fertilizers may get into the stream. Natural streamside plants may be removed when crops are planted.

5. Tilling and plowing on slopes may cause soil erosion

6. Through farming 22.7 billion tonnes of topsoil is lost each year.

B. Farmers and ranchers interviewed said, “We do not harm the environment.”

1. We farm organically. We don’t use any pesticides.

2. We have an irrigation system that uses less water and helps control evaporation. We put screens on our intakes to keep out the fish.

3. We put up fences to make sure our cattle don’t wander into the streams.

4. We leave a strip of land with natural vegetation beside the streams. The plant roots help to filter toxins out of the run-off before it reaches the stream.

5. We plow and till across our slopes instead of up and down.

6. We supply food to people. Each year there are more and more people living on the planet.”
C. The Ministry of Agriculture pointed out that:

1. People need and want farm products such as beef, poultry, eggs, vegetables and milk.

2. Everyone in the Pangea Basin and in British Columbia needs food. It is better if we grow at least some of our own food here in British Columbia. This creates jobs for people in our province. Also, food grown in other countries may be too expensive if that country has a bad growing year.

3. Farm and ranch land provide green spaces.

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Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)
- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

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Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

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| Task Time 6   | • Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares. |
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Agriculture needs 12 squares of land on the map. This will give jobs to all of the 12,000 agriculture workers for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best 12 squares, think about:

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- Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

- the number of squares each Sector needs (# of Squares)
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<th>Sector</th>
<th># of Squares</th>
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<th>Gov’t Revenue</th>
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There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Agriculture Sector Role File
Ashley Valikoski

Do Not Write In This Book

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ROLE INFORMATION

ASHLEY VALIKOSKI: Agriculture Alternate

Personal Profile:

- 40 years old
- divorced
- parents both killed in a car crash when Ashley was 9
- likes mountain climbing, line dancing, collecting children’s books
- belongs to: Single Moms Club, 4-H Club.

Education/Work History:

- finished at the top of her high school class.
- went to college for 3 years. (She thought she wanted to be a school teacher.)
- moved to Texas to go to school. Got a degree in Agriculture. (Ashley worked on a cattle ranch to pay for the cost of her years at college.)
- married (a U.S. draft dodger) and came back to Canada and worked on several ranches.
- bought a small ranch with her husband.
- now would like to buy a larger ranch and turn part of it into a Dude Ranch.

Ashley is a single mom. She has raised her three children: Trevor, 15, Alex, 13 and Karen, 10, by herself. Ashley’s husband left when Karen was only a baby. She and the children have not heard from him since. Ashley feels that groups such as “Single Moms” have helped her. At the meetings all the moms help each other.

After her divorce, Ashley got the small ranch that she and her husband had bought. She has worked very hard to make it a successful ranch. She farms part of the land as well. Her kids help out and the whole family agrees that they love life on their ranch. Ashley’s dream is to buy a larger ranch and turn it into a Dude Ranch.
Viewpoint

I would like to point out a few facts about farming. So many people have the wrong idea about agriculture.

1. Folks in the city think food costs a lot. In fact, we spend only 14% of our income on food.

2. Folks in the city think there are still lots of people living on small farms. In fact, in 1930, 30% of people farmed. In 1986 that figure dropped to only 3.5%.

3. Folks in the city think farmers raise many kinds of crops on their farms. In fact, most farmers have one main product. If you are a chicken farmer, you might be raising 75,000 chicks in one barn. A corn grower would have 52 hectares of corn growing in rows as far as the eye could see.

I would like city folks to stop thinking, "What is the top dollar value I can get out of this land?" Farmland is about more than just the value of the land.

I would like city folks to know that we are losing our farmland to housing developments and golf courses.

For me and my children, ranching and farming are a way of life. I want to keep farming. I want my kids to be able, if they choose, to be proud farmers. I want us to farm and ranch in good ways. But I also want to be able to make a living for myself. I think my children and their children have the right to work this land.

I hope that turning part of our land into a Dude Ranch will help city folks to see what farming and ranching are really all about.
About Your Sector

Agriculture
How Farming Works

Agriculture is another name for farming. Agriculture means growing crops and raising livestock (animals) for food.

Farming is different from other jobs. A dentist or a truck driver or a plumber may be able to choose when to start or finish a task. Farmers must work when the animals and crops need them. Cows must be milked and pigs must be fed each day. Crops must be watered and cared for each day. Animals and crops that are well cared for will have more value for the farmer when they are sold.

The kind of animal that is raised or the kind of crop that is farmed affects the way farming works. For example, chickens are raised in barns or on small areas of land. Cattle are raised outdoors on large areas of land. About 50% of the farming in Pangea is cattle ranching.

Beef cattle are raised on ranches and sold as meat. There are two or three kinds of cattle ranches. One kind of ranch has both cows and calves. The calves are raised to be sold as meat. The adult animals are kept for breeding.

Cows are bred in the spring so the calves are born the next winter. For the first two months, the calves and their mothers are kept outside near the farm buildings. The calves drink their mother's milk.

Then the calves and cows go out to the rangeland. The young calves keep drinking milk but begin to graze on grass as well.
In late summer, the calves are six to eight months old. They are taken away from their mothers. At this time, some ranchers move the calves to feedlots and some ranchers move the calves to backrounders.

A feedlot is an open space outdoors that is fenced. It holds 400-800 head of cattle. The young cattle are fed barley, oats and wheat. They gain about 1.5 kg of weight a day on this diet. In December or January, the cattle weigh about 500 kg and are sold

A backrrounder is just like a ranch, except there are no adult animals. The young cattle are fed for 8 - 12 months. They are sold in the spring or fall and weigh about 500 kg

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Cattle need lots of land so they can get enough grass to eat. The amount of land they need depends on the soil. In wetter places, with rich soil, the cow and calf may need only one hectare of land. In dry grasslands, the cow and calf may need as much as 20 hectares of land. (This is the amount of land needed for 130 houses.)

A family-run ranch may have as many as 150 - 200 cattle. In the dry grasslands of the Pangea River Basin, this ranch would need 3,000 - 4,000 hectares of land. It is too costly for most ranchers to own all of this land, so the government rents forest land to them.

On a small farm, all of the jobs may be done by one or two people. On a large farm, 10 - 15 people may be needed to do all the work. These workers may only be needed for a short time. Sometimes they work on two or more farms during the harvest times.
Food Processing Plant

A food processing plant is a place where crops or livestock are turned into food products. At a fruit plant, berries are inspected and washed or vacuumed. The fruit may be frozen, canned, or made into jam, juice or fruit leather. At a meat plant, the animal carcass is cut in half and inspected. Then it is sold to grocery stores and butcher shops. These stores cut the sides of beef into smaller portions.

Agriculture in the Pangea Valley

Everyone in the Pangea Valley and in British Columbia needs food. It is much better if we grow at least some of our own food here in British Columbia. Some of the reasons we want to support our agriculture industry are:

- it creates jobs for people in British Columbia
- food grown in other countries may be too expensive if that country has a bad year for crops and cannot give us enough food

There is a wide variety of farm products in the Pangea Basin: beef cattle, dairy cattle, sheep, pigs, poultry, eggs, honey, vegetables, potatoes, forage and mushrooms. But beef cattle is the main farm product. Beef cattle graze in open forests and grasslands. Food crops grow best beside the rivers in open fields.

Farmers in the Pangea Valley need:
- land for grazing so more cattle can be raised.
- water for livestock so water must be taken out of the rivers and lakes.
E & E REPORT

☑ ENVIRONMENT  ☑ ECONOMY
This report looks at the economy and the environment from your sector’s point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.
A. An environmental study has shown that Agriculture may harm the environment.

1. Too many chemicals from fertilizers, pesticides and manure may leach into the soil, underground water or streams.

2. Farmers may take too much water from the streams and rivers for their crops and livestock. The stream can dry up and leave fish and other aquatic life stranded. The intake structures may suck up young fish and kill them.

3. Cattle may be allowed to walk in streams or rivers. This damages the stream banks, the streambed habitat and the fish. Manure may pollute the water.

4. The crops may be grown too close to the stream. Pesticides and fertilizers may get into the stream. Natural streamside plants may be removed when crops are planted.

5. Tilling and plowing on slopes may cause soil erosion.

6. Through farming 22.7 billion tonnes of topsoil is lost each year.

B. Farmers and ranchers interviewed said, “We do not harm the environment.”

1. We farm organically. We don’t use any pesticides.

2. We have an irrigation system that uses less water and helps control evaporation. We put screens on our intakes to keep out the fish.

3. We put up fences to make sure our cattle don’t wander into the streams.

4. We leave a strip of land with natural vegetation beside the streams. The plant roots help to filter toxins out of the run-off before it reaches the stream.

5. We plow and till across our slopes instead of up and down.

6. We supply food to people. Each year there are more and more people living on the planet.”
C. The Ministry of Agriculture pointed out that:

1. People need and want farm products such as beef, poultry, eggs, vegetables and milk.

2. Everyone in the Pangea Basin and in British Columbia needs food. It is better if we grow at least some of our own food here in British Columbia. This creates jobs for people in our province. Also, food grown in other countries may be too expensive if that country has a bad growing year.

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The Nitty Gritty

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ROLE INFORMATION

MAGGIE KIM: Agriculture Alternate

Personal Profile:

- 34 years old
- married to Jeff, a farmer
- has 4 children: Trisha 12; Tom 10; Carl 8; Jane 4
- likes ping-pong, playing computer games, knitting
- belongs to the Pangea Actors Club

Maggie's mother says she always thought her daughter would be an actor. From the time she was 4 years old, she loved to sing and dance. By the time she was 10, Maggie was writing skits and putting them on in front of her friends. Before she met Jeff and got married, she even thought of going to Hollywood and trying to act in a movie. Maggie is glad she didn't become an actor. She is much happier living on a farm and raising her children. She still likes to act in plays put on by the Pangea Actors Club.

Education/Work History:

- finished college with a degree in teaching.
- taught school for 2 years.
- quit teaching to have a family.
- works on the family vegetable farm.

Maggie and Jeff have a large vegetable farm. The land belonged to Jeff's parents. When they died, Jeff got the farm. Maggie and Jeff divide the jobs on the farm. Jeff is in charge of the planting and growing. He has about 20 workers who help with planting and picking the crops. Maggie's job is to sell the vegetables. She runs a farmers' market on the farm. She is working on a deal right now to sell their vegetables to a large grocery store in Sagebrush.
Viewpoint

Last week, my husband Jeff and I were offered a lot of money for our farmland. The man who wanted to buy our land didn’t want to farm. He wanted to build 200 houses on the land. After he built the houses, he would sell them.

Jeff and I thought about the offer. We spent four nights talking about what to do. We made a list of the good reasons to sell our farm. Then we made a list of the good reasons not to sell.

<table>
<thead>
<tr>
<th>Good Reasons to sell the farm:</th>
<th>Good reasons not to sell the farm:</th>
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</thead>
<tbody>
<tr>
<td>We would get a lot of money.</td>
<td>Houses are being built on so much farmland that soon there won’t be anyone left to grow food.</td>
</tr>
<tr>
<td>We could buy a new house and a lot of other things.</td>
<td>Our children wouldn’t get to live on our family farm.</td>
</tr>
<tr>
<td>We wouldn’t have to work so hard if we sold the farm.</td>
<td>We would miss living in the country.</td>
</tr>
</tbody>
</table>

I won’t tell you what we decided. What would you do if you were us?
About Your Sector

Agriculture
How Farming Works

Agriculture is another name for farming. Agriculture means growing crops and raising livestock (animals) for food.

Farming is different from other jobs. A dentist or a truck driver or a plumber may be able to choose when to start or finish a task. Farmers must work when the animals and crops need them. Cows must be milked and pigs must be fed each day. Crops must be watered and cared for each day. Animals and crops that are well cared for will have more value for the farmer when they are sold.

The kind of animal that is raised or the kind of crop that is farmed affects the way farming works. For example, chickens are raised in barns or on small areas of land. Cattle are raised outdoors on large areas of land. About 50% of the farming in Pangea is cattle ranching.

Beef cattle are raised on ranches and sold as meat. There are two or three kinds of cattle ranches. One kind of ranch has both cows and calves. The calves are raised to be sold as meat. The adult animals are kept for breeding.

Cows are bred in the spring so the calves are born the next winter. For the first two months, the calves and their mothers are kept outside near the farm buildings. The calves drink their mother’s milk.

Then the calves and cows go out to the rangeland. The young calves keep drinking milk but begin to graze on grass as well.
In late summer, the calves are six to eight months old. They are taken away from their mothers. At this time, some ranchers move the calves to feedlots and some ranchers move the calves to backgrounders.

A feedlot is an open space outdoors that is fenced. It holds 400-800 head of cattle. The young cattle are fed barley, oats and wheat. They gain about 1.5 kg of weight a day on this diet. In December or January, the cattle weigh about 500 kg and are sold.

A backgrounder is just like a ranch, except there are no adult animals. The young cattle are fed for 8 - 12 months. They are sold in the spring or fall and weigh about 500 kg.

The adult animals are not sold. They are kept close to the ranch and fed over the winter. The cows will have calves again in January or February. The cycle starts again.

Cattle need lots of land so they can get enough grass to eat. The amount of land they need depends on the soil. In wetter places, with rich soil, the cow and calf may need only one hectare of land. In dry grasslands, the cow and calf may need as much as 20 hectares of land. (This is the amount of land needed for 130 houses.)

A family-run ranch may have as many as 150 - 200 cattle. In the dry grasslands of the Pangea River Basin, this ranch would need 3,000 - 4,000 hectares of land. It is too costly for most ranchers to own all of this land, so the government rents forest land to them.

On a small farm, all of the jobs may be done by one or two people. On a large farm, 10 - 15 people may be needed to do all the work. These workers may only be needed for a short time. Sometimes they work on two or more farms during the harvest times.
**Food Processing Plant**

A food processing plant is a place where crops or livestock are turned into food products. At a fruit plant, berries are inspected and washed or vacuumed. The fruit may be frozen, canned, or made into jam, juice or fruit leather. At a meat plant, the animal carcass is cut in half and inspected. Then it is sold to grocery stores and butcher shops. These stores cut the sides of beef into smaller portions.

![Food Processing Plant Image]

**Agriculture in the Pangea Valley**

Everyone in the Pangea Valley and in British Columbia needs food. It is much better if we grow at least some of our own food here in British Columbia. Some of the reasons we want to support our agriculture industry are:

- it creates jobs for people in British Columbia
- food grown in other countries may be too expensive if that country has a bad year for crops and cannot give us enough food

There is a wide variety of farm products in the Pangea Basin: beef cattle, dairy cattle, sheep, pigs, poultry, eggs, honey, vegetables, potatoes, forage and mushrooms. But beef cattle is the main farm product. Beef cattle graze in open forests and grasslands. Food crops grow best beside the rivers in open fields.

Farmers in the Pangea Valley need:
- land for grazing so more cattle can be raised.
- water for livestock so water must be taken out of the rivers and lakes.

![Forage: Food for Livestock Image]
E & E REPORT

☑️ ENVIRONMENT ☑️ ECONOMY
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.
A. An environmental study has shown that Agriculture may harm the environment.

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2. Farmers may take too much water from the streams and rivers for their crops and livestock. The stream can dry up and leave fish and other aquatic life stranded. The intake structures may suck up young fish and kill them.

3. Cattle may be allowed to walk in streams or rivers. This damages the stream banks, the streambed habitat and the fish. Manure may pollute the water.

4. The crops may be grown too close to the stream. Pesticides and fertilizers may get into the stream. Natural streamside plants may be removed when crops are planted.

5. Tilling and plowing on slopes may cause soil erosion

6. Through farming 22.7 billion tonnes of topsoil is lost each year.

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1. We farm organically. We don’t use any pesticides.

2. We have an irrigation system that uses less water and helps control evaporation. We put screens on our intakes to keep out the fish.

3. We put up fences to make sure our cattle don’t wander into the streams.

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1. People need and want farm products such as beef, poultry, eggs, vegetables and milk.

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3. Farm and ranch land provide green spaces.

4. Agriculture is important to the economy of the Pangea Basin.
   - There are 12,000 people with direct jobs in agriculture.
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   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
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A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

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Agriculture needs 12 squares of land on the map. This will give jobs to all of the 12,000 agriculture workers for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best 12 squares, think about:

• Is there transportation nearby? (Farmers need a way to get the crops or livestock to the people who want them. The greater the distance the crops and livestock have to be shipped, the more money it costs the farmers and the less money they make.)

• Is there a city/town nearby? (It is easier and less costly to sell to a large group of people in one place rather than a small number of people scattered over a large area.)

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• Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

• the number of squares each Sector needs (# of Squares)
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Agriculture Sector Role File

Naomi Zis

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Role Information

NAOMI ZIS: Agriculture Alternate

Personal Profile:

- 27 years old
- single
- likes to read, cook, swim, write to penpals (Naomi has three penpals in six countries: England, France and Spain)
- belongs to the Pangea Young Gardeners Club

Education/Work History:

- during high school, worked part-time for the local newspaper writing "High School News".
- editor of the high school newspaper "High Times".
- took courses in writing at the local junior college for 2 years.
- worked on a ranch for two years.
- now working as a writer and an editor for the local paper, The Tumbleweed Tribune. Naomi also writes a column about gardening.
Viewpoint

When I was in high school I wrote for the local newspaper. It had a column called “High School News”. I tried to write about things that would interest students. At first I thought young high school kids would want to read about a new movie or a new fashion. But I soon learned that kids wanted to know about real world things. For instance, I wrote a column about a Greenpeace rally I went to in Germany. (Greenpeace was protesting the way we log trees in B.C.) I got so many letters from my young readers wanting to know more about the rally. They wanted to know what the issues were on both sides.

Another time I wrote about a golf course being built on farmland. This really got a lot of kids upset. Even though most of them don’t live on a farm, they want farmland protected.

All of the articles that I wrote about land use issues seemed to be of the most interest.

I guess young people know that it is their future we’re talking about when we try and decide how the land should be used. The things we decide now affect the way they will have to live in the future. No wonder they want to read about these issues.
About Your Sector

Agriculture
How Farming Works

Agriculture is another name for farming. Agriculture means growing crops and raising livestock (animals) for food.

Farming is different from other jobs. A dentist or a truck driver or a plumber may be able to choose when to start or finish a task. Farmers must work when the animals and crops need them. Cows must be milked and pigs must be fed each day. Crops must be watered and cared for each day. Animals and crops that are well cared for will have more value for the farmer when they are sold.

The kind of animal that is raised or the kind of crop that is farmed affects the way farming works. For example, chickens are raised in barns or on small areas of land. Cattle are raised outdoors on large areas of land. About 50% of the farming in Pangea is cattle ranching.

Beef cattle are raised on ranches and sold as meat. There are two or three kinds of cattle ranches. One kind of ranch has both cows and calves. The calves are raised to be sold as meat. The adult animals are kept for breeding.

Cows are bred in the spring so the calves are born the next winter. For the first two months, the calves and their mothers are kept outside near the farm buildings. The calves drink their mother's milk.

Then the calves and cows go out to the rangeland. The young calves keep drinking milk but begin to graze on grass as well.
In late summer, the calves are six to eight months old. They are taken away from their mothers. At this time, some ranchers move the calves to feedlots and some ranchers move the calves to backgrounders.

A feedlot is an open space outdoors that is fenced. It holds 400-800 head of cattle. The young cattle are fed barley, oats and wheat. They gain about 1.5 kg of weight a day on this diet. In December or January, the cattle weigh about 500 kg and are sold.

A backgrounder is just like a ranch, except there are no adult animals. The young cattle are fed for 8-12 months. They are sold in the spring or fall and weigh about 500 kg.

The adult animals are not sold. They are kept close to the ranch and fed over the winter. The cows will have calves again in January or February. The cycle starts again.

Cattle need lots of land so they can get enough grass to eat. The amount of land they need depends on the soil. In wetter places, with rich soil, the cow and calf may need only one hectare of land. In dry grasslands, the cow and calf may need as much as 20 hectares of land. (This is the amount of land needed for 130 houses.)

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Eco Star Ltd.

A REPORT ON THE ECONOMY AND
THE ENVIRONMENT

Prepared by Heather Mathieson
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There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Conservation Sector Role File
Talia Ragona

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Role Information

TALIA RAGONA: Conservation Spokesperson

Personal Profile:

• 25 years old
• married to Ramesh, with 1 child, Arita, age 6
• interested in hiking, swimming, gymnastics and collecting antiques
• other activities: Canadian National Institute for the Blind, Western Canada Wilderness Committee

Talia's little girl, Arita, was born blind. Both Talia and her husband have been very active in helping to raise money so the library and the schools can buy more braille books for young children. Arita can now read her favourite book to her parents - Dr. Seuss's Cat in the Hat.

Education/Work History

• got a degree in Business from the University of Bombay.
• worked as an accountant for a large firm. (She quit when her daughter was born.)
• is taking courses toward a degree in biology from the college and doing bookkeeping for several small local businesses from her home office.
• would like to buy wilderness property and move there with her husband and daughter, then clear a small part of the land, build a house and grow their own food.

Talia believes that citizens should know more about environmental issues. She would like to see people take action but only if it is well thought out. She has organized a group that brings in guest speakers to talk about all sides of environmental issues. Here are some issues she is involved in:
1. Recycling - does it just make you feel good?
2. Jobs and the environment - can we have a healthy economy and a healthy environment?
3. Protest Ethics - is it all right to break the law for a good cause (spiking trees, throwing animal blood on people wearing fur coats?)
Viewpoint

I read a letter in the newspaper from a woman who wanted to know what kinds of things "just one person could do to protect a wilderness area." I would like to try and answer her question.

We all say we value nature. We all say we don't want to drive animals from their homes. None of us wants to pave over animal habitat. How do we "do" something? How do we protect what we value?

Whether you are an adult or a young person, there are many ways to get involved in protecting natural areas. Here are a few suggestions:

1. Start a nature journal. Go for a walk, even in your backyard. Record what you see, hear, smell and touch. You can use words or pictures. You may want to go to the library to find out more about what you have recorded.

2. Visit a park or a place where wildlife are protected. Take along your Nature Journal. Pack a camera and/or a tape recorder, too.

3. Read the newspaper, maybe even two different papers. Find out about natural areas that are in the news. Follow up on issues. Write letters. Ask questions. Remember to read critically. Make sure you have all the facts before you make a decision about where you stand on an issue. Facts are different from opinions. Opinions are valuable, but they are not always based on current or correct information. Just because you read something in a newspaper or magazine doesn't mean it's a fact. Just because you see something on t.v. or hear it on the radio doesn't mean it's a fact.

4. Attend public meetings when they are held. So many people think, "I really should find out more about an issue," but they don't follow up.

5. Join a local environmental group. Your local library has "The Green List," a guide to Canadian environmental groups.

6. Find out about the Wild Animal and Plant Protection Act (passed in 1993). Read about how this law protects the plants and animals that live in your area. Contact the Canadian Wildlife Service for more information.

7. Respect the natural areas in your community and in all places you visit. Think carefully about how your actions, as only one person, may impact on plants and animals.

8. Enjoy the natural world whenever you can. Share your experiences with family and friends.
About Your Sector

Conservation
What is Conservation?

The natural world is full of activity and life. Each part plays an important role. No part can survive without the others. Plants, animals, air, water and soil all give something to their environment and they take something away from their environment. A tree takes nutrients from the soil through its roots. But it adds nutrients to the soil when it drops leaves that will rot and decay.

The ways that living plants and animals connect or interact with non-living things like air, water and soil are called ecosystems. Ecosystems support all life. Ecosystems affect the climate, filter the water and air, and conserve soil and nutrients.

Conservation is the protection and wise use of the natural world and its ecosystems.

Why Do We Need To Conserve?

- Many people live in ways that waste resources. We choose to throw away broken radios, televisions and toys instead of fixing them. We use disposable diapers instead of cloth diapers and paper lunch bags instead of cloth lunch bags. This is called over-consumption.
- Many natural resources are easily damaged or destroyed by human activities.
- People need air, water, soil, plant life, wildlife and minerals. If we harm or destroy these things, then people will die.
- Scientists need many kinds of wilderness areas to study. This helps them learn how the natural world works. New species and how they work within ecosystems are still being discovered!
- The beauty and majesty of the natural world is worth preserving, just like art or music.
- Wilderness is a big part of British Columbia’s history. Protecting wilderness helps to preserve British Columbia’s heritage.
- People need space for relaxation and recreation.
- We should use the earth’s resources wisely so that the people who come after us will be able to use them too. Conservation is concerned not only with the resources we need today, but also with the resources needed for the future. Whenever possible we must replace the resources we use.
What Do Conservationists Do?

- They try to live in environmentally-friendly ways (For example, they walk or take the bus instead of taking their car. They try to recycle, reuse and reduce what they use.)

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What Needs To Be Conserved?

It is important to the health of the planet to conserve many different plants, animals and habitats This is called conserving biodiversity. Biodiversity helps life continue even when the world changes. For example, if dinosaurs were the only life on the planet, then all life would have ended many years ago when the dinosaurs died. Luckily, there were some living things that were able to survive the changes that took place many millions of years ago, and so life continued. The more different kinds of living things, the more likely it is that life will continue in some form.

We need to conserve the balance of nature. It is important to think of plant life, wildlife and their ecosystems as a whole machine. This machine, just like all machines, needs all of its parts to work. When we make decisions about conservation, we must make sure that we do not take away some of the parts and upset the balance of nature in this machine.
We need to conserve habitat in such a way that it is useful for all the different kinds of plant life and wildlife. Some wildlife may need many different habitats. (Salmon need the whole length of a river and huge areas of the ocean.) Some wildlife need large areas of habitat. (Each bear may need 30 square km of land.) We must understand the lifecycle and how the animal, bird, insect or fish lives within its habitat to make conservation decisions.

**Making Land and Water Use Decisions**

A network of protected habitats is not enough to protect biodiversity. We must also be careful about what we do with the land outside the protected areas. For example, if we log or farm or mine near a river that runs through a protected area, we may pollute the water used by the plant life and wildlife in the protected area.

In the past, decisions about how to use land and water were based mostly on what worked best for the human activity in the area (e.g. forestry, mining, agriculture, land development). Nowadays, more people know that human activities need to be changed so that ecosystems are kept healthy. New guidelines are being made to protect habitats and ecosystems. They will try to:

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*Over time, many ‘islands’ of land have been protected. It might be a wetland that birds use for resting when they migrate, or a mountain slope for big horn sheep in the summer.

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People who decide how we use the earth’s land and water must:

- understand ecosystems and how they stay healthy
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- know how human activities will affect ecosystems
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

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3. People may not know enough about the natural world. What the best scientists think is safe today may be found to be harmful in 20 or 30 years.

4. People think they are being environmentally friendly, but they may be harming the environment. For example, some people buy recycled goods (e.g. park benches made from plastic bottles). But this does not really reduce pollution or the consumption of new materials.

B. Conservationists who were interviewed said, “We do not harm the environment.”

1. We try to convince people to set aside enough land to preserve wildlife habitat. (For example, we make sure that every grizzly bear has enough habitat to survive.)

2. We try to conserve whole ecosystems so that all the species will survive and maintain a natural balance.

3. We teach people about conservation. Everyone should learn how the natural world works because it is their habitat.

4. We help maintain and restore heritage sites.
C. The Ministry of Environment pointed out that:

1. Information about the environment is changing all the time. We do the best we can to understand this information and use it correctly.

2. We are learning more about how everything is connected in the natural world. We try to think globally, but act locally.

3. The more support we get from citizens, the easier it is to protect the natural world.

4. There are some economic benefits to conservation:
   - There are 2,000 direct conservation jobs (conservation officer, park ranger, wildlife manager).
   - Some businesses benefit from conservation. These are spin-off businesses. For example, conservation helps to:
     - protect salmon habitat which protects fish numbers. The fishing industry makes more money if there are more salmon to catch. Native fishers have more salmon to catch.
     - protect wildlife and their habitat. The tourism industry makes more money because wildlife attracts more visitors and photographers.
     - keep some places as wilderness. More people may want to settle in an area if there is a wilderness area nearby. More tourists will also want to visit.
     - keep some natural forests. In the future, the forest industry may study these natural forest areas to help them solve problems in reforested areas. Also, new species are being discovered which may benefit medicine and agriculture.
     - protect watersheds. This makes sure that people have access to clean water.
   - Each year money goes to the government from conservation. This money comes from:
     - Personal taxes: Workers pay some of the money they earn to the government each year.
     - Business taxes: Businesses pay some of the money they earn to the government each year.
     - Park fees: People who visit parks pay money to the government.
     - Sales tax: Tourists buy goods and services.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)
- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

<table>
<thead>
<tr>
<th>Round Table 5</th>
<th>• Choose the criteria to rate the Proposals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Time 6</td>
<td>• Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares.</td>
</tr>
<tr>
<td>Task Time 7</td>
<td>• Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal</td>
</tr>
<tr>
<td>Round Table 7</td>
<td>• Present a Proposal and listen to other groups present their Proposal.</td>
</tr>
<tr>
<td>Task Time 8</td>
<td>• Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better.</td>
</tr>
</tbody>
</table>
## Conservation Map Information

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• grasslands, wetlands, forests and alpine tundra</td>
<td>• corridor for grizzly and bighorn sheep</td>
<td>• many small lakes</td>
<td>• wetlands</td>
<td>• alpine tundra</td>
<td>• wetlands along river valley bottoms</td>
</tr>
<tr>
<td></td>
<td>• bighorn sheep, caribou and grizzly</td>
<td>• grasslands and wetlands</td>
<td>• wetlands</td>
<td>• moose, songbird habitat</td>
<td>• fish, waterbirds, caribou</td>
<td>• fish, waterbirds, caribou</td>
</tr>
<tr>
<td></td>
<td>• untouched by people</td>
<td>• grasslands grazed by cattle for many years</td>
<td>• unusually shallow lake and wetland nearby is only</td>
<td>• lakes and wetlands</td>
<td>• forests and alpine tundra</td>
<td>• many endangered animals</td>
</tr>
<tr>
<td></td>
<td>• historic cattle route</td>
<td></td>
<td>nesting habitat for pelicans</td>
<td>• waterbirds, otter, mink, beaver, moose</td>
<td>• fish habitat damaged</td>
<td>• fish habitat damaged</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>• local town uses water from the watersheds in this area</td>
<td>• wetlands and old growth forests</td>
<td>• otter, mink, beaver and moose</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• fish habitat damaged</td>
<td>• unusual canyon has been carved out by River as it drops from</td>
<td>• wetlands</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>the plateau to join the River</td>
<td>• large stands of old growth forest</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• 100% natural grasslands cover most of this area</td>
<td>• otter, mink, beaver, moose</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>• corridor for grizzly as they move from one salmon run to</td>
<td>• river boils and churns over a falls and through a narrow</td>
<td>• wetlands</td>
<td>• bighorn sheep</td>
<td>• forests and wetlands</td>
<td>• many kinds of animals</td>
</tr>
<tr>
<td></td>
<td>another</td>
<td>gorge</td>
<td>• many species of birds use area for feeding, breeding, or</td>
<td>• river is corridor for fish as they migrate to or from</td>
<td>• endangered lake trout</td>
<td>• endangered lake trout</td>
</tr>
<tr>
<td></td>
<td>• old abandoned gold mines from earlier gold rush</td>
<td>• stand of old growth forest just upstream of gorge</td>
<td>resting as they migrate north or south</td>
<td>ocean</td>
<td></td>
<td></td>
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<td>4</td>
<td></td>
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<td>5</td>
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<td></td>
<td>• alpine tundra</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>• grizzly and bighorn sheep</td>
<td></td>
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</tr>
</tbody>
</table>
Map Rap

Conservation wants to protect all 20 squares marked on the Conservation Map. But the other sectors may want these squares too, so you need to rank them in order of importance. This will help you identify the squares you might be willing to lose or share. To rank the squares, think about:

- Is there a variety of habitats: alpine tundra, wetlands, forests and grasslands? (This helps to protect biodiversity.)
- Are there any unusual features? These can be natural features (canyons, waterfalls) or historic sites (Native burial grounds)?
- Are there healthy wildlife populations that need to be protected?
- Are there endangered wildlife populations that need to be conserved?
- Do you need the square next to the square you want to protect?
- Read About Your Sector in this Role File. Is there information that would help you choose the squares?

This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
- the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>12</td>
<td>12,000</td>
<td>1,000</td>
<td>$840,000</td>
<td>$70,000</td>
</tr>
<tr>
<td>Conservation</td>
<td>20</td>
<td>2,000</td>
<td>100</td>
<td>$200,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Fishing</td>
<td>25</td>
<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
</tbody>
</table>
There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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MAP RAP ....................................................................... 15
MAP OF PANGEA VALLEY .................................................. 16
Role Information

ADAM KRUGER: Conservation Alternate

Personal Profile:

- 72 years old
- married to Elsie
- 4 children, 11 grandchildren, 1 great-grandchild
- likes fishing and baseball
- belongs to: Pangea Nature Club, Distance Learning

Education/Work History:

- quit school in grade 10.
- joined the Canadian Army in 1939 and fought in World War II.
- worked in a pulp mill in Timbertown from 1945 to 1965.
- was a fishing guide and park ranger from 1965 to 1982.
- went back to school as an adult. (Adam finished high school when he was 35 years old. Then he went to college. He got a degree when he was 42 years old.)
- Adam bought a small hunting and fishing lodge and resort in 1982 that he and Elsie run.
- teaches a class at the college.
Viewpoint

A student in one of my classes asked me, "What places should we protect?" Here are my thoughts:

We should protect what we value. We should do this for ourselves and for people in the future.

For me, that means protecting nature. Some of these places are small. (A park or a graveyard). Some of them are huge spaces. (Old growth forests or river valleys). Some of them are near towns and cities.

Let me take you on a mind journey to one of the places I would protect. I hope you will see why I value this place.

Imagine
you were walking
along a country road ...
the sun is high in the sky,
you can feel its warmth ...
there are sounds all about you ...
birds chirping ... small animals running ... insects buzzing ...
the trees are rustling, as a slight breeze stirs their leaves ...
the road narrows and becomes a path, you go on, slowing your pace a little ...
in places, the path is overgrown ... you see spruce and fir trees ...
you hear the sound of running water ... the forest grows thicker ...
the path is now just a trail ...
you come upon a river ...
it is shining in the sunlight ... you walk along its shore ...
you notice fish swimming, they flash silver in the sunlight ...
you walk on,
the damp earth beneath your feet feels cool ...
a movement catches your eye ...
in front of you is a deer with a fawn ...
you stop,
and watch as they
pass into the forest ...
you look up
at the mountains
in the distance ...
as far as you can see
there is forest ...
you stoop,
drop your hands
in the icy water ...
you close your eyes,
breathe deeply,
feel the stream flow
through your fingers
and
become part of the forest.
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266 Table Talk
E & E REPORT

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Eco Star Ltd

A REPORT ON THE ECONOMY AND THE ENVIRONMENT

Prepared by Heather Mathieson
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4. People think they are being environmentally friendly, but they may be harming the environment. For example, some people buy recycled goods (e.g. park benches made from plastic bottles). But this does not really reduce pollution or the consumption of new materials.

B. Conservationists who were interviewed said, “We do not harm the environment.”

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     - protect wildlife and their habitat. The tourism industry makes more money because wildlife attracts more visitors and photographers.

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     Personal taxes: Workers pay some of the money they earn to the government each year.

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Map Rap

Conservation wants to protect all 20 squares marked on the Conservation Map. But the other sectors may want these squares too, so you need to rank them in order of importance. This will help you identify the squares you might be willing to lose or share. To rank the squares, think about:

- Is there a variety of habitats: alpine tundra, wetlands, forests and grasslands? (This helps to protect biodiversity.)
- Are there any unusual features? These can be natural features (canyons, waterfalls) or historic sites (Native burial grounds)?
- Are there healthy wildlife populations that need to be protected?
- Are there endangered wildlife populations that need to be conserved?
- Do you need the square next to the square you want to protect?
- Read About Your Sector in this Role File. Is there information that would help you choose the squares?

This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
- the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
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</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>12</td>
<td>12,000</td>
<td>1,000</td>
<td>$840,000</td>
<td>$70,000</td>
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<tr>
<td>Conservation</td>
<td>20</td>
<td>2,000</td>
<td>100</td>
<td>$200,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Fishing</td>
<td>25</td>
<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
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There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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ABOUT YOUR SECTOR .............................................................. 5
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MAP OF PANGEA VALLEY ......................................................... 16
Role Information

TONY PARKER: Conservation Alternate

Personal Profile:

• 48 years old
• married to Lynn, a bank teller
• has 3 children aged 14, 16 and 22
• likes country music, cooking, camping and fishing
• belongs to: Old Timers Hockey

Tony loves to play hockey. He started playing hockey when he was only 5 years old. All through his school days he played. He was never the star but he was a good team player. Now he is a member of the Old Timers Hockey League. These teams are made up of men and women over the age of 40. They rent rinks late at night and play hockey for an hour or two. Tony never misses a game. He says it keeps him fit. He has made life-long friends with his team mates.

Education/Work History:

• finished high school.
• worked for 3 years as a park ranger.
• went to college and got a degree in biology.
• got a job as a wildlife biologist.
• has worked as a wildlife biologist for 23 years.

Tony enjoys his job as a wildlife biologist almost as much as he likes playing hockey. As a wildlife biologist, his job is to protect animals and birds. He studies a place and finds out what kinds of wildlife live there. He has to find out what the animals and birds need. He spends a lot of time outdoors. Right now he is trying to find out more about big horn sheep. There are fewer and fewer big horn sheep in the Pangea Valley. Tony wants to protect the ones that are left.
Viewpoint

I am a wildlife biologist. I have worked as a wildlife biologist for 23 years. My job is to find out as much as I can about the wildlife that live in an area. The more I know about the animals and birds, the more I can protect them.

My concern right now is for animals and birds that are in danger. Some of the animals in danger in the Pangea Valley are grizzly bears, caribou, moose, mule deer and big horn sheep.

The reason that these animals are in danger is because their habitat has been lost. When people farm and log and settle, they take up space that used to be just for wild animals. They cut down trees. They take water from streams and rivers. They build houses and schools and malls on land that wildlife live on.

I don’t want to stop people from coming to live in the Pangea Valley. I’m not against all logging and farming. I just want everyone to help me protect some of the wildlife that are in danger. This can be done if we all plan together.
About Your Sector

Conservation
What is Conservation?

The natural world is full of activity and life. Each part plays an important role. No part can survive without the others. Plants, animals, air, water and soil all give something to their environment and they take something away from their environment. A tree takes nutrients from the soil through its roots. But it adds nutrients to the soil when it drops leaves that will rot and decay.

The ways that living plants and animals connect or interact with non-living things like air, water and soil are called ecosystems. Ecosystems support all life. Ecosystems affect the climate, filter the water and air, and conserve soil and nutrients.

Conservation is the protection and wise use of the natural world and its ecosystems.

Why Do We Need To Conserve?

- Many people live in ways that waste resources. We choose to throw away broken radios, televisions and toys instead of fixing them. We use disposable diapers instead of cloth diapers and paper lunch bags instead of cloth lunch bags. This is called over-consumption.

- Many natural resources are easily damaged or destroyed by human activities.

- People need air, water, soil, plant life, wildlife and minerals. If we harm or destroy these things, then people will die.

- Scientists need many kinds of wilderness areas to study. This helps them learn how the natural world works. New species and how they work within ecosystems are still being discovered!

- The beauty and majesty of the natural world is worth preserving, just like art or music.

- Wilderness is a big part of British Columbia’s history. Protecting wilderness helps to preserve British Columbia’s heritage.

- People need space for relaxation and recreation.

- We should use the earth’s resources wisely so that the people who come after us will be able to use them too. Conservation is concerned not only with the resources we need today, but also with the resources needed for the future. Whenever possible we must replace the resources we use.
What Do Conservationists Do?

- They try to live in environmentally-friendly ways (For example, they walk or take the bus instead of taking their car. They try to recycle, reuse and reduce what they use.)

- They volunteer in their local community to save marshes from development, clean up habitat along neighbourhood streams, mark storm drains.

- They work in businesses, governments or environmental groups to restore wildlife habitat, research water pollution, take care of wilderness areas, help run wildlife sanctuaries, teach the public about the environment, protest when poor environmental practices occur, and encourage governments to pass laws to protect the environment.

- In other kinds of conservation, people work to preserve human-made things: important historical buildings, housing in old neighbourhoods, abandoned railway routes, ancient burial grounds or sacred sites, art and traditional customs.

What Needs To Be Conserved?

It is important to the health of the planet to conserve many different plants, animals and habitats. This is called conserving biodiversity. Biodiversity helps life continue even when the world changes. For example, if dinosaurs were the only life on the planet, then all life would have ended many years ago when the dinosaurs died. Luckily, there were some living things that were able to survive the changes that took place many millions of years ago, and so life continued. The more different kinds of living things, the more likely it is that life will continue in some form.

We need to conserve the balance of nature. It is important to think of plant life, wildlife and their ecosystems as a whole machine. This machine, just like all machines, needs all of its parts to work. When we make decisions about conservation, we must make sure that we do not take away some of the parts and upset the balance of nature in this machine.
We need to conserve habitat in such a way that it is useful for all the different kinds of plant life and wildlife. Some wildlife may need many different habitats. (Salmon need the whole length of a river and huge areas of the ocean.) Some wildlife need large areas of habitat. (Each bear may need 30 square km of land.) We must understand the lifecycle and how the animal, bird, insect or fish lives within its habitat to make conservation decisions.

Making Land and Water Use Decisions

A network of protected habitats is not enough to protect biodiversity. We must also be careful about what we do with the land outside the protected areas. For example, if we log or farm or mine near a river that runs through a protected area, we may pollute the water used by the plant life and wildlife in the protected area.

In the past, decisions about how to use land and water were based mostly on what worked best for the human activity in the area (eg. forestry, mining, agriculture, land development). Nowadays, more people know that human activities need to be changed so that ecosystems are kept healthy. New guidelines are being made to protect habitats and ecosystems. They will try to:

- keep a network of protected land areas and corridors
- have the protected areas represent all ecosystems
- keep newly growing forests as well as old growth forests
- protect the ecosystems of endangered wildlife or plant life

Over time, many ‘islands’ of land have been protected. It might be a wetland that birds use for resting when they migrate, or a mountain slope for big horn sheep in the summer.

Now we know these ‘islands’ of land are often too small for the plants and wildlife within them to survive. The ‘islands’ need to be connected to each other so ecosystems can keep working.

People who decide how we use the earth’s land and water must:
- understand ecosystems and how they stay healthy
- know what kinds of habitats each species needs
- know how human activities will affect ecosystems
E & E REPORT

☑ ENVIRONMENT
☑ ECONOMY
This report looks at the economy and the environment from your sector’s point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.

Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT
Prepared by Heather Mathieson
A. An environmental study has shown that Conservation may harm the environment.

1. An area set aside for park or wilderness may be too small to make good habitat for the animals or plants. These species may not survive.

2. People conserve one or two species, instead of a whole ecosystem. This harms the balance between predators and prey. (e.g. If seals and whales are protected, their numbers may rapidly increase. If they prey on unprotected species, such as salmon, the salmon populations may be threatened.)

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<td></td>
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Conservation Sector Role File
Heather Mathieson

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Role Information

HEATHER MATHIESON: Conservation Alternate

Personal Profile:

- 33 years old
- single with one child Megan, aged 3
- likes reading, baseball, curling
- belongs to: Pangea Bird Watching Club, Big Sisters

Education/Work History:

- finished high school and one year of college.
- worked in a flower shop for 4 years.
- went back to college and took a degree in Environmental Studies.
- got a job with a small company doing research.
- started her own company called Eco Star.
- Eco Star got hired to help the government figure out how to fix up watersheds that have been damaged by logging.

ECO STAR

Heather Mathieson
Jan Gray
Bev Ng

Need to know more about the Environment? Call us. We will do the research.
I try to keep up with conflicts about how land should be used. It seems these conflicts, or issues, are popping up all over the place in B.C. As soon as one gets settled another one pops up.

There always seems to be a "hot" issue. Right now a lot of people are talking about having more parks. This makes other people angry because they want more logging. I think most people feel there is some middle ground. They know having only parks or only logging in our forests is not wise.

Another "hot" issue is mining. Should we give the mining companies the right to explore all our land? Then what happens if they find minerals in the middle of a farm or a park? Do we let them build a mine?

What about people who want to build houses? Should we make them leave some of the trees? Should we make them build away from small streams?

And then there are people who want to bike and hike and ski. Should they be allowed in the wilderness? What about skidoos? They can scare wild animals and churn up the soil.

It seems like the only way to solve these issues is for everyone just to stand still. I mean it. If we all just stood still and didn’t drive a car or build a house, maybe we’d be OK.
About Your Sector

Conservation
What is Conservation?

The natural world is full of activity and life. Each part plays an important role. No part can survive without the others. Plants, animals, air, water and soil all give something to their environment and they take something away from their environment. A tree takes nutrients from the soil through its roots. But it adds nutrients to the soil when it drops leaves that will rot and decay.

The ways that living plants and animals connect or interact with non-living things like air, water and soil are called ecosystems. Ecosystems support all life. Ecosystems affect the climate, filter the water and air, and conserve soil and nutrients.

Conservation is the protection and wise use of the natural world and its ecosystems.

Why Do We Need To Conserve?

- Many people live in ways that waste resources. We choose to throw away broken radios, televisions and toys instead of fixing them. We use disposable diapers instead of cloth diapers and paper lunch bags instead of cloth lunch bags. This is called over-consumption.

- Many natural resources are easily damaged or destroyed by human activities.

- People need air, water, soil, plant life, wildlife and minerals. If we harm or destroy these things, then people will die.

- Scientists need many kinds of wilderness areas to study. This helps them learn how the natural world works. New species and how they work within ecosystems are still being discovered!

- The beauty and majesty of the natural world is worth preserving, just like art or music.

- Wilderness is a big part of British Columbia’s history. Protecting wilderness helps to preserve British Columbia’s heritage.

- People need space for relaxation and recreation.

- We should use the earth’s resources wisely so that the people who come after us will be able to use them too. Conservation is concerned not only with the resources we need today, but also with the resources needed for the future. Whenever possible we must replace the resources we use.
What Do Conservationists Do?

- They try to live in environmentally-friendly ways (For example, they walk or take the bus instead of taking their car. They try to recycle, reuse and reduce what they use.)
- They volunteer in their local community to save marshes from development, clean up habitat along neighbourhood streams, mark storm drains.
- They work in businesses, governments or environmental groups to restore wildlife habitat, research water pollution, take care of wilderness areas, help run wildlife sanctuaries, teach the public about the environment, protest when poor environmental practices occur, and encourage governments to pass laws to protect the environment.
- In other kinds of conservation, people work to preserve human-made things: important historical buildings, housing in old neighbourhoods, abandoned railway routes, ancient burial grounds or sacred sites, art and traditional customs.

What Needs To Be Conserved?

It is important to the health of the planet to conserve many different plants, animals and habitats This is called conserving biodiversity. Biodiversity helps life continue even when the world changes. For example, if dinosaurs were the only life on the planet, then all life would have ended many years ago when the dinosaurs died. Luckily, there were some living things that were able to survive the changes that took place many millions of years ago, and so life continued. The more different kinds of living things, the more likely it is that life will continue in some form.

We need to conserve the balance of nature. It is important to think of plant life, wildlife and their ecosystems as a whole machine. This machine, just like all machines, needs all of its parts to work. When we make decisions about conservation, we must make sure that we do not take away some of the parts and upset the balance of nature in this machine.
We need to conserve habitat in such a way that it is useful for all the different kinds of plant life and wildlife. Some wildlife may need many different habitats. (Salmon need the whole length of a river and huge areas of the ocean.) Some wildlife need large areas of habitat. (Each bear may need 30 square km of land.) We must understand the lifecycle and how the animal, bird, insect or fish lives within its habitat to make conservation decisions.

Making Land and Water Use Decisions

A network of protected habitats is not enough to protect biodiversity. We must also be careful about what we do with the land outside the protected areas. For example, if we log or farm or mine near a river that runs through a protected area, we may pollute the water used by the plant life and wildlife in the protected area.

In the past, decisions about how to use land and water were based mostly on what worked best for the human activity in the area (eg. forestry, mining, agriculture, land development). Nowadays, more people know that human activities need to be changed so that ecosystems are kept healthy. New guidelines are being made to protect habitats and ecosystems. They will try to:

- keep a network of protected land areas and corridors
- have the protected areas represent all ecosystems
- keep newly growing forests as well as old growth forests
- protect the ecosystems of endangered wildlife or plant life

Over time, many 'islands' of land have been protected. It might be a wetland that birds use for resting when they migrate, or a mountain slope for big horn sheep in the summer.

Now we know these 'islands' of land are often too small for the plants and wildlife within them to survive. The 'islands' need to be connected to each other so ecosystems can keep working.

People who decide how we use the earth's land and water must:
- understand ecosystems and how they stay healthy
- know what kinds of habitats each species needs
- know how human activities will affect ecosystems
E & E REPORT

☑️ ENVIRONMENT  ☑️ ECONOMY
This report looks at the economy and the environment from your sector’s point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.
A. An environmental study has shown that Conservation may harm the environment.

1. An area set aside for park or wilderness may be too small to make good habitat for the animals or plants. These species may not survive.

2. People conserve one or two species, instead of a whole ecosystem. This harms the balance between predators and prey. (e.g. If seals and whales are protected, their numbers may rapidly increase. If they prey on unprotected species, such as salmon, the salmon populations may be threatened.)

3. People may not know enough about the natural world. What the best scientists think is safe today may be found to be harmful in 20 or 30 years.

4. People think they are being environmentally friendly, but they may be harming the environment. For example, some people buy recycled goods (e.g. park benches made from plastic bottles). But this does not really reduce pollution or the consumption of new materials.

B. Conservationists who were interviewed said, "We do not harm the environment."

1. We try to convince people to set aside enough land to preserve wildlife habitat. (For example, we make sure that every grizzly bear has enough habitat to survive.)

2. We try to conserve whole ecosystems so that all the species will survive and maintain a natural balance.

3. We teach people about conservation. Everyone should learn how the natural world works because it is their habitat.

4. We help maintain and restore heritage sites.
C. The Ministry of Environment pointed out that:

1. Information about the environment is changing all the time. We do the best we can to understand this information and use it correctly.

2. We are learning more about how everything is connected in the natural world. We try to think globally, but act locally.

3. The more support we get from citizens, the easier it is to protect the natural world.

4. There are some economic benefits to conservation:
   - There are 2,000 direct conservation jobs (conservation officer, park ranger, wildlife manager).
   - Some businesses benefit from conservation. These are spin-off businesses. For example, conservation helps to:
     - Protect salmon habitat which protects fish numbers. The fishing industry makes more money if there are more salmon to catch. Native fishers have more salmon to catch.
     - Protect wildlife and their habitat. The tourism industry makes more money because wildlife attracts more visitors and photographers.
     - Keep some places as wilderness. More people may want to settle in an area if there is a wilderness area nearby. More tourists will also want to visit.
     - Keep some natural forests. In the future, the forest industry may study these natural forest areas to help them solve problems in reforested areas. Also, new species are being discovered which may benefit medicine and agriculture.
     - Protect watersheds. This makes sure that people have access to clean water.
   - Each year money goes to the government from conservation. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Park fees: People who visit parks pay money to the government.
     Sales tax: Tourists buy goods and services.
   - The money that the government collects pays for things such as roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

<table>
<thead>
<tr>
<th>Round Table 5</th>
<th>Choose the criteria to rate the Proposals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Time 6</td>
<td>Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares.</td>
</tr>
<tr>
<td>Task Time 7</td>
<td>Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal</td>
</tr>
<tr>
<td>Round Table 7</td>
<td>Present a Proposal and listen to other groups present their Proposal.</td>
</tr>
<tr>
<td>Task Time 8</td>
<td>Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better.</td>
</tr>
<tr>
<td>A</td>
<td>B</td>
</tr>
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<td>---</td>
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</tr>
<tr>
<td>grasslands, wetlands, forests and tundra</td>
<td>corridor for grizzly and bighorn sheep</td>
</tr>
<tr>
<td>bighorn sheep, caribou and grizzly</td>
<td>grasslands grazed by cattle for many years</td>
</tr>
<tr>
<td>historic cattle route</td>
<td></td>
</tr>
<tr>
<td></td>
<td>corridor for grizzly as they move from one salmon run to another</td>
</tr>
<tr>
<td></td>
<td>old abandoned gold mines from earlier gold rush</td>
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Map Rap

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Role Information

BYRON REYNOLDS: Fisheries Spokesperson

Personal Profile:

- 45 years old
- married to Sandra and has three children ages 23, 19, 18
- interested in wrist wrestling (was Canadian Championship winner in 1968 and 1969), bowling, boating
- other activities: Rotary Club (current president of Pangea Valley Club), singing in Pangea Mens’ Choir

Educational/Work History:

- quit high school to work on his father's fishing boat. (His father claims Byron took to the sea and salmon fishing before he could walk. The only thing he does better than fish is talk people into giving money to a good cause.)
- bought his first boat when he was 24.
- bought his second boat when he was 26.
- at 35, he had 7 commercial salmon boats.
- now has 10 fishing boats.
- plans to retire at 50, sell all his business interests and sail around the world with his wife.
VIEWPOINT

Interviewer: Well, I finally got you to put down your cell phone, close your office door, loosen your tie and take 15 minutes out from your busy schedule and allow me to interview you. Do you mind if I tape this?

Byron: No problem. You do your job anyway you want.

Interviewer: You are thought of in the fishing industry as a "self-made man." Is that how you see yourself?

Byron: Well, if you mean did I get to where I am all by myself, the answer is no. If you mean did I set my own goals and work hard to achieve them, the answer is yes.

Interviewer: Who helped you on your way up the ladder of success?

Byron: My father and my uncle were both salmon fishermen. Or commercial fishers as you people now call us. (Still can't get used to the new lingo.) They didn't tell me to quit school and come fishing with them but when I decided that's what I wanted, they became my teachers. And the salt chuck was my classroom.

Interviewer: Guess if you were the captain's kid you got special treatment.

Byron: Heck no! On a salmon fishing boat there are 7 guys, er people, and every one of them works 12 - 15 hours a day when the fish are running. When we weren't fishing we slacked off. Only worked 10-hour days. 'Course, in the off-season, a lot of the other guys collected unemployment cheques. But Dad, Uncle Gus and I were driving cabs, cleaning out the Bingo Hall and hustling a buck whenever we saw a chance.

Interviewer: Is that how you got to buy your own boat when you were only 20?

Byron: I was 24 but who's keeping track, right? The press likes to exaggerate.

Interviewer: How do you feel about the state of the salmon fishery in B.C. today?

Byron: It's really fairly simple. There are too many people chasing too few fish. Nature cannot keep up. If we don't smarten up and start planning for the long-term I'm afraid the "off-season" will last 12 months a year.

Interviewer: You mean like what's happened on the east coast? No fish to catch so everyone's out of work?

Byron: I'm not the doomsday type but I think it could happen - and pretty soon, too.

Interviewer: Well, I see our time's up. Thank you, Mr. Reynolds, for your time.
About Your Sector

Fishing
How Fishing Works

In British Columbia fish are harvested (caught) in freshwater (rivers, lakes and streams) and in saltwater (ocean).

There are three different kinds of fishers: commercial, sport and Native Indian.

The government manages the fishing industry. It has a law called the Fisheries Act. This act has rules about fish and their habitat (rivers, lakes, ocean). It tells people what they can and cannot do with fish in or near the water.

Each year the government and the fishers make a plan. The plan first lets some fish escape from the fishers. These fish can lay eggs so there will be fish the next year. This plan divides the fish between the commercial, sport and Native fishers. The government makes sure the plan is followed by selling fishing licences. The fishing plan tells fishers:

- when each group can fish (certain days, certain months),
- where each group can fish,
- what type of fish each group can catch,
- how many fish each group can catch.

Salmon Fishing

In 1991 in B.C. there were 12,000 commercial salmon fishers. They fished from June - October in many places in the ocean along the coast. They could catch as many salmon as they were able to in the areas and times open for fishing. They ended up catching about 82,500,000 kgs or about 41 million salmon.

In 1991 there were 700,000 sport fishing licences. About 300,000 of these were licences to fish in freshwater and 400,000 were licences to fish in saltwater. Anglers fished in all months of the year but mostly from May until September. Sport fishers who fished in the ocean caught 1.2 million salmon and 200,000 ground fish. Sport fishers who fished in freshwater mainly caught fish such as trout, char and perch.

In 1991 in B.C. all native fishers could catch fish. They fished all year but mainly from April - November. They could fish in the ocean and in rivers near their homes. They could catch as many fish as they needed for food.
Commercial Fishery

Commercial fishers sell the fish they catch. But first they must follow these steps:

1. Buy or lease a boat and a licence to fish commercially (e.g. as a gillnetter, seiner, troller, long liner). Make sure it is safe. Fishers who gather clams and oysters do not need a boat. Check all the fishing gear to make sure it works.

2. Apply for and buy a personal fishing licence from the Department of Fisheries and Oceans.

3. Catch fish or shellfish following government rules for commercial fishers.

4. Keep the fish clean and cold to prevent spoiling. (Crabs and some groundfish are kept alive in tanks.)

5. Take the fish to a fish buyer. The buyer may be one person, a small company, or a large fish processing plant.

At the Fish Plant

Fresh fish are canned, smoked, frozen or dried at a fish processing plant. When fish are caught, they may be stored in large tanks on the fishing boats. Even though the fish are kept cold, they will only last a few days. The fish must get to the fish plant quickly. This is why most fish plants are built along the waterfront where boats can deliver their catch directly.

The fish are often sucked out of the tanks on the boats with a vacuum-like machine. It pumps the fish out onto a flat moving belt. This belt moves the fish to a sorting table. Here the fish are weighed, so the fishers can be paid. When the fish are sorted, the better quality fish are sold fresh or frozen and the other fish are canned.

Fish to be canned go to a butchering machine which cuts off the head, fins, and tail. It also takes out the organs of the fish. The fish body is washed in cold running water by workers wearing rubber boots and waterproof aprons. Then machines cut the salmon into pieces and put it into cans. The cans are weighed to make sure they are full. Lids are put on the cans and the cans are sealed by a closing machine. The canned salmon is cooked in a steam oven for more than two hours. Lastly, the cans are labelled and boxed to be shipped to stores.

Sport Fishery

Sport fishing is when people catch fish for fun. Sport fishing is also called angling. Sport fishers cannot sell the fish they catch. Anglers must check the rules carefully to find out how many fish they can catch (catch limit) of each kind of fish. Some of the things anglers do are:

1. Get fishing gear (rod, reel, lures).

2. Buy a fishing licence.

3. Follow the government rules for sport fishing. Use a boat or fish from the shore.

4. Enjoy the fishing experience. (Be outdoors, take pictures, have a holiday, swap fishing stories with others, and enjoy the peace and quiet).

5. Prepare fish for eating. (Fish can be barbecued, baked, poached, canned or smoked).

6. Release about half of the fish they catch. Catch and release is becoming more and more popular.
Native Food Fishery

First Nations people are allowed to catch fish for their own use. In most cases, they cannot sell the fish they catch. Native people may use traditional fishing methods (traps, weirs and nets) or modern fishing methods (boats, rods and reels).

First Nations people believe that some things (e.g. fish, trees, wildlife) cannot be owned or managed. They feel that since they have always hunted and fished, it is their right.

Because fish are such an important part of their culture, Native people have a special right to fish for food. Natives can also catch fish to use for their ceremonies. When the government makes the rules for the groups of fishers each year, the Native right to fish is very important.

Fishing in the Pangea Valley

Most commercial fishers do not live in the Pangea Valley. They work on boats in the ocean and catch the adult salmon before they swim up the Pangea River. When the salmon are sold, the commercial fishers make money.

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All of the fishers want to protect the fish habitat in the Pangea Basin so there will be lots of fish. Fish habitat should have: clean water, a good water supply, places with slow-moving water and lots of vegetation along the riverbanks.

The fishers also want to protect the travel routes (migration corridors) of salmon. When the travel routes are blocked by dams or rocks, the salmon can die.
E & E REPORT

☑️ ENVIRONMENT
☑️ ECONOMY
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment

---

Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT

Prepared by Heather Mathieson
A. An environmental study has shown that Fishing may harm the environment.
   1. Too many fish may be caught. There will not be enough fish to spawn.
   2. Fishers may use gear to get an unbalanced catch.
   3. Fishers try to catch certain kinds of fish. But they may also catch other kinds of fish by accident.
   4. Fish processing plants use a lot of water. They also discharge wastes into the water.
   5. People can harm plant and wildlife habitat while they are fishing. They may disturb the streambed or the streambank.

B. People interviewed in the fishing sector said, “We do not harm the environment.
   1. We do not overfish. We obey the catch limits.
   2. We use special fishing gear that makes sure we get a balanced catch. For example, we can use nets with large openings to catch one kind of fish or we can use nets with small openings to catch a different kind of fish.
   3. We fish in the right places and at the right time to reduce the number of wrong fish caught.
   4. The processing plants are inspected and follow environmental standards.
   5. We are members of a Fish & Game Club that teaches how to fish without harming the environment. We also belong to a volunteer group that repaired a damaged stream and built small hatcheries to raise fish.
C. The Department of Fisheries & Oceans pointed out that:

1. Native people, for hundreds of years, have caught fish for their food and their ceremonies.
2. When fish are in our waters it is a sign of a healthy environment.
3. Fish is an important source of food for many people.
4. Fishing is important to the economy.
   - There are 2,000 people with direct jobs in fishing.
   - There are 2,000 commercial fishers who depend on the salmon that spawn and rear in Pangea. There are 1,700 sportfishers who catch fish in Pangea Basin. There are 1,300 native people who may catch salmon for food.
   - Many other businesses make money because of fishing. These are spin-off businesses. For example, fishers must buy boots, gloves, jackets and other clothing to wear outdoors while they are fishing. Then they buy gas to run the boats and pay mechanics to fix the boats. These spin-off businesses were not started just for fishing, but they do make money from fishing.
   - Each year money goes to the government from fishing. This money comes from:
     - Personal taxes: Workers pay some of the money they earn to the government each year.
     - Business taxes: Businesses pay some of the money they earn to the government each year.
     - Fishing Licences: Commercial and sport fishers pay money to the government for the right to fish.
     - Boat Licences: Commercial fishers pay money to the government so they can use a boat to fish.
     - Sales Tax: Fishers pay money to the government for gas, food and equipment needed when they are fishing.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

<table>
<thead>
<tr>
<th>Round Table 5</th>
<th>Choose the criteria to rate the Proposals.</th>
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<tbody>
<tr>
<td>Task Time 6</td>
<td>Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares.</td>
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<td>Task Time 7</td>
<td>Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal</td>
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<td>Present a Proposal and listen to other groups present their Proposal.</td>
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<td>Task Time 8</td>
<td>Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better.</td>
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**Migration Corridor**

**Value of Fish** $
Map Rap

Fishing wants to protect all 25 squares marked on the Fishing Map. This will make sure there are jobs for the 2,000 commercial fishers and enough salmon and fresh water fish for the 1,700 sport and 1,300 native fishers for the next five years.

But the other sectors may want these squares too, so you need to rank them in order of importance. This will help you identify the squares you might be willing to lose or share. To rank the squares, think about:

• Do you need all the land in a square? (Think about how the activities done by other sectors might affect the watershed.)
• How important is the square to the fishers? (This is the value in terms of money, enjoyment and culture.)
• Will fixing damaged habitat benefit your sector?
• Where are the greatest number of fish produced?
• Where do the fish live? (Some fish spawn and rear in Pangea and then migrate to the ocean. Other fish spend their whole lives in freshwater rivers and lakes in Pangea.)
• Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

• the number of squares each Sector needs (# of Squares)
• the total number of people employed by each Sector (Total # of Jobs)
• the number of people employed in each square (# of Jobs/Square)
• the total amount of money each Sector gives to the government (Gov’t Revenue)
• the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
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</thead>
<tbody>
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<td>$840,000</td>
<td>$70,000</td>
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<td>Fishing</td>
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<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
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</table>
There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Fishing Sector Role File
Eileen Cilantro

Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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Role Information

EILEEN CILANTRO: Fisheries Alternate

Personal Profile:

- 26 years old
- single
- likes music (plays the piano and violin), ice skating and fly-fishing
- belongs to: church group, The Pangea Little Theatres Club

When someone wants or needs something done at work or in the community, one of the first people to help is Eileen Cilantro. She got the local soup kitchen up and running. She started the Pangea Little Theatre Group. (She writes, acts and directs at least 2 plays a year.) And in her “spare time”, she talks to school classes about music. She believes music is a very special part of our lives. Eileen plays all kinds of music to the kids (not just the kind adults listen to).

Education/Work History

- 4 years at college. Eileen got a degree in biology.
- 2 years at BCIT - Environmental Studies.
- began working for the Department of Fisheries and Oceans as a research scientist.
- worked on a project to find out how streambanks are affected by cattle trampling over them.
- now doing research to find out if pollution from pulp mills is having a long-term effect on fish that live in the water near pulp mills.

Research scientists: Men and women trained to find answers to questions. They must gather a lot of data (information). Sometimes research scientists have to capture, and even kill, animals in order to learn more about them. Before this happens, a lot of thought is given to the experiments. The animals are treated with respect.
Viewpoint

When people hear about fisheries news items, they think about fishing or fishers. How many people know that the Department of Fisheries and Oceans is also about fisheries research?

Thousands of scientists work for the fisheries department. We are always trying to find out more and more about salmon and other fish. The more we know about them the more we can make good decisions about how many should be caught.

Hundreds of years ago, fish like salmon, weren’t studied. The people who lived in our province caught enough fish for their own needs. Natural predators ate some. And the rest of the fish spawned in the unpolluted rivers and streams. These wild salmon and other fish and shellfish (halibut, herring, clams and shrimp) did not need to be managed. They got along just fine.

Nowadays, there are so many people chasing after salmon and other fish that the fisheries department needed to step in. Decisions have to be made about how many fish can be caught, when they can be caught and who can catch them. In order for fisheries people to make good decisions, they need the latest data about how many fish there are. This is where the research scientists come into the picture.

We do experiments. Then we collect the data. Last of all we analyze the results and make conclusions. We give this information to the fisheries managers. They, in turn, make the rules that all fishers must follow.

As you can see, research is very important to the fisheries department.
About Your Sector

Fishing
How Fishing Works

In British Columbia fish are harvested (caught) in freshwater (rivers, lakes and streams) and in saltwater (ocean).

There are three different kinds of fishers: commercial, sport and Native Indian.

The government manages the fishing industry. It has a law called the Fisheries Act. This act has rules about fish and their habitat (rivers, lakes, ocean). It tells people what they can and cannot do with fish in or near the water.

Each year the government and the fishers make a plan. The plan first lets some fish escape from the fishers. These fish can lay eggs so there will be fish the next year. This plan divides the fish between the commercial, sport and Native fishers. The government makes sure the plan is followed by selling fishing licences. The fishing plan tells fishers:

- when each group can fish (certain days, certain months),
- where each group can fish,
- what type of fish each group can catch,
- how many fish each group can catch.

**Salmon Fishing**

In 1991 in B.C. there were 12,000 commercial salmon fishers. They fished from June - October in many places in the ocean along the coast. They could catch as many salmon as they were able to in the areas and times open for fishing. They ended up catching about 82,500,000 kgs or about 41 million salmon.

In 1991 there were 700,000 sport fishing licences. About 300,000 of these were licences to fish in freshwater and 400,000 were licences to fish in saltwater. Anglers fished in all months of the year but mostly from May until September. Sport fishers who fished in the ocean caught 1.2 million salmon and 200,000 ground fish. Sport fishers who fished in freshwater mainly caught fish such as trout, char and perch.

In 1991 in B.C. all native fishers could catch fish. They fished all year but mainly from April - November. They could fish in the ocean and in rivers near their homes. They could catch as many fish as they needed for food.
Commercial Fishery

Commercial fishers sell the fish they catch. But first they must follow these steps:

1. Buy or lease a boat and a licence to fish commercially (e.g. as a gillnetter, seiner, troller, long liner). Make sure it is safe. Fishers who gather clams and oysters do not need a boat. Check all the fishing gear to make sure it works.

2. Apply for and buy a personal fishing licence from the Department of Fisheries and Oceans.

3. Catch fish or shellfish following government rules for commercial fishers.

4. Keep the fish clean and cold to prevent spoiling. (Crabs and some groundfish are kept alive in tanks.)

5. Take the fish to a fish buyer. The buyer may be one person, a small company, or a large fish processing plant.

At the Fish Plant

Fresh fish are canned, smoked, frozen or dried at a fish processing plant. When fish are caught, they may be stored in large tanks on the fishing boats. Even though the fish are kept cold, they will only last a few days. The fish must get to the fish plant quickly. This is why most fish plants are built along the waterfront where boats can deliver their catch directly.

The fish are often sucked out of the tanks on the boat with a vacuum-like machine. It pumps the fish out onto a flat moving belt. This belt moves the fish to a sorting table. Here the fish are weighed, so the fishers can be paid. When the fish are sorted, the better quality fish are sold fresh or frozen and the other fish are canned.

Fish to be canned go to a butchering machine which cuts off the head, fins, and tail. It also takes out the organs of the fish. The fish body is washed in cold running water by workers wearing rubber boots and waterproof aprons. Then machines cut the salmon into pieces and put it into cans. The cans are weighed to make sure they are full. Lids are put on the cans and the cans are sealed by a closing machine. The canned salmon is cooked in a steam oven for more than two hours. Lastly, the cans are labelled and boxed to be shipped to stores.

Sport Fishery

Sport fishing is when people catch fish for fun. Sport fishing is also called angling. Sport fishers cannot sell the fish they catch. Anglers must check the rules carefully to find out how many fish they can catch (catch limit) of each kind of fish. Some of the things anglers do are:

1. Get fishing gear (rod, reel, lures).

2. Buy a fishing licence.

3. Follow the government rules for sport fishing. Use a boat or fish from the shore.

4. Enjoy the fishing experience. (Be outdoors, take pictures, have a holiday, swap fishing stories with others, and enjoy the peace and quiet).

5. Prepare fish for eating. (Fish can be barbecued, baked, poached, canned or smoked).

6. Release about half of the fish they catch. Catch and release is becoming more and more popular.
Native Food Fishery

First Nations people are allowed to catch fish for their own use. In most cases, they cannot sell the fish they catch. Native people may use traditional fishing methods (traps, weirs and nets) or modern fishing methods (boats, rods and reels).

First Nations people believe that some things (e.g. fish, trees, wildlife) cannot be owned or managed. They feel that since they have always hunted and fished, it is their right.

Because fish are such an important part of their culture, Native people have a special right to fish for food. Natives can also catch fish to use for their ceremonies. When the government makes the rules for the groups of fishers each year, the Native right to fish is very important.

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<p>| Round Table 5 | • Choose the criteria to rate the Proposals. |
| Task Time 9 | • Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares. |
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| Task Time 8 | • Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better. |</p>
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</table>

**Fishing Map Information**

**Value of Fish**

**Migration Corridor**
Map Rap

Fishing wants to protect all 25 squares marked on the Fishing Map. This will make sure there are jobs for the 2,000 commercial fishers and enough salmon and fresh water fish for the 1,700 sport and 1,300 native fishers for the next five years.

But the other sectors may want these squares too, so you need to rank them in order of importance. This will help you identify the squares you might be willing to lose or share. To rank the squares, think about:

- Do you need all the land in a square? (Think about how the activities done by other sectors might affect the watershed.)
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This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
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<tr>
<th>Sector</th>
<th># of Squares</th>
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Role Information

NICOLE KRAUMANIS: Fisheries Alternate

Personal Profile:

• 33 years old
• divorced with two children (Kelsey, age 3 and Ken, age 5).
• likes fishing, gardening and movie watching.
• belongs to: Pangea Fix-It Club.

Nicole's nickname could be "Ms. Fix-It." She likes to pound nails, tile bathrooms and paint walls. Instead of going away on her holidays she stays home and does a house project. When her kids get older, she will take them on holidays, but for now she is busy making her house into a home.

Education/Work History

• got a teaching degree.
• worked in Paris for 3 years. She wrote stories for the newspaper in Paris. Her husband, Larry, took pictures to go with Nicole's stories.
• moved back to Canada and now works for the Department of Fisheries and Oceans.

The Department of Fisheries and Oceans believes that people should know more about fish and fishing. They hired Nicole to write books, posters and fact sheets for classroom teachers. Nicole visits classrooms whenever she can to see what teachers and students are learning about salmon. She is very proud of what she has done to teach young children about salmon and other fish.
**Viewpoint**

My friend Doreen and I have been fishing buddies for years. We have caught salmon, steelhead trout, rainbow trout, bass and char. My sister always says, "Nicole has caught almost anything that has fins and swims."

Last week, Doreen and I went fishing in Trout Creek. When we got home we decided to try and find out what it cost us to catch our fish. We made a list of all our gear and how much it cost.

- boat (14 metre = 47 foot) = $2,000.00
- fishing licence = $25.00
- paddles = $75.00
- sunglasses = $100.00
- gas for outboard motor = $10.00 (all day)
- launch fee = $5.00
- fishing rods = $150.00
- fishing gear (tackle boxes, lures, weights, spoons) = $150.00
- motor (10 horsepower) = $2,000.00
- life jacket = $60.00
- anchor = $100.00
- bait = $10.00
- gas for car = $25.00
- fish finder = $350.00
- rain gear = $200.00

There are about 700,000 licenced anglers in B.C. Not all of them have all of this fishing gear but it gives you an idea why sport fishing is a billion-dollar business.

Other costs for many people would be airfare or gas money to get to a fishing place or resort. There would also be the cost of the resort and food while they were on the fishing trip.

Of course, I would like to remind people that they should think about these other things too:

- fresh air - $15 million
- scenery - $5 million
- friendship - can't be measured

As Doreen put her calculator down and sank her fork into the juicy trout, she had to agree that angling was worth it.
About Your Sector

Fishing
How Fishing Works

In British Columbia fish are harvested (caught) in freshwater (rivers, lakes and streams) and in saltwater (ocean).

There are three different kinds of fishers: commercial, sport and Native Indian.

The government manages the fishing industry. It has a law called the Fisheries Act. This act has rules about fish and their habitat (rivers, lakes, ocean). It tells people what they can and cannot do with fish in or near the water.

Each year the government and the fishers make a plan. The plan first lets some fish escape from the fishers. These fish can lay eggs so there will be fish the next year. This plan divides the fish between the commercial, sport and Native fishers. The government makes sure the plan is followed by selling fishing licences. The fishing plan tells fishers:

- when each group can fish (certain days, certain months),
- where each group can fish,
- what type of fish each group can catch,
- how many fish each group can catch.

---

Salmon Fishing

In 1991 in B.C. there were 12,000 commercial salmon fishers. They fished from June - October in many places in the ocean along the coast. They could catch as many salmon as they were able to in the areas and times open for fishing. They ended up catching about 82,500,000 kgs or about 41 million salmon.

In 1991 there were 700,000 sport fishing licences. About 300,000 of these were licences to fish in freshwater and 400,000 were licences to fish in saltwater. Anglers fished in all months of the year but mostly from May until September. Sport fishers who fished in the ocean caught 1.2 million salmon and 200,000 ground fish. Sport fishers who fished in freshwater mainly caught fish such as trout, char and perch.

In 1991 in B.C. all native fishers could catch fish. They fished all year but mainly from April - November. They could fish in the ocean and in rivers near their homes. They could catch as many fish as they needed for food.
Commercial Fishery

Commercial fishers sell the fish they catch. But first they must follow these steps:

1. Buy or lease a boat and a licence to fish commercially (e.g. as a gillnetter, seiner, troller, long liner). Make sure it is safe. Fishers who gather clams and oysters do not need a boat. Check all the fishing gear to make sure it works.

2. Apply for and buy a personal fishing licence from the Department of Fisheries and Oceans.

3. Catch fish or shellfish following government rules for commercial fishers.

4. Keep the fish clean and cold to prevent spoiling. (Crabs and some groundfish are kept alive in tanks.)

5. Take the fish to a fish buyer. The buyer may be one person, a small company, or a large fish processing plant.

At the Fish Plant

Fresh fish are canned, smoked, frozen or dried at a fish processing plant. When fish are caught, they may be stored in large tanks on the fishing boats. Even though the fish are kept cold, they will only last a few days. The fish must get to the fish plant quickly. This is why most fish plants are built along the waterfront where boats can deliver their catch directly.

The fish are often sucked out of the tanks on the boat with a vacuum-like machine. It pumps the fish out onto a flat moving belt. This belt moves the fish to a sorting table. Here the fish are weighed, so the fishers can be paid. When the fish are sorted, the better quality fish are sold fresh or frozen and the other fish are canned.

Fish to be canned go to a butchering machine which cuts off the head, fins, and tail. It also takes out the organs of the fish. The fish body is washed in cold running water by workers wearing rubber boots and waterproof aprons. Then machines cut the salmon into pieces and put it into cans. The cans are weighed to make sure they are full. Lids are put on the cans and the cans are sealed by a closing machine. The canned salmon is cooked in a steam oven for more than two hours. Lastly, the cans are labelled and boxed to be shipped to stores.

Sport Fishery

Sport fishing is when people catch fish for fun. Sport fishing is also called angling. Sport fishers cannot sell the fish they catch. Anglers must check the rules carefully to find out how many fish they can catch (catch limit) of each kind of fish. Some of the things anglers do are:

1. Get fishing gear (rod, reel, lures).

2. Buy a fishing licence.

3. Follow the government rules for sport fishing. Use a boat or fish from the shore.

4. Enjoy the fishing experience. (Be outdoors, take pictures, have a holiday, swap fishing stories with others, and enjoy the peace and quiet).

5. Prepare fish for eating. (Fish can be barbecued, baked, poached, canned or smoked).

6. Release about half of the fish they catch. Catch and release is becoming more and more popular.
Native Food Fishery

First Nations people are allowed to catch fish for their own use. In most cases, they cannot sell the fish they catch. Native people may use traditional fishing methods (traps, weirs and nets) or modern fishing methods (boats, rods and reels).

First Nations people believe that some things (e.g. fish, trees, wildlife) cannot be owned or managed. They feel that since they have always hunted and fished, it is their right.

Because fish are such an important part of their culture, Native people have a special right to fish for food. Natives can also catch fish to use for their ceremonies. When the government makes the rules for the groups of fishers each year, the Native right to fish is very important.

Fishing in the Pangea Valley

Most commercial fishers do not live in the Pangea Valley. They work on boats in the ocean and catch the adult salmon before they swim up the Pangea River. When the salmon are sold, the commercial fishers make money.

Many Native fishers live in the Pangea Basin. They fish in the rivers and catch adult salmon returning to spawn in the Pangea River. Native fishers catch the salmon for food so they do not have to pay to buy fish in the stores.

Many sportsfishers live in the Pangea Valley. They catch adult salmon and fresh water fish in the rivers in the Pangea Basin. Sportsfishers cannot sell these fish.

All of the fishers want to protect the fish habitat in the Pangea Basin so there will be lots of fish. Fish habitat should have: clean water, a good water supply, places with slow-moving water and lots of vegetation along the riverbanks.

The fishers also want to protect the travel routes (migration corridors) of salmon. When the travel routes are blocked by dams or rocks, the salmon can die.
E & E REPORT

☑️ ENVIRONMENT ☑️ ECONOMY
This report looks at the economy and the environment from your sector’s point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.
A. An environmental study has shown that Fishing may harm the environment.
   1. Too many fish may be caught. There will not be enough fish to spawn.
   2. Fishers may use gear to get an unbalanced catch.
   3. Fishers try to catch certain kinds of fish. But they may also catch other kinds of fish by accident.
   4. Fish processing plants use a lot of water. They also discharge wastes into the water.
   5. People can harm plant and wildlife habitat while they are fishing. They may disturb the streambed or the streambank.

B. People interviewed in the fishing sector said, "We do not harm the environment.
   1. We do not overfish. We obey the catch limits.
   2. We use special fishing gear that makes sure we get a balanced catch. For example, we can use nets with large openings to catch one kind of fish or we can use nets with small openings to catch a different kind of fish.
   3. We fish in the right places and at the right time to reduce the number of wrong fish caught.
   4. The processing plants are inspected and follow environmental standards.
   5. We are members of a Fish & Game Club that teaches how to fish without harming the environment. We also belong to a volunteer group that repaired a damaged stream and built small hatcheries to raise fish.
C. The Department of Fisheries & Oceans pointed out that:

1. Native people, for hundreds of years, have caught fish for their food and their ceremonies.
2. When fish are in our waters it is a sign of a healthy environment.
3. Fish is an important source of food for many people.
4. Fishing is important to the economy.
   - There are 2,000 people with direct jobs in fishing.
   - There are 2,000 commercial fishers who depend on the salmon that spawn and rear in Pangea. There are 1,700 sportfishers who catch fish in Pangea Basin. There are 1,300 native people who may catch salmon for food.
   - Many other businesses make money because of fishing. These are spin-off businesses. For example, fishers must buy boots, gloves, jackets and other clothing to wear outdoors while they are fishing. Then they buy gas to run the boats and pay mechanics to fix the boats. These spin-off businesses were not started just for fishing, but they do make money from fishing.
   - Each year money goes to the government from fishing. This money comes from:

     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Fishing Licences: Commercial and sport fishers pay money to the government for the right to fish.
     Boat Licences: Commercial fishers pay money to the government so they can use a boat to fish.
     Sales Tax: Fishers pay money to the government for gas, food and equipment needed when they are fishing.

   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

<table>
<thead>
<tr>
<th>Round Table 5</th>
<th>Choose the criteria to rate the Proposals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Time 6</td>
<td>Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares.</td>
</tr>
<tr>
<td>Task Time 7</td>
<td>Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal</td>
</tr>
<tr>
<td>Round Table 7</td>
<td>Present a Proposal and listen to other groups present their Proposal.</td>
</tr>
<tr>
<td>Task Time 8</td>
<td>Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better.</td>
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## Fishing Map Information

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<thead>
<tr>
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<th>A</th>
<th>B</th>
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Pangea River Valley Map

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Fishing Sector Role File
Mary Sterritt

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Role Information

MARY STERRITT: Fishing Alternate

Personal Profile:

- 24 years old
- married to Paul, who owns a small logging company
- 1 child, Fawn, age 4
- likes writing, drawing and hiking
- belongs to: The Pangea Potters Club

Mary loves to make pots from clay. Her pots are very colourful. Mary’s brother Rick is also an artist. He makes salmon carvings from wood. He and two other Native carvers worked on a huge totem pole. Mary and Rick teach a class for young Native artists. They try and explain how Native Indian art was in the old days. They want to make sure young Native people can learn about how artists worked in the past.

Education/Work History:

- spent two years at Emily Carr School of Fine Arts.
- worked as a tour guide at a salmon hatchery
- runs a gift shop at the Native Centre. (Mary sells her paintings and clay pots in the gift shop. She also sells Rick’s salmon carvings.)
- would like to become a pre-school teacher.

Mary worked as a tour guide at a salmon hatchery. She showed people around the hatchery. She explained that a hatchery was a place where salmon were raised until they were 1 year old. Mary learned a lot about salmon when she worked as a tour guide.
Viewpoint

Some people wonder why there is no one to talk about First Nations at the Pangea Round Table. The Natives have refused to come to the Round Table meetings to decide on land use. They believe that all the land in the Pangea Basin belongs to them.

I am a First Nation person but I am one of the people in the Fishing Sector. Most people know what the fishing sector wants. I would like to tell you about why the First Nations have chosen not to be part of the Round Table.

We have lived in this valley for hundreds of years. We hunted and fished. We cared about the land and water in the valley. In turn, the land and the rivers were good to us. We got fish from the waters and other food from the land. In the 1790s, we saw our first “white” visitors. We traded with them. We gave them furs. They gave us beads - and smallpox. These white people came exploring but only a very few stayed.

In 1859 everything changed. Gold was discovered. The Gold Rush lasted for about 26 years. There were lots of changes. Roads were built. People came by the thousands. Some struck it rich. Others did not. By the time the gold was gone, so were most of the people.

The ones that did stay mainly took up ranching. First Nations people lived side by side with these settlers. The valley grew slowly.

Then when World War II broke out in 1939, there was a huge need for lumber. The forest industry became very big. Mills sprang up. Many more people came here to live.

All this time the First Nations people claimed that all the land was still theirs. No treaty had been signed. Nobody had bought this land from the people who were there first. Native people had been “put” on reserves.

Now the non-Native people of the Pangea River Valley want to decide how to divide up the land. But is the land theirs to divide? Is it their land or does it belong to Native people?

This question of who owns the land must be decided before First Nations people will attend the Pangea Basin Round Table meetings.
About Your Sector

Fishing
How Fishing Works

In British Columbia fish are harvested (caught) in freshwater (rivers, lakes and streams) and in saltwater (ocean).

There are three different kinds of fishers: commercial, sport and Native Indian.

The government manages the fishing industry. It has a law called the Fisheries Act. This act has rules about fish and their habitat (rivers, lakes, ocean). It tells people what they can and cannot do with fish in or near the water.

Each year the government and the fishers make a plan. The plan first lets some fish escape from the fishers. These fish can lay eggs so there will be fish the next year. This plan divides the fish between the commercial, sport and Native fishers. The government makes sure the plan is followed by selling fishing licences. The fishing plan tells fishers:

- when each group can fish (certain days, certain months),
- where each group can fish,
- what type of fish each group can catch,
- how many fish each group can catch.

---

**Salmon Fishing**

In 1991 in B.C. there were 12,000 commercial salmon fishers. They fished from June - October in many places in the ocean along the coast. They could catch as many salmon as they were able to in the areas and times open for fishing. They ended up catching about 82,500,000 kgs or about 41 million salmon.

In 1991 there were 700,000 sport fishing licences. About 300,000 of these were licences to fish in freshwater and 400,000 were licences to fish in saltwater. Anglers fished in all months of the year but mostly from May until September. Sport fishers who fished in the ocean caught 1.2 million salmon and 200,000 ground fish. Sport fishers who fished in freshwater mainly caught fish such as trout, char and perch.

In 1991 in B.C. all native fishers could catch fish. They fished all year but mainly from April - November. They could fish in the ocean and in rivers near their homes. They could catch as many fish as they needed for food.
Commercial Fishery

Commercial fishers sell the fish they catch. But first they must follow these steps:

1. Buy or lease a boat and a licence to fish commercially (e.g. as a gillnetter, seiner, troller, long liner). Make sure it is safe. Fishers who gather clams and oysters do not need a boat. Check all the fishing gear to make sure it works.

2. Apply for and buy a personal fishing licence from the Department of Fisheries and Oceans.

3. Catch fish or shellfish following government rules for commercial fishers.

4. Keep the fish clean and cold to prevent spoiling. (Crabs and some groundfish are kept alive in tanks.)

5. Take the fish to a fish buyer. The buyer may be one person, a small company, or a large fish processing plant.

At the Fish Plant

Fresh fish are canned, smoked, frozen or dried at a fish processing plant. When fish are caught, they may be stored in large tanks on the fishing boats. Even though the fish are kept cold, they will only last a few days. The fish must get to the fish plant quickly. This is why most fish plants are built along the waterfront where boats can deliver their catch directly.

The fish are often sucked out of the tanks on the boat with a vacuum-like machine. It pumps the fish out onto a flat moving belt. This belt moves the fish to a sorting table. Here the fish are weighed, so the fishers can be paid. When the fish are sorted, the better quality fish are sold fresh or frozen and the other fish are canned.

Fish to be canned go to a butchering machine which cuts off the head, fins, and tail. It also takes out the organs of the fish. The fish body is washed in cold running water by workers wearing rubber boots and waterproof aprons. Then machines cut the salmon into pieces and put it into cans. The cans are weighed to make sure they are full. Lids are put on the cans and the cans are sealed by a closing machine. The canned salmon is cooked in a steam oven for more than two hours. Lastly, the cans are labelled and boxed to be shipped to stores.

Sport Fishery

Sport fishing is when people catch fish for fun. Sport fishing is also called angling. Sport fishers cannot sell the fish they catch. Anglers must check the rules carefully to find out how many fish they can catch (catch limit) of each kind of fish. Some of the things anglers do are:

1. Get fishing gear (rod, reel, lures).

2. Buy a fishing licence.

3. Follow the government rules for sport fishing. Use a boat or fish from the shore.

4. Enjoy the fishing experience. (Be outdoors, take pictures, have a holiday, swap fishing stories with others, and enjoy the peace and quiet).

5. Prepare fish for eating. (Fish can be barbecued, baked, poached, canned or smoked).

6. Release about half of the fish they catch. Catch and release is becoming more and more popular.
Native Food Fishery

First Nations people are allowed to catch fish for their own use. In most cases, they cannot sell the fish they catch. Native people may use traditional fishing methods (traps, weirs and nets) or modern fishing methods (boats, rods and reels).

First Nations people believe that some things (e.g. fish, trees, wildlife) cannot be owned or managed. They feel that since they have always hunted and fished, it is their right.

Because fish are such an important part of their culture, Native people have a special right to fish for food. Natives can also catch fish to use for their ceremonies. When the government makes the rules for the groups of fishers each year, the Native right to fish is very important.

Fishing in the Pangea Valley

Most commercial fishers do not live in the Pangea Valley. They work on boats in the ocean and catch the adult salmon before they swim up the Pangea River. When the salmon are sold, the commercial fishers make money.

Many Native fishers live in the Pangea Basin. They fish in the rivers and catch adult salmon returning to spawn in the Pangea River. Native fishers catch the salmon for food so they do not have to pay to buy fish in the stores.

Many sportsfishers live in the Pangea Valley. They catch adult salmon and fresh water fish in the rivers in the Pangea Basin. Sportsfishers cannot sell these fish.

Salmon live in rivers and lakes for part of their lives and in the ocean for part of their lives. Adult salmon swim up the Pangea River into small rivers or lakes to spawn (lay their eggs). The eggs turn into small fish (fry) that live and grow (rear) in the fresh water. The fry swim to the ocean to live and grow for two or three years. The adult salmon return to the river to spawn. Freshwater fish live all of their lives in the small rivers and lakes in Pangea.

All of the fishers want to protect the fish habitat in the Pangea Basin so there will be lots of fish. Fish habitat should have: clean water, a good water supply, places with slow-moving water and lots of vegetation along the riverbanks.

The fishers also want to protect the travel routes (migration corridors) of salmon. When the travel routes are blocked by dams or rocks, the salmon can die.
This report looks at the economy and the environment from your sector’s point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.

Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT

Prepared by Heather Mathieson
A. An environmental study has shown that Fishing may harm the environment.

1. Too many fish may be caught. There will not be enough fish to spawn.
2. Fishers may use gear to get an unbalanced catch.
3. Fishers try to catch certain kinds of fish. But they may also catch other kinds of fish by accident.
4. Fish processing plants use a lot of water. They also discharge wastes into the water.
5. People can harm plant and wildlife habitat while they are fishing. They may disturb the streambed or the streambank.

B. People interviewed in the fishing sector said, “We do not harm the environment.

1. We do not overfish. We obey the catch limits.
2. We use special fishing gear that makes sure we get a balanced catch. For example, we can use nets with large openings to catch one kind of fish or we can use nets with small openings to catch a different kind of fish.
3. We fish in the right places and at the right time to reduce the number of wrong fish caught.
4. The processing plants are inspected and follow environmental standards.
5. We are members of a Fish & Game Club that teaches how to fish without harming the environment. We also belong to a volunteer group that repaired a damaged stream and built small hatcheries to raise fish.
C. The Department of Fisheries & Oceans pointed out that:

1. Native people, for hundreds of years, have caught fish for their food and their ceremonies.

2. When fish are in our waters it is a sign of a healthy environment.

3. Fish is an important source of food for many people.

4. Fishing is important to the economy.
   • There are 2,000 people with direct jobs in fishing.
   • There are 2,000 commercial fishers who depend on the salmon that spawn and rear in Pangea. There are 1,700 sportfishers who catch fish in Pangea Basin. There are 1,300 native people who may catch salmon for food.
   • Many other businesses make money because of fishing. These are spin-off businesses. For example, fishers must buy boots, gloves, jackets and other clothing to wear outdoors while they are fishing. Then they buy gas to run the boats and pay mechanics to fix the boats. These spin-off businesses were not started just for fishing, but they do make money from fishing.
   • Each year money goes to the government from fishing. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Fishing Licences: Commercial and sport fishers pay money to the government for the right to fish.
     Boat Licences: Commercial fishers pay money to the government so they can use a boat to fish.
     Sales Tax: Fishers pay money to the government for gas, food and equipment needed when they are fishing.
   • The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

<table>
<thead>
<tr>
<th>Round Table 5</th>
<th>• Choose the criteria to rate the Proposals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Time 6</td>
<td>• Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares.</td>
</tr>
<tr>
<td>Task Time 7</td>
<td>• Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each proposal.</td>
</tr>
<tr>
<td>Round Table 7</td>
<td>• Present a Proposal and listen to other groups present their Proposal.</td>
</tr>
<tr>
<td>Task Time 8</td>
<td>• Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better.</td>
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**Fishing Map Information**

<table>
<thead>
<tr>
<th>Fish</th>
<th>Migration Corridor</th>
<th>Value of Fish</th>
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Map Rap

Fishing wants to protect all 25 squares marked on the Fishing Map. This will make sure there are jobs for the 2,000 commercial fishers and enough salmon and fresh water fish for the 1,700 sport and 1,300 native fishers for the next five years.

But the other sectors may want these squares too, so you need to rank them in order of importance. This will help you identify the squares you might be willing to lose or share. To rank the squares, think about:

- Do you need all the land in a square? (Think about how the activities done by other sectors might affect the watershed.)
- How important is the square to the fishers? (This is the value in terms of money, enjoyment and culture.)
- Will fixing damaged habitat benefit your sector?
- Where are the greatest number of fish produced?
- Where do the fish live? (Some fish spawn and rear in Pangea and then migrate to the ocean. Other fish spend their whole lives in freshwater rivers and lakes in Pangea.)
- Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
- the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
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<tbody>
<tr>
<td>Agriculture</td>
<td>12</td>
<td>12,000</td>
<td>1,000</td>
<td>$840,000</td>
<td>$70,000</td>
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<tr>
<td>Conservation</td>
<td>20</td>
<td>2,000</td>
<td>100</td>
<td>$200,000</td>
<td>$2,000</td>
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<tr>
<td>Fishing</td>
<td>25</td>
<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
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</table>
There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.

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</table>

- **River**
- **Mountain**
- **City**
- **Town**
- **Road**
- **Railroad**
- **Airport**
- **Lake**

**Locations**
- Timbertown
- Homestake
- Knoxville
- Tumbleweed
- Trail Dust City
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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Role Information

Frank MacQuiggan: Forest Spokesperson

Personal Profile:

• 53 years old
• married to Danette, an accountant
• four children (ages 9, 11, 18 and 22)
• interested in curling, hockey, organic gardening and antique cars
• other activities: coaches the Mighty Penguins, a minor hockey team

Education/Work History:

• after high school, went to work in Port Alice on Vancouver Island for four years as a whistlegunk, a sliver picker, a chokerman and a faller for a small logging company.
• took a year-long millwright course at college. (Frank's instructor was impressed with his ability to tell the thickness of a metal plate from six metres away.)
• moved to Port Alberni and then Nanaimo and worked as a millwright for 5 years and then a timber cruiser for 5 years.
• took courses at night school and got a degree in Renewable Resources.
• took 2 years off work when he was 30 and took a Masters in Business Administration degree.
• got a management job with MacMillan Bloedel, one of the largest forest companies in B.C.
• has been a senior executive with MacBlo for 20 years.

Frank and Danette recently celebrated their twenty-fifth wedding anniversary. Their four children surprised them with a party. They invited everyone who had come to their parents' wedding in 1970 and asked them to dress in clothes from the 70s. Ellen, their oldest daughter, videotaped the party.

Frank MacQuiggan has had some very interesting jobs in the forest industry.

Whistlegunk: A person who gives the 'ready' signal (with a whistle) from the chokerperson to the driver of the grapple yarder. (A machine that carries the logs away after they are chained together.)

Sliver picker: A person who checks each board in the finishing plant to make sure it has no rough edges. Gloves are necessary so the person doesn't get slivers.

Chokerman: A person who attaches heavy wire cable around trees after they are cut down so machines can pull them to the loading area.

Faller: A person who cuts down trees with chainsaws.

Millright: A person who installs or repairs heavy machinery.

Timber Cruiser: A person who surveys forest areas to figure out the volume of timber.
Viewpoint

All of us in the forest industry in the Pangea Basin are scared. If we weren't scared we'd be just plain stupid. The writing is on the wall. You don't have to be a rocket scientist to smell death in the forest.

When I started logging in the early sixties I had a Grade 12 education, a strong back and an equally strong mind. I wanted to earn lots of money. And in the fifties and sixties that was not just a kid's dream. It was possible and I'm living proof that it could happen. Many of my buddies did the same in the forest, or fishing or mining industries. Hard work was all that was needed. Back then there were lots of jobs and, we thought, plenty of trees.

During the seventies and eighties we just never imagined it would ever end. Sure, the big companies were making lots of money and were mechanizing and going high tech, but world markets were booming, too.

Now it seems everywhere you turn, there are layoffs. Whether you wear a suit or a hard hat, your job is "on the line." I think most of us realize, down deep, that the jobs losses were in the cards. We also have to admit (maybe not out loud) that all the job losses are not caused by environmentalists and others who want more parks and wilderness areas. Mechanization, technology and over-harvesting are the big factors.

But hey, if trees or fish are all you know and you need to support your family, you just can't give up without a fight. Besides, the forest industry is the backbone of the B.C. economy. So, I ask those who want more parks, "Who is going to enjoy the park if no one can afford to put food in the picnic basket?"

I also think that many people in environmental groups really ought to get their facts straight. Some people jump on bandwagons. They see a picture of a clear-cut and a picture of a spotted owl and right away they choose the owl. Heck, I'm the first one to say that the forest industry needs to clean up its act. And it is. But Greenpeace and the Sierra Club and other tree huggers need to do their homework. In lots of cases, they are using scare tactics, not real facts.

Some of the forest workers will be trying to save their jobs through protests and boycotts, until the last tree is felled. Others will try participating in land-use planning committees like the Pangea Round Table. Others will get into retraining programs. Many will get into other lines of work. Some of us are seriously thinking about retiring.

Me, I'm encouraging my kids to learn about computers, study Spanish and Cantonese and think about living in a house made of something other than wood.
About Your Sector

Forestry
How Forestry Works

Many people think the forest industry just harvests trees. It is also responsible for:

- managing (making decisions about the forests),
- milling (making products from trees),
- silviculture (replanting and caring for the forests).

The Province of British Columbia owns 94% of the forest land. The government lets the forest industry harvest some of this land. In turn, it gets money from the industry for the sale of the trees, taxes, licences and leases (like rent).

Managing

The government of British Columbia manages the forests. It makes a plan to show:

- how much forest may be logged
- where the forest may be logged
- who can do the logging

It must make sure that logging does not harm water, wildlife, ranches, tourism and recreation. It also fights forest fires and controls bugs that harm trees.
Harvesting

Logging companies cut down trees. Before they cut, they must make a logging plan. The plan is shown to the Ministries of Forests and Environment. It is shown to the Department of Fisheries as well. All people who live in British Columbia can see the Forest Plan.

The plan is checked to see how the logging might affect fish, other wildlife, the water and the soil. This plan makes sure the company follows rules. The company must:

• tell how the trees will be logged,
• show what roads will be built to get to the trees,
• have a plan to replant the forest when logging is finished,
• show how fish, wildlife, water and recreation will be protected.

Once the logging plan is approved, the roads and bridges are built. Then the trees are harvested, as shown on the chart.

<table>
<thead>
<tr>
<th>Felling</th>
<th>The trees are cut down.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bucking</td>
<td>The branches are cut from the fallen trees. Then the trees are cut into logs.</td>
</tr>
<tr>
<td>Yarding</td>
<td>The logs are moved from the cutting area to the loading area. They are pulled along an overhead cable system, dragged along the ground by a skidder or lifted by helicopter or balloons.</td>
</tr>
<tr>
<td>Loading</td>
<td>Large machines load the logs onto trucks.</td>
</tr>
<tr>
<td>Hauling</td>
<td>Trucks, booms or barges move the logs to a sorting yard.</td>
</tr>
<tr>
<td>Scaling</td>
<td>The logs are weighed.</td>
</tr>
<tr>
<td>Sorting</td>
<td>The logs are sorted by quality (how good the wood is).</td>
</tr>
<tr>
<td>Hauling</td>
<td>Trucks or log booms move the logs to the mills.</td>
</tr>
</tbody>
</table>
Milling

Mills take raw logs and turn them into something that can be used. There are four main kinds of mills: sawmills, panel mills, shake and shingle mills, and pulp and paper mills. Sawmills change logs into lumber to build houses, schools and buildings. Pulp mills turn sawdust and wood chips into pulp to make paper. Panel mills turn logs into plywood and sawdust into particle board. Shake and shingle mills turn raw logs into shakes and shingles (roof coverings).

Most mills have some wood waste (sawdust, wood chips, shavings, bark). It is not thrown away. It is used to make pulp for paper, absorb oil spills and add to sausages. It is used in stalls for horses, for topsoil, put on pathways for trails in parks, and for dykes around cranberry fields. It is also burned to make electricity and steam in pulp and paper mills and to dry wood in sawmills.

Forestry in the Pangea Valley

The Pangea Valley is a good place for forestry because there are large areas of land with very few people. Also, many of the trees growing in the Pangea Basin are valuable for sale in British Columbia and other countries.

Forestry needs the following:

• The right to manage all of the forest land. Then forestry can make a plan to balance cutting and replanting.

• Forests that have the types of trees that are valuable to customers.

• Large areas of land.
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

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Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT

Prepared by Heather Mathieson
A. An environmental study has shown that the Forest Industry may harm the environment.
   1. Logging roads may cause mudslides if they are not built right. Part of the road can slide into a stream and the mud can run down the stream channel. This harms fish habitat.
   2. When all the trees in a large area are cut down over a short period of time, soil erosion increases. The rain washes the soil into streams and harms habitat.
   3. If replanting is done incorrectly, a new forest will not grow properly.
   4. Logging debris (small logs and branches) may fall into a stream. Fish cannot swim past.
   5. Pulp mills and sawmills use lots of water. They may also discharge wastes into the water.
   6. The habitat for many species may be destroyed. Some plants and animals that live in old growth forests cannot live anywhere else.

B. People interviewed in the forest sector said, “We do not harm the environment.”
   1. We don’t build roads near streams. When we build our logging roads we put in lots of culverts. We also make sure the culverts don’t get blocked.
   2. We cut smaller areas of the forest. We wait for the new forest to regrow before we log again.
   3. We replant the cut area as soon as we have logged it.
   4. We don’t log right to the edge of the streams. We leave a strip of trees near the stream. This keeps the stream habitat healthy.
   5. Many pulp mills and use new methods and meet environmental standards.
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1. People need and want forest products such as paper, lumber, and furniture.
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The Nitty Gritty

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The % of Land Covered by Forest [Tree] Value of Timber $
Map Rap

Forestry needs 15 squares of land on the map. This will give jobs to all of the 22,500 forestry workers for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best squares, think about:

• Are there any mills nearby? (Forest companies sell the trees to the mills.)

• Is there transportation nearby? (Mills need a way to get the wood or wood products to the people who want them. The greater the distance the trees have to be shipped, the more money it costs the forest companies and the less money they make.)

• Is there a city/town nearby? (It is easier and less costly to sell to a large group of people in one place rather than a small number of people scattered over a large area.)

• Is there water nearby? (Mills need lots of water from streams, lakes and underground wells to make electricity to run the machines. Pulp and paper mills need water to make the paper.)

• Read About Your Sector in this Role File. Is there information that would help you choose the squares?

This chart shows:

• the number of squares each Sector needs (# of Squares)

• the total number of people employed by each Sector (Total # of Jobs)

• the number of people employed in each square (# of Jobs/Square)

• the total amount of money each Sector gives to the government (Gov’t Revenue)

• the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
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<tr>
<td>Agriculture</td>
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<td>12,000</td>
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<td>$840,000</td>
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<td>20</td>
<td>2,000</td>
<td>100</td>
<td>$200,000</td>
<td>$2,000</td>
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<tr>
<td>Fishing</td>
<td>25</td>
<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
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<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
</tbody>
</table>
There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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<tr>
<td>MAP OF PANGEA VALLEY</td>
<td>16</td>
</tr>
</tbody>
</table>
Role Information

VIJAY SINGLA: Forest Alternate

Personal Profile:

- 37 years old
- single
- likes camping, renting home videos, fishing and motorcycle riding.
- belongs to: Pangea Women’s Motorcycle Club

Education/Work History

- worked for her father's logging company, as a tree planter, during five summers while she went to college.
- got a degree in Forestry. (After she finished school, Vijay spent one year in Sweden and one year in Brazil learning about how those countries logged their trees.)
- now works for the Ministry of Forests.
- plans to start her own tree planting business.

Vijay's family and many of her teachers, tried to talk her out of going into the forest industry. Her mom still says, "Get a husband. He should be the one to get his fingernails and hands dirty. You should wear a dress and pretty shoes instead of those jeans and work boots."

Vijay knows a lot about planting trees. She thinks all logging companies should have to replant in the places they have logged. If trees are not planted the soil may wash away. This could cause a landslide or a mudslide. When trees are planted the birds and other animals come back to live in the new forest. It takes over 30 years for the young trees to grow into a forest that can be logged again.
Viewpoint

My father, and his father before him, spent his whole work life in the forest industry. I seem to be doing the same thing. Both my father and my grandfather were loggers. They were very good at cutting down trees. I am part of the forest industry but I am planting trees instead of cutting them down.

The forest industry needs to change. For the past 50 years logging companies have been cutting the trees down faster than they have been replanting them. It used to take a lot of loggers a long time to cut the trees. Nowadays, it takes fewer loggers a shorter time to cut the same number of trees.

Cutting trees at the rate we have been cutting them can’t go on. We have to cut fewer trees. We also have to replant all the places where trees have been cut.

Many people in the forest industry are losing their jobs. They blame the government for making more parks. (Logging is not allowed in parks.)

Some loggers may lose their jobs because of the parks. But most loggers are losing their jobs because of changes in the way trees are cut. Machines are replacing people.

My father is ready to retire so these changes won’t affect him. He is worried that I won’t be able to be part of the forest industry. He thinks I will lose my job. But I tell him that I want to plant trees not cut them down. Planting trees is part of the forest industry too.
About Your Sector

Forestry
How Forestry Works

Many people think the forest industry just harvests trees. It is also responsible for:

- managing (making decisions about the forests),
- milling (making products from trees),
- silviculture (replanting and caring for the forests).

The Province of British Columbia owns 94% of the forest land. The government lets the forest industry harvest some of this land. In turn, it gets money from the industry for the sale of the trees, taxes, licences and leases (like rent).

Managing

The government of British Columbia manages the forests. It makes a plan to show:

- how much forest may be logged
- where the forest may be logged
- who can do the logging

It must make sure that logging does not harm water, wildlife, ranches, tourism and recreation. It also fights forest fires and controls bugs that harm trees.
Harvesting

Logging companies cut down trees. Before they cut, they must make a logging plan. The plan is shown to the Ministries of Forests and Environment. It is shown to the Department of Fisheries as well. All people who live in British Columbia can see the Forest Plan.

The plan is checked to see how the logging might affect fish, other wildlife, the water and the soil. This plan makes sure the company follows rules. The company must:

- tell how the trees will be logged,
- show what roads will be built to get to the trees,
- have a plan to replant the forest when logging is finished,
- show how fish, wildlife, water and recreation will be protected.

**HOW TREES ARE LOGGED IN B.C.**

**Clearcut Logging**
All of the trees from an area of forest are cut. It is used when most trees are about the same age. About 80% of B.C.'s logging is clearcut.

**Selection Logging**
Only some of the trees from an area of forest are cut. It is used when trees in a forest are uneven in age. The older trees are cut. The young trees are left to grow. About 15% of B.C.'s logging is selection.

**Seed-tree Logging**
All of the trees are cut except for a few older trees. These trees are healthy and strong enough to withstand the wind. These trees provide seed to reforest the area. About 5% of B.C.'s logging is seed-tree.

**Shelterwood Logging**
This new method is being used in a few places in B.C. Most of the trees are cut. About 25% - 75% of the largest trees are left behind as a source of seeds. These large trees also provide some shelter to seedlings.

Once the logging plan is approved, the roads and bridges are built. Then the trees are harvested, as shown on the chart.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>Felling</td>
<td>The trees are cut down.</td>
</tr>
<tr>
<td>Bucking</td>
<td>The branches are cut from the fallen trees. Then the trees are cut into logs.</td>
</tr>
<tr>
<td>Yarding</td>
<td>The logs are moved from the cutting area to the loading area. They are pulled along an overhead cable system, dragged along the ground by a skidder or lifted by helicopter or balloons.</td>
</tr>
<tr>
<td>Loading</td>
<td>Large machines load the logs onto trucks.</td>
</tr>
<tr>
<td>Hauling</td>
<td>Trucks, booms or barges move the logs to a sorting yard.</td>
</tr>
<tr>
<td>Scaling</td>
<td>The logs are weighed.</td>
</tr>
<tr>
<td>Sorting</td>
<td>The logs are sorted by quality (how good the wood is).</td>
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Milling

Mills take raw logs and turn them into something that can be used. There are four main kinds of mills: sawmills, panel mills, shake and shingle mills, and pulp and paper mills. Sawmills change logs into lumber to build houses, schools and buildings. Pulp mills turn sawdust and wood chips into pulp to make paper. Panel mills turn logs into plywood and sawdust into particle board. Shake and shingle mills turn raw logs into shakes and shingles (roof coverings).

Most mills have some wood waste (sawdust, wood chips, shavings, bark). It is not thrown away. It is used to make pulp for paper, absorb oil spills and add to sausages. It is used in stals for horses, for topsoil, put on pathways for trails in parks, and for dykes around cranberry fields. It is also burned to make electricity and steam in pulp and paper mills and to dry wood in sawmills.

Forestry in the Pangea Valley

The Pangea Valley is a good place for forestry because there are large areas of land with very few people. Also, many of the trees growing in the Pangea Basin are valuable for sale in British Columbia and other countries.

Forestry needs the following:

- The right to manage all of the forest land. Then forestry can make a plan to balance cutting and replanting.

- Forests that have the types of trees that are valuable to customers.

- Large areas of land.
E & E REPORT

☑️ ENVIRONMENT ☑️ ECONOMY
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.
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</tbody>
</table>

The % of Land Covered by Forest  

Value of Timber $
Map Rap

Forestry needs 15 squares of land on the map. This will give jobs to all of the 22,500 forestry workers for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best squares, think about:

• Are there any mills nearby? (Forest companies sell the trees to the mills.)

• Is there transportation nearby? (Mills need a way to get the wood or wood products to the people who want them. The greater the distance the trees have to be shipped, the more money it costs the forest companies and the less money they make.)

• Is there a city/town nearby? (It is easier and less costly to sell to a large group of people in one place rather than a small number of people scattered over a large area.)

• Is there water nearby? (Mills need lots of water from streams, lakes and underground wells to make electricity to run the machines. Pulp and paper mills need water to make the paper.)

• Read About Your Sector in this Role File. Is there information that would help you choose the squares?

This chart shows:

• the number of squares each Sector needs (# of Squares)

• the total number of people employed by each Sector (Total # of Jobs)

• the number of people employed in each square (# of Jobs/Square)

• the total amount of money each Sector gives to the government (Gov’t Revenue)

• the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>12</td>
<td>12,000</td>
<td>1,000</td>
<td>$840,000</td>
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</tr>
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<td>Conservation</td>
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<td>100</td>
<td>$200,000</td>
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</tr>
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<td>5,000</td>
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<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
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<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
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There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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MAP OF PANGEA VALLEY ................................................ 16
Role Information

MARK FLETCHER: Forest Alternate

Personal Profile:

• 42 years old
• married
• likes curling, bowling and wine-making
• belongs to: Pangea Carpenters’ Club

Education/Work History

• quit school in Grade 11 and worked for a small logging company for 2 years.
• got a job at a fish plant (Mark was laid off after a poor fishing season).
• worked for 3 years for a small company that builds houses.
• returned to school, when he was 23 and finished Grade 12.
• worked for B.C. Parks for 4 years.
• with his brother, John, started his own business, Tall Timbers Logging.
Viewpoint

Every time I read about people blocking logging roads, I wonder why these angry people are trying to stop forest workers from doing their jobs. Loggers are not the problem. Forestry workers are only trying to put food on their families' tables. Many of them live in towns where jobs are scarce. The people who use the forest products, are the problem.

We all need to look at our lifestyles. Think about the large homes we live in. Think about all the paper we use and waste. What about all that junk mail? What about T.V. Guides that are only used for one week? Think about all the other wood products we use. Are these things worth the price we pay, not just in dollars but in terms of the environment?

In 1993, 94,000 workers in B.C. were employed in the forest sector. If you count spinoff jobs, 140,000 people depend on the forest sector.

For at least 25 years, governments have known there would not be enough trees to keep cutting at the rate we have been. But still the companies kept logging. Still the government kept letting them. And still we all kept wanting more products made from wood.

Logging went up. The number of jobs went up. And more products made from wood were used. Now there are fewer trees and fewer jobs. The future doesn’t look good. In the future our forest land may no longer give us what we have come to expect from it.

We must change the way we look at the forests. We must make better laws about how companies must log. And we must enforce these laws. There must be tough penalties (jail and fines) for those who break these laws. And we should all take a good look at the forest products we use.

FOREST PRODUCTS
About Your Sector

Forestry
How Forestry Works

Many people think the forest industry just harvests trees. It is also responsible for:

- managing (making decisions about the forests),
- milling (making products from trees),
- silviculture (replanting and caring for the forests).

The Province of British Columbia owns 94% of the forest land. The government lets the forest industry harvest some of this land. In turn, it gets money from the industry for the sale of the trees, taxes, licences and leases (like rent).

Managing

The government of British Columbia manages the forests. It makes a plan to show:

- how much forest may be logged
- where the forest may be logged
- who can do the logging

It must make sure that logging does not harm water, wildlife, ranches, tourism and recreation. It also fights forest fires and controls bugs that harm trees.
Harvesting

Logging companies cut down trees. Before they cut, they must make a logging plan. The plan is shown to the Ministries of Forests and Environment. It is shown to the Department of Fisheries as well. All people who live in British Columbia can see the Forest Plan.

The plan is checked to see how the logging might affect fish, other wildlife, the water and the soil. This plan makes sure the company follows rules. The company must:

- tell how the trees will be logged,
- show what roads will be built to get to the trees,
- have a plan to replant the forest when logging is finished,
- show how fish, wildlife, water and recreation will be protected.

**HOW TREES ARE LOGGED IN B.C.**

**Clearcut Logging**
All of the trees from an area of forest are cut. It is used when most trees are about the same age. About 80% of B.C.'s logging is clearcut.

**Selection Logging**
Only some of the trees from an area of forest are cut. It is used when trees in a forest are uneven in age. The older trees are cut. The young trees are left to grow. About 15% of B.C.'s logging is selection.

**Seed-tree Logging**
All of the trees are cut except for a few older trees. These trees are healthy and strong enough to withstand the wind. These trees provide seed to reforest the area. About 5% of B.C.'s logging is seed-tree.

**Shelterwood Logging**
This new method is being used in a few places in B.C. Most of the trees are cut. About 25% - 75% of the largest trees are left behind as a source of seeds. These large trees also provide some shelter to seedlings.

Once the logging plan is approved, the roads and bridges are built. Then the trees are harvested, as shown on the chart.

<table>
<thead>
<tr>
<th>Felling</th>
<th>The trees are cut down.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bucking</td>
<td>The branches are cut from the fallen trees. Then the trees are cut into logs.</td>
</tr>
<tr>
<td>Yarding</td>
<td>The logs are moved from the cutting area to the loading area. They are pulled along an overhead cable system, dragged along the ground by a skidder or lifted by helicopter or balloons.</td>
</tr>
<tr>
<td>Loading</td>
<td>Large machines load the logs onto trucks.</td>
</tr>
<tr>
<td>Hauling</td>
<td>Trucks, booms or barges move the logs to a sorting yard.</td>
</tr>
<tr>
<td>Scaling</td>
<td>The logs are weighed.</td>
</tr>
<tr>
<td>Sorting</td>
<td>The logs are sorted by quality (how good the wood is).</td>
</tr>
<tr>
<td>Hauling</td>
<td>Trucks or log booms move the logs to the mills.</td>
</tr>
</tbody>
</table>
Milling

Mills take raw logs and turn them into something that can be used. There are four main kinds of mills: sawmills, panel mills, shake and shingle mills, and pulp and paper mills. Sawmills change logs into lumber to build houses, schools and buildings. Pulp mills turn sawdust and wood chips into pulp to make paper. Panel mills turn logs into plywood and sawdust into particle board. Shake and shingle mills turn raw logs into shakes and shingles (roof coverings).

Most mills have some wood waste (sawdust, wood chips, shavings, bark). It is not thrown away. It is used to make pulp for paper, absorb oil spills and add to sausages. It is used in stalls for horses, for topsoil, put on pathways for trails in parks, and for dykes around cranberry fields. It is also burned to make electricity and steam in pulp and paper mills and to dry wood in sawmills.

Forestry in the Pangea Valley

The Pangea Valley is a good place for forestry because there are large areas of land with very few people. Also, many of the trees growing in the Pangea Basin are valuable for sale in British Columbia and other countries.

Forestry needs the following:

- The right to manage all of the forest land. Then forestry can make a plan to balance cutting and replanting.
- Forests that have the types of trees that are valuable to customers.
- Large areas of land.
E & E REPORT

☑️ ENVIRONMENT
☑️ ECONOMY
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.

**Eco Star Ltd.**

**A REPORT ON THE ECONOMY AND THE ENVIRONMENT**

Prepared by Heather Mathieson
A. An environmental study has shown that the Forest Industry may harm the environment.

1. Logging roads may cause mudslides if they are not built right. Part of the road can slide into a stream and the mud can run down the stream channel. This harms fish habitat.

2. When all the trees in a large area are cut down over a short period of time, soil erosion increases. The rain washes the soil into streams and harms habitat.

3. If replanting is done incorrectly, a new forest will not grow properly.

4. Logging debris (small logs and branches) may fall into a stream. Fish cannot swim past.

5. Pulp mills and sawmills use lots of water. They may also discharge wastes into the water.

6. The habitat for many species may be destroyed. Some plants and animals that live in old growth forests cannot live anywhere else.

B. People interviewed in the forest sector said, “We do not harm the environment.”

1. We don’t build roads near streams. When we build our logging roads we put in lots of culverts. We also make sure the culverts don’t get blocked.

2. We cut smaller areas of the forest. We wait for the new forest to regrow before we log again.

3. We replant the cut area as soon as we have logged it.

4. We don’t log right to the edge of the streams. We leave a strip of trees near the stream. This keeps the stream habitat healthy.

5. Many pulp mills and use new methods and meet environmental standards.

6. We have set aside areas of old growth forest to protect species that depend on that habitat. In some places we manage the forest in a special way. We make sure that the old growth features are in the new forest as it grows back.
C. The Ministry of FORESTS pointed out that:

1. People need and want forest products such as paper, lumber, and furniture.
2. Many people in the forest industry (foresters, loggers) work to keep the forests healthy.
3. There are 4 tree nurseries in Pangea. Hundreds of hectares were replanted last year. In fact, more trees were planted than cut.
4. People in the FOREST Industry work with people in the Ministry of the Environment, the Department of Fisheries & Oceans and the public. They work to find ways to prevent habitat loss and environmental damage due to logging.
5. The forest industry is important to the economy of the Pangea Basin.
   - There are 22,500 people with direct jobs in forestry.
   - In Pangea, there are 25 logging companies, 4 pulp and paper mills, 14 sawmills and 8 panel mills that make money because of the forest industry. If there were no trees, all the logging would end and the mills would shut down. The workers would have no jobs.
   - Many other businesses make money because of forestry. These are spin-off businesses. For example, roads must be built to get the trucks into the forest to haul the trees. Road construction businesses build the roads for the logging company. Forest workers must buy workboots, gloves and jackets to work outdoors while they are working. These spin-off businesses were not started just for the forest industry, but they do make money because of forestry.
   - Each year money goes to the government from forestry. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Stumpage fees: Forest companies pay money to the government for the volume of trees that are cut down.
     Leases: Forest companies pay rent to government for the right to use the land.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people?’ Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

<table>
<thead>
<tr>
<th>Round Table 5</th>
<th>Choose the criteria to rate the Proposals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Time 6</td>
<td>Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares.</td>
</tr>
<tr>
<td>Task Time 7</td>
<td>Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal</td>
</tr>
<tr>
<td>Round Table 7</td>
<td>Present a Proposal and listen to other groups present their Proposal.</td>
</tr>
<tr>
<td>Task Time 8</td>
<td>Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better.</td>
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</tbody>
</table>
## Forestry Map Information

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
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<td>1</td>
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• Are there any mills nearby? (Forest companies sell the trees to the mills.)
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• Read About Your Sector in this Role File. Is there information that would help you choose the squares?

This chart shows:

• the number of squares each Sector needs (# of Squares)
• the total number of people employed by each Sector (Total # of Jobs)
• the number of people employed in each square (# of Jobs/Square)
• the total amount of money each Sector gives to the government (Gov’t Revenue)
• the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
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Role Information

BRADY HYSLOP: Forest Alternate

Personal Profile:

- 19 years old
- single
- likes baseball, hockey, jazz
- belongs to: BREAKAWAY, EcoTeens

When he was 16 Brady left home. He couldn’t get along with his mom. (His dad had left the family when Brady was five and his sister was three). He got into a group of kids that ended up stealing cars and breaking into houses. Brady also did some drugs. When he was 17 he was charged and convicted of car theft. The judge suspended his sentence and ordered Brady to go back to high school. He also had to do 500 hours of community service. He had to deliver groceries and hot meals to seniors. And he had to clean up garbage from city parks. Brady lives in a group home for Young Offenders. He has to be in by 10 p.m. every night.

Education/Work History:

- will finish high school next year.
- works after school with mentally challenged children. Brady helps them learn to take and develop pictures. He also teaches them to play hockey.
- helps out at BREAKAWAY on weekends.
- would like to become a social worker and work with young people who have problems at home.

BREAKAWAY is a group that helps young people get off and stay off drugs and alcohol. People who have done drugs and alcohol help others. BREAKAWAY works because people who have kicked their drug and alcohol problems know how hard it was, so they can help others.
Viewpoint

Environmental Youth Team Program - Eco Teens

B.C. Parks began a new program for young people. It is called Eco Teens. Eco Teens will meet twice a month on Monday nights.

Brady Hyslop, a local student, will head the EcoTeens in Sagebrush. Brady told reporters, "We have all been part of the problem, even young people, so we should all be part of the solution. I am very excited about this new program. I am looking forward to working with other young people to do things to help the environment."

As part of the EcoTeen program, students at Evergreen High School in Sagebrush are trading their books for shovels. It is all part of a hands-on project outside the classroom. The students will each plant 100 trees. The trees will be planted on the church grounds, near the law courts, in the park beside City Hall and at their own high school.

You could learn how to plant trees. Here are some tips on planting young trees:

1. Dig the hole as deep as the root ball. Make the hole twice as wide.

2. Look for a dark stain on the tree trunk. This marks the spot where the roots end and the trunk begins. When planting, fill the soil up to this level for best results.

3. Fill the hole gently but firmly. Make a ridge of soil (5-10 cms) around the hole. This will act as a dam to keep the water in when you water the tree.

4. Good, rich native soil is the best source of food for young trees. They do not need fertilizer.

To find out how to become a member of Eco Teens, call 1-800-ECOTEEN.
About Your Sector

Forestry
How Forestry Works

Many people think the forest industry just harvests trees. It is also responsible for:

- managing (making decisions about the forests),
- milling (making products from trees),
- silviculture (replanting and caring for the forests).

The Harvest: To gather in a ripe crop. Trees are harvested, or cut down, in B.C. when they are mature.

The Province of British Columbia owns 94% of the forest land. The government lets the forest industry harvest some of this land. In turn, it gets money from the industry for the sale of the trees, taxes, licences and leases (like rent).

Managing

The government of British Columbia manages the forests. It makes a plan to show:

- how much forest may be logged
- where the forest may be logged
- who can do the logging

It must make sure that logging does not harm water, wildlife, ranches, tourism and recreation. It also fights forest fires and controls bugs that harm trees.
Harvesting

Logging companies cut down trees. Before they cut, they must make a logging plan. The plan is shown to the Ministries of Forests and Environment. It is shown to the Department of Fisheries as well. All people who live in British Columbia can see the Forest Plan.

The plan is checked to see how the logging might affect fish, other wildlife, the water and the soil. This plan makes sure the company follows rules. The company must:

- tell how the trees will be logged,
- show what roads will be built to get to the trees,
- have a plan to replant the forest when logging is finished,
- show how fish, wildlife, water and recreation will be protected.

HOW TREES ARE LOGGED IN B.C.

Clearcut Logging
All of the trees from an area of forest are cut. It is used when most trees are about the same age. About 80% of B.C.’s logging is clearcut.

Selection Logging
Only some of the trees from an area of forest are cut. It is used when trees in a forest are uneven in age. The older trees are cut. The young trees are left to grow. About 15% of B.C.’s logging is selection.

Seed-tree Logging
All of the trees are cut except for a few older trees. These trees are healthy and strong enough to withstand the wind. These trees provide seed to reforest the area. About 5% of B.C.’s logging is seed-tree.

Shelterwood Logging
This new method is being used in a few places in B.C. Most of the trees are cut. About 25% - 75% of the largest trees are left behind as a source of seeds. These large trees also provide some shelter to seedlings.

Once the logging plan is approved, the roads and bridges are built. Then the trees are harvested, as shown on the chart.

<table>
<thead>
<tr>
<th>Felling</th>
<th>The trees are cut down.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bucking</td>
<td>The branches are cut from the fallen trees. Then the trees are cut into logs.</td>
</tr>
<tr>
<td>Yarding</td>
<td>The logs are moved from the cutting area to the loading area. They are pulled along an overhead cable system, dragged along the ground by a skidder or lifted by helicopter or balloons.</td>
</tr>
<tr>
<td>Loading</td>
<td>Large machines load the logs onto trucks.</td>
</tr>
<tr>
<td>Hauling</td>
<td>Trucks, booms or barges move the logs to a sorting yard.</td>
</tr>
<tr>
<td>Scaling</td>
<td>The logs are weighed.</td>
</tr>
<tr>
<td>Sorting</td>
<td>The logs are sorted by quality (how good the wood is).</td>
</tr>
<tr>
<td>Hauling</td>
<td>Trucks or log booms move the logs to the mills.</td>
</tr>
</tbody>
</table>
Milling

Mills take raw logs and turn them into something that can be used. There are four main kinds of mills: sawmills, panel mills, shake and shingle mills, and pulp and paper mills. Sawmills change logs into lumber to build houses, schools and buildings. Pulp mills turn sawdust and wood chips into pulp to make paper. Panel mills turn logs into plywood and sawdust into particle board. Shake and shingle mills turn raw logs into shakes and shingles (roof coverings).

Most mills have some wood waste (sawdust, wood chips, shavings, bark). It is not thrown away. It is used to make pulp for paper, absorb oil spills and add to sausages. It is used in stalls for horses, for topsoil, put on pathways for trails in parks, and for dykes around cranberry fields. It is also burned to make electricity and steam in pulp and paper mills and to dry wood in sawmills.

Forestry in the Pangea Valley

The Pangea Valley is a good place for forestry because there are large areas of land with very few people. Also, many of the trees growing in the Pangea Basin are valuable for sale in British Columbia and other countries.

Forestry needs the following:

- The right to manage all of the forest land. Then forestry can make a plan to balance cutting and replanting.
- Forests that have the types of trees that are valuable to customers.
- Large areas of land.
E & E REPORT

☑️ ENVIRONMENT ☑️ ECONOMY
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.

Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT

Prepared by Heather Mathieson
A. An environmental study has shown that the Forest Industry may harm the environment.

1. Logging roads may cause mudslides if they are not built right. Part of the road can slide into a stream and the mud can run down the stream channel. This harms fish habitat.

2. When all the trees in a large area are cut down over a short period of time, soil erosion increases. The rain washes the soil into streams and harms habitat.

3. If replanting is done incorrectly, a new forest will not grow properly.

4. Logging debris (small logs and branches) may fall into a stream. Fish cannot swim past.

5. Pulp mills and sawmills use lots of water. They may also discharge wastes into the water.

6. The habitat for many species may be destroyed. Some plants and animals that live in old growth forests cannot live anywhere else.

B. People interviewed in the forest sector said, “We do not harm the environment.”

1. We don’t build roads near streams. When we build our logging roads we put in lots of culverts. We also make sure the culverts don’t get blocked.

2. We cut smaller areas of the forest. We wait for the new forest to regrow before we log again.

3. We replant the cut area as soon as we have logged it.

4. We don’t log right to the edge of the streams. We leave a strip of trees near the stream. This keeps the stream habitat healthy.

5. Many pulp mills and use new methods and meet environmental standards.

6. We have set aside areas of old growth forest to protect species that depend on that habitat. In some places we manage the forest in a special way. We make sure that the old growth features are in the new forest as it grows back.
C. The Ministry of FORESTS pointed out that:

1. People need and want forest products such as paper, lumber, and furniture.
2. Many people in the forest industry (foresters, loggers) work to keep the forests healthy.
3. There are 4 tree nurseries in Pangea. Hundreds of hectares were replanted last year. In fact, more trees were planted than cut.
4. People in the FOREST Industry work with people in the Ministry of the Environment, the Department of Fisheries & Oceans and the public. They work to find ways to prevent habitat loss and environmental damage due to logging.
5. The forest industry is important to the economy of the Pangea Basin.
   • There are 22,500 people with direct jobs in forestry.
   • In Pangea, there are 25 logging companies, 4 pulp and paper mills, 14 sawmills and 8 panel mills that make money because of the forest industry. If there were no trees, all the logging would end and the mills would shut down. The workers would have no jobs.
   • Many other businesses make money because of forestry. These are spin-off businesses. For example, roads must be built to get the trucks into the forest to haul the trees. Road construction businesses build the roads for the logging company. Forest workers must buy workboots, gloves and jackets to wear outdoors while they are working. These spin-off businesses were not started just for the forest industry, but they do make money because of forestry.
   • Each year money goes to the government from forestry. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Stumpage fees: Forest companies pay money to the government for the volume of trees that are cut down.
     Leases: Forest companies pay rent to government for the right to use the land.
   • The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

<p>| Round Table 5 | • Choose the criteria to rate the Proposals. |
| Task Time 6 | • Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares. |
| Task Time 7 | • Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal. |
| Round Table 7 | • Present a Proposal and listen to other groups present their Proposal. |
| Task Time 8 | • Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better. |</p>
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<th>D</th>
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</tr>
<tr>
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<td>$90%$</td>
<td>$90%$</td>
<td>$60%$</td>
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<td>$20%$</td>
<td>$50%$</td>
<td>$20%$</td>
<td>$40%$</td>
<td>$75%$</td>
</tr>
</tbody>
</table>

Value of Timber $
Map Rap

Forestry needs 15 squares of land on the map. This will give jobs to all of the 22,500 forestry workers for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best squares, think about:

- Are there any mills nearby? (Forest companies sell the trees to the mills.)
- Is there transportation nearby? (Mills need a way to get the wood or wood products to the people who want them. The greater the distance the trees have to be shipped, the more money it costs the forest companies and the less money they make.)
- Is there a city/town nearby? (It is easier and less costly to sell to a large group of people in one place rather than a small number of people scattered over a large area.)
- Is there water nearby? (Mills need lots of water from streams, lakes and underground wells to make electricity to run the machines. Pulp and paper mills need water to make the paper.)
- Read About Your Sector in this Role File. Is there information that would help you choose the squares?

This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
- the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
</tr>
</thead>
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<td>12,000</td>
<td>1,000</td>
<td>$840,000</td>
<td>$70,000</td>
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<tr>
<td>Conservation</td>
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<td>2,000</td>
<td>100</td>
<td>$200,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Fishing</td>
<td>25</td>
<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
</tbody>
</table>
Pangea River Valley Map

There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.

- Timbertown
- Homestake
- Tumbleweed
- Knoxville
- Trail Dust City
- SAGEBRUSH

- River
- Mountain
- City
- Town
- Road
- Railroad
- Airport
- Lake
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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MAP OF PANGEA VALLEY ..................................................... 16
Role Information

SHARON WHITE: Mining Spokesperson

Personal Profile:

- 42 years old
- divorced last year, no children
- interested in choral singing, sewing, cooking
- other activities: Big Sisters; square dancing; Pangea Poker Club

Education/Work History:

- got a Bachelor of Science degree in chemistry and a Masters degree in metallurgy from the University of Nevada.
- got a job at a copper mine in Arizona. (She was the only woman working in the mine.)
- had several jobs in American mines, then moved to Canada in 1979 to work in Toronto at a mining research company.
- started her own mining company in 1981. (By 1986, the company had grown to 40 employees.)
- expanded her companies to own several large mines by 1991.
- now planning to buy out two other mining companies.

Excerpt from an interview with Sharon White:

Q: Have you always wanted to be in the mining business?
A: Yes. My grandfather was a gold miner. Even as a child I wanted to be a miner. My mother wanted me to be a music teacher. She didn’t think mining was a “proper” business for a woman.

Q: A lot of people still think mining should be a man-only business.
A: Those that think so better change their minds. I’ve earned the right to be where I am – at the top.

Q: You are very determined.
A: Just like a Tommyknocker.

Q: What?
A: A Tommyknocker is a poltergeist (ghost or spirit) haunting a mine. According to the lore of the mines, a Tommyknocker will always return to the shift on which a miner is killed.

Q: Thanks Ms. White. It’s been very interesting talking to you.
Viewpoint

A recent article in the newspaper caused me concern. The government decided to create a provincial park in the Knox River watershed. This decision scored lots of points with the environmentalists. But it kills a proposed copper mine in the area.

Many people will say, “so what?” I’ll tell them “so what?” The mining company has been working on exploration in this area for several years. It has spent more than $30 million dollars on, what is now, a lost effort. Perhaps some background information will shed light on just what mining is all about. Maybe some readers will pause and think before they say “so what?”

Mining needs land. Minerals are hidden and difficult to find. The odds of a mineral claim becoming a mine are about 1:5,000. This means that for every 5,000 areas that are explored, only one will become a working mine. It takes, on average, 10 years and $50 million dollars to get a mine operating.

We need the right to explore all land. If land is zoned only for forestry or only for agriculture or only for wilderness then we cannot explore it for minerals.

Mining can share the land with other resources. Having a mine in an area does not mean the land cannot be used for other activities.

Mining is part of our heritage. Mining is risky business; it always has been. Lots of expensive exploration for many years may result in a mining operation. Then the economic benefits are great.

Mining in B.C. generates millions of dollars per year in products. Technologies have improved so that there is less harm to the environment. Mining areas can be reclaimed or replanted in a fairly short period of time once the operation is over.

I hope people will get their facts straight and give mining a chance.

MINING PRODUCTS
About Your Sector

Mining
How Mining Works

The mining industry takes minerals and coal from the earth for use by people. Minerals are substances in nature that are not animals or plants. Salt, graphite, gold, copper and sulphur are some minerals.

Before mining can start, the company must get a work permit from the government. Then they can start exploring for minerals. Exploration may take years and cost millions of dollars. The geologists are the people who help in the exploration for minerals. They might search 500 different areas of land. Most of the time, the geologists do not find enough minerals in one place. This means it will cost a lot of money to get the minerals out of the ground. But sometimes geologists find lots of minerals in one place. This helps make the mine profitable. The mineral value is so high, it can pay for all the costs of mining and leave a profit for the company. Out of the 500 places the geologists search there may be only one that is good to mine.

Once the company decides to mine, it gives the government a detailed plan of how the land will be mined and reclaimed. There are laws that the mining company must follow. Some of the laws help to protect the environment. Other laws keep the workers safe in the mine. The plan must be approved before mining starts.

Then all parts of the mine are built.
- All the buildings are constructed. These include offices, storage space, labs and mills.
- Power lines, roads and water and sewer pipes are put in place.
- Areas for rock waste are chosen.
The picture shows a plan for an open-pit zinc mine. Compare the size of the mine area to the size of the mill buildings. Then look at the size of the tailings pond. It is at least twice the size of the mine!

![Plan of a Zinc Mine](image)

Then the mine is opened. It may be a surface or an underground mine.

**Surface Mine**

*Open-pit mining is a surface mining method. It is used when small amounts of minerals are widespread in a large volume of rock near the surface of the earth. The soil is removed from the land and stored for later use. Large areas of rock are broken up by blasting with explosives.*

![Surface Mine](image)

**Underground Mine**

*Level and shaft mining is an underground mining method. It is used when minerals are deep in the ground and concentrated in zones. It may be used when surface mining cannot be done. A shaft, like an elevator, is dug down into the earth. Then tunnels, called adits, are dug from the shaft along the line of the mineral deposit. Explosives may be used to blast the rock into smaller chunks. The rock is moved by small trucks or trains to the shaft. It is lifted by machine to the opening of the mine.*

![Underground Mine](image)
Some of the rock brought out of a mine has no minerals. This waste rock is put in large piles away from the mine. The rock that has the minerals is taken to a crusher. Here the large boulders are made smaller for the mill.

At the mill, the minerals are separated from the rock. First, the rock is fed into large grinding mills and crushed until it looks like flour. Next, water and chemicals are added. This is called a slurry. The chemicals make the minerals separate from the rock.

The bits of mineral are taken from the slurry and dried. It is now a mineral concentrate and is shipped to smelters. The waste from the mill is sent by pipe to the tailings pond.

When mining is finished, the land is reclaimed. Underground mines are sealed. Then the land around the mine may be covered with the stored soil and replanted. Surface mines may be replanted as well, or the open pit may be flooded to make a new lake.

**Mining in the Pangea Valley**

In the past 5 years, more than $50 million has been spent by mining companies to search for minerals in the Pangea Valley. The geologists have found many places in the Pangea Valley that have valuable mineral deposits (copper, molybdenum, gold, silver, limestone and magnetite).
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Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.
A. An environmental study has shown that Mining may harm the environment.
   1. Large areas of wildlife habitat are disturbed when the land is explored for minerals. Many roads have to be built. Large holes have to be drilled to see if the land contains minerals.
   2. A lot of earth must be removed for some types of mines (e.g. open pit mines). Roads, buildings, tailings ponds, airstrips, docks and ramps may all have to be built.
   3. Tailings ponds may contain toxic chemicals that can leech into rivers and lakes.
   4. Substances in the waste rock may form acids when the rock is exposed to air and water. These acids can pollute streams and lakes. This is called acid mine drainage. It is hard to control acid mine drainage because water can come from many parts of the mine.
   5. Mining can use a lot of water. This water must be taken from rivers, streams and lakes. The change in water levels may affect fish and wildlife.

B. People interviewed in the mining sector said, "We don’t cause problems to the environment."
   1. We only explore where we are allowed to. When we finish exploring we fill in the holes and replant the roads.
   2. We only build mines where we are allowed to. We reclaim the mine site as soon as we are done.
   3. We build the tailings ponds correctly. We inspect and look after the tailings ponds. This helps stop the chemicals from leaking into the soil or streams.
   4. Most of our mines are built underground. We do not disturb the surface area where the trees, water and wildlife are.
   5. We use the right water controls and equipment. This means most of the water we use in the mine can be recirculated. Not much water is wasted.
C. The Ministry of Mines pointed out that:

1. People need and want mineral products such as cars, bicycles, motorcycles, stoves, computers and energy (oil, coal, gas).

2. Mining is important to the economy of Pangea Basin.
   - There are 20,000 people with direct jobs in mining.
   - There are 7 mines and mills that make money only from mining. If the minerals run out, these operations would shut down. The workers would have no jobs.
   - Many other businesses make money because of mining. These are spin-off businesses. For example, miners must buy footwear and other clothes to wear when they are mining. Mines must hire construction companies to build offices, roads and mills. These spin-off businesses were not started just for mines, but they do make money because of mining.
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The Nitty Gritty

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- Squares with a railway track cannot be used.

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**Amount of Minerals**:

**Value of Minerals**: $
Map Rap

The mining industry wants to build mines in 4 squares of land on the map. They also want the right to explore for minerals in 6 squares of land on the map. This will give jobs to all of the 20,000 mining workers for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best 10 squares, think about:

- How valuable are the minerals? (Mines make more money if people will pay lots of money for the minerals.)
- How much of the mineral is in the ground? (Mines make more money if the land contains many minerals rather than few minerals.)
- How much land do you need? (Mining companies need the right to explore all of the land in a square to find minerals. A single mine does not need all of the land in a square.)
- Is there transportation nearby? (Mines need a way to get the minerals to the people who want them. The greater the distance the crops and livestock have to be shipped, the more money it costs the farmers and the less money they make.)
- Is there a city/town nearby? (It is easier and less costly to sell to a large group of people in one place rather than a small number of people scattered over a large area.)
- Is there water nearby? (Mines need lots of water from streams, lakes and underground wells for milling and to make electricity to run the machines.)
- Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
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Role Information

RAY FORTINSKI: Mining Alternate

Personal Profile:

• 63 years old
• married to Inga
• six sons, twenty-two grandchildren
• likes fishing, hunting, reading (Ray loves books about the Gold Rush)
• belongs to: Pangea Rod and Gun Club

Ray loves to build things. He likes to make wooden furniture. Over the past 10 years, Ray made 6 dining room tables and chairs. One set for each of his sons as a wedding gift. Now he is working on building bunkbeds for his grandchildren. Ray & Inga work as a team on the gifts. She crochets table cloths for the tables and knits blankets for the beds.

Education/Work History:

• quit high school in Grade 10 and became a prospector.
• worked on his grandfather’s ranch on and off for 5 years. Ray continued to prospect until he was 25.
• went to work for a medium-sized mining company in northern B.C.
• has worked for the same company for 30 years.
• now vice-president of the B.C. Mines Union.

Ray’s grandfather came to the Pangea River Valley in 1863. He was a prospector (someone who searches for gold). When he didn’t find gold, he settled in the valley as a rancher. After Ray heard all his grandfather’s stories about the exciting Gold Rush, he, too, wanted to be a prospector. Ray never found gold either. He became a miner and 4 of his sons have gone into the mining business.
Viewpoint

Many of the things people say about mining are true. Like for instance, large holes have to be drilled to see if the land contains minerals. This disturbs the land for animals and plants. The roads that have to be built to get to a mine also disturb the environment.

But these same people should know that people in the mining business only explore where they are allowed to. There are many rules they must follow. When the exploration is over all the holes must be filled in. The roads must be replanted.

There are other harmful things done by the mining industry. We remove a lot of earth when we are building some kinds of mines. But we also replant the land as soon as we are finished getting out the minerals. The land must be reclaimed. (This means it must be returned to how it was before the mining took place.)

I think, in B.C., we miners follow the rules. True, sometimes the land is harmed but the minerals we are mining are important too.

Think of what our lives would be without gas, oil, copper and coal. What about things made from minerals? We need minerals to make cars, bikes, stoves, paint and so many other things we use every day.

I hope the Pangea Round Table listens to all points of view and gives mining a chance.
About Your Sector

Mining
How Mining Works

The mining industry takes minerals and coal from the earth for use by people. Minerals are substances in nature that are not animals or plants. Salt, graphite, gold, copper and sulphur are some minerals.

Before mining can start, the company must get a work permit from the government. Then they can start exploring for minerals. **Exploration** may take years and cost millions of dollars. The geologists are the people who help in the exploration for minerals. They might search 500 different areas of land. Most of the time, the geologists do not find enough minerals in one place. This means it will cost a lot of money to get the minerals out of the ground. But sometimes geologists find lots of minerals in one place. This helps make the mine profitable. The mineral value is so high, it can pay for all the costs of mining and leave a profit for the company. Out of the 500 places the geologists search there may be only one that is good to mine.

Once the company decides to mine, it gives the government a detailed plan of how the land will be mined and **reclaimed**. There are laws that the mining company must follow. Some of the laws help to protect the environment. Other laws keep the workers safe in the mine. The plan must be approved before mining starts.

Then all parts of the mine are built.

- All the buildings are constructed. These include offices, storage space, labs and mills.
- Power lines, roads and water and sewer pipes are put in place.
- Areas for rock waste are chosen.
The picture shows a plan for an open-pit zinc mine. Compare the size of the mine area to the size of the mill buildings. Then look at the size of the tailings pond. It is at least twice the size of the mine!

Then the mine is opened. It may be a surface or an underground mine.

**Surface Mine**

**Open-pit mining is a surface mining method. It is used when small amounts of minerals are widespread in a large volume of rock near the surface of the earth. The soil is removed from the land and stored for later use. Large areas of rock are broken up by blasting with explosives.**

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**Level and shaft mining is an underground mining method. It is used when minerals are deep in the ground and concentrated in zones. It may be used when surface mining cannot be done. A shaft, like an elevator, is dug down into the earth. Then tunnels, called adits, are dug from the shaft along the line of the mineral deposit. Explosives may be used to blast the rock into smaller chunks. The rock is moved by small trucks or trains to the shaft. It is lifted by machine to the opening of the mine.**
Some of the rock brought out of a mine has no minerals. This waste rock is put in large piles away from the mine. The rock that has the minerals is taken to a crusher. Here the large boulders are made smaller for the mill.

At the mill, the minerals are separated from the rock. First, the rock is fed into large grinding mills and crushed until it looks like flour. Next, water and chemicals are added. This is called a slurry. The chemicals make the minerals separate from the rock.

The bits of mineral are taken from the slurry and dried. It is now a mineral concentrate and is shipped to smelters. The waste from the mill is sent by pipe to the tailings pond.

When mining is finished, the land is reclaimed. Underground mines are sealed. Then the land around the mine may be covered with the stored soil and replanted. Surface mines may be replanted as well, or the open pit may be flooded to make a new lake.

**Mining in the Pangea Valley**

In the past 5 years, more than $50 million has been spent by mining companies to search for minerals in the Pangea Valley. The geologists have found many places in the Pangea Valley that have valuable mineral deposits (copper, molybdenum, gold, silver, limestone and magnetite).
E & E REPORT

☑️ ENVIRONMENT  ☑️ ECONOMY
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.

Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT

Prepared by Heather Mathieson
A. An environmental study has shown that Mining may harm the environment.

1. Large areas of wildlife habitat are disturbed when the land is explored for minerals. Many roads have to be built. Large holes have to be drilled to see if the land contains minerals.

2. A lot of earth must be removed for some types of mines (e.g. open pit mines). Roads, buildings, tailings ponds, airstrips, docks and ramps may all have to be built.

3. Tailings ponds may contain toxic chemicals that can leech into rivers and lakes.

4. Substances in the waste rock may form acids when the rock is exposed to air and water. These acids can pollute streams and lakes. This is called acid mine drainage. It is hard to control acid mine drainage because water can come from many parts of the mine.

5. Mining can use a lot of water. This water must be taken from rivers, streams and lakes. The change in water levels may affect fish and wildlife.

B. People interviewed in the mining sector said, “We don’t cause problems to the environment.”

1. We only explore where we are allowed to. When we finish exploring we fill in the holes and replant the roads.

2. We only build mines where we are allowed to. We reclaim the mine site as soon as we are done.

3. We build the tailings ponds correctly. We inspect and look after the tailings ponds. This helps stop the chemicals from leaking into the soil or streams.

4. Most of our mines are built underground. We do not disturb the surface area where the trees, water and wildlife are.

5. We use the right water controls and equipment. This means most of the water we use in the mine can be recirculated. Not much water is wasted.
C. The Ministry of Mines pointed out that:

1. People need and want mineral products such as cars, bicycles, motorcycles, stoves, computers and energy (oil, coal, gas).

2. Mining is important to the economy of Pangea Basin.
   - There are 20,000 people with direct jobs in mining.
   - There are 7 mines and mills that make money only from mining. If the minerals run out, these operations would shut down. The workers would have no jobs.
   - Many other businesses make money because of mining. These are spin-off businesses. For example, miners must buy footwear and other clothes to wear when they are mining. Mines must hire construction companies to build offices, roads and mills. These spin-off businesses were not started just for mines, but they do make money because of mining.
   - Each year money goes to the government from mining. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Business pay some of the money they earn to the government each year.
     Inspection fees: Mine owners must pay the government to have mines inspected.
     Mine permits: Mine owners must pay the government for the right to operate a mine.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:
- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)
- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.
# Mining Map Information

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- **Amount of Minerals**: $\$\$\$$
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468 Table Talk
Role Information

Kevin Chang: Mining Alternate

Personal Profile:

• 26 years old
• married to Kimi, a teacher
• has one daughter Lily, aged 2
• likes playing golf, playing poker and reading
• belongs to: Pangea Volunteer Firefighters

When Kevin was 11 years old, his best friend was killed in a house fire. The house burned down and the whole family was killed. Most people thought it took the firemen too long to get to the house because the house was a long way from town. After the fire, Kevin's Dad organized the volunteer firefighters. When Kevin was old enough (19) he joined. Volunteer firefighters are not paid. They fight fires in places that do not have a fire department.

Education/Work History:

• graduated from high school.
• went to university for 1 year, then dropped out.
• went to college to study mining for 2 years.
• got a job with the Glitter Mining Company.

Before Kevin decided to become a miner, he tried working at many jobs. He worked in a store as a shoe salesman, he washed windows, he worked as a janitor and he tried selling cars. Like many other young people, it took Kevin a while before he knew what he wanted to do.
Viewpoint

Sometimes I complain about how hard I work. My job as a miner is hard. I make a good living but it isn’t easy. I am not afraid of hard work. What I am afraid of is losing my job.

This past year in the Pangea Valley two mines have closed down. Some of the guys who worked in the mine had to move out of the valley to find work. Others are on U.I. (Unemployment Insurance).

It seems like people want more and more land for parks. This is O.K. with me. I am all for the animals and trees as long as it doesn’t mean people like me will lose jobs. Grizzly bears are great but shouldn’t people come first?

Maybe there is a way we can have all the loggers, miners and fishers keep their jobs and still save the wilderness for the caribou and the grizzly bears.

After I have been part of the Pangea Round Table, I will know more about how all of the sectors can work together. I am looking forward to learning more about how people in other jobs feel about the environment.
About Your Sector

Mining
How Mining Works

The mining industry takes minerals and coal from the earth for use by people. Minerals are substances in nature that are not animals or plants. Salt, graphite, gold, copper and sulphur are some minerals.

Before mining can start, the company must get a work permit from the government. Then they can start exploring for minerals. **Exploration** may take years and cost millions of dollars. The geologists are the people who help in the exploration for minerals. They might search 500 different areas of land. Most of the time, the geologists do not find enough minerals in one place. This means it will cost a lot of money to get the minerals out of the ground. But sometimes geologists find lots of minerals in one place. This helps make the mine profitable. The mineral value is so high, it can pay for all the costs of mining and leave a profit for the company. Out of the 500 places the geologists search there may be only one that is good to mine.

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A. An environmental study has shown that Mining may harm the environment.

1. Large areas of wildlife habitat are disturbed when the land is explored for minerals. Many roads have to be built. Large holes have to be drilled to see if the land contains minerals.

2. A lot of earth must be removed for some types of mines (e.g. open pit mines). Roads, buildings, tailings ponds, airstrips, docks and ramps may all have to be built.

3. Tailings ponds may contain toxic chemicals that can leech into rivers and lakes.

4. Substances in the waste rock may form acids when the rock is exposed to air and water. These acids can pollute streams and lakes. This is called acid mine drainage. It is hard to control acid mine drainage because water can come from many parts of the mine.

5. Mining can use a lot of water. This water must be taken from rivers, streams and lakes. The change in water levels may affect fish and wildlife.

B. People interviewed in the mining sector said, “We don’t cause problems to the environment.”

1. We only explore where we are allowed to. When we finish exploring we fill in the holes and replant the roads.

2. We only build mines where we are allowed to. We reclaim the mine site as soon as we are done.

3. We build the tailings ponds correctly. We inspect and look after the tailings ponds. This helps stop the chemicals from leaking into the soil or streams.

4. Most of our mines are built underground. We do not disturb the surface area where the trees, water and wildlife are.

5. We use the right water controls and equipment. This means most of the water we use in the mine can be recirculated. Not much water is wasted.
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1. People need and want mineral products such as cars, bicycles, motorcycles, stoves, computers and energy (oil, coal, gas).

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Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

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The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best 10 squares, think about:

- How valuable are the minerals? (Mines make more money if people will pay lots of money for the minerals.)
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This chart shows:

- the number of squares each Sector needs (# of Squares)
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MAP OF PANGEA VALLEY .................................................. 16
Role Information

John Pitt: Mining Alternate

Personal Profile:
• 24 years old
• single
• likes rock & roll music, mountain climbing, swimming, weight lifting
• belongs to: Pangea Football Club

In high school, John played all sports. His coaches said he was an all-round athlete. But his teachers said he should spend more time at his school work. He listened to his coaches and ignored his teachers. He thought he would be good enough to play Pro Football but he wasn’t. He still likes to play football and he is starting to think about going to night school to finish his grade twelve.

Education/Work History
• quit high school in grade eleven
• took a course in auto mechanics (fixing cars)
• got a job in a garage (2 years)
• took a course in heavy duty mechanics (fixing trucks)
• hired by a mining company to work on their trucks and their heavy mining equipment

John Pitt

AUTO MECHANIC

Heavy Duty Mechanic
Viewpoint

I never used to think much about losing my job. When I was working in the garage in Sagebrush I knew that if I worked hard and showed up on time I would always have a steady job. After all, there will always be cars. And they will always need fixing. So garages will always need mechanics.

Now that I’m working at Glitter Mines I see things from a different angle. I talked with a friend of mine about jobs. His name is George. Like me, George fixes heavy duty equipment for a mining company. George has had to move three times in a year to find work. He blames the government for the slowdown in the mining business. George says B.C. is going park-crazy. Everytime we get another park, he says, 500 miners lose their jobs. When the miners don’t work George doesn’t have any mining trucks to fix. George has three kids and he is worried that he might get laid off or have to move again. I guess he was trying to warn me. I asked some of the crew here at Glitter Mines if they were scared of losing their jobs. A few of them felt the same way as George does.

I am glad I was asked to be a part of the Pangea Round Table. At the meetings I get to find out about how farmers and fishers and other people feel about the mining industry. Some of them think mining should be stopped. Others think it could go on if changes were made so mining didn’t harm the environment so much. Others have the same fears as George about job loss.

I try and listen to everyone’s point of view. I want to be able to decide for myself about how to use the land. Do we need more parks? Should we be letting more land be farmed or logged or mined? It’s sure not easy trying to decide.
About Your Sector

Mining
How Mining Works

The mining industry takes minerals and coal from the earth for use by people. Minerals are substances in nature that are not animals or plants. Salt, graphite, gold, copper and sulphur are some minerals.

Before mining can start, the company must get a work permit from the government. Then they can start exploring for minerals. **Exploration** may take years and cost millions of dollars. The geologists are the people who help in the exploration for minerals. They might search 500 different areas of land. Most of the time, the geologists do not find enough minerals in one place. This means it will cost a lot of money to get the minerals out of the ground. But sometimes geologists find lots of minerals in one place. This helps make the mine profitable. The mineral value is so high, it can pay for all the costs of mining and leave a profit for the company. Out of the 500 places the geologists search there may be only one that is good to mine.

Once the company decides to mine, it gives the government a detailed plan of how the land will be mined and **reclaimed**. There are laws that the mining company must follow. Some of the laws help to protect the environment. Other laws keep the workers safe in the mine. The plan must be approved before mining starts.

Then all parts of the mine are built.
- All the buildings are constructed. These include offices, storage space, labs and mills.
- Power lines, roads and water and sewer pipes are put in place.
- Areas for rock waste are chosen.
The picture shows a plan for an open-pit zinc mine. Compare the size of the mine area to the size of the mill buildings. Then look at the size of the tailings pond. It is at least twice the size of the mine!

Then the mine is opened. It may be a surface or an underground mine.

**Surface Mine**

**Open-pit mining is a surface mining method. It is used when small amounts of minerals are widespread in a large volume of rock near the surface of the earth. The soil is removed from the land and stored for later use. Large areas of rock are broken up by blasting with explosives.**

**Underground Mine**

**Level and shaft mining is an underground mining method. It is used when minerals are deep in the ground and concentrated in zones. It may be used when surface mining cannot be done. A shaft, like an elevator, is dug down into the earth. Then tunnels, called adits, are dug from the shaft along the line of the mineral deposit. Explosives may be used to blast the rock into smaller chunks. The rock is moved by small trucks or trains to the shaft. It is lifted by machine to the opening of the mine.**
Some of the rock brought out of a mine has no minerals. This waste rock is put in large piles away from the mine. The rock that has the minerals is taken to a crusher. Here the large boulders are made smaller for the mill.

At the mill, the minerals are separated from the rock. First, the rock is fed into large grinding mills and crushed until it looks like flour. Next, water and chemicals are added. This is called a slurry. The chemicals make the minerals separate from the rock.

The bits of mineral are taken from the slurry and dried. It is now a mineral concentrate and is shipped to smelters. The waste from the mill is sent by pipe to the tailings pond.

When mining is finished, the land is reclaimed. Underground mines are sealed. Then the land around the mine may be covered with the stored soil and replanted. Surface mines may be replanted as well, or the open pit may be flooded to make a new lake.

**Mining in the Pangea Valley**

In the past 5 years, more than $50 million has been spent by mining companies to search for minerals in the Pangea Valley. The geologists have found many places in the Pangea Valley that have valuable mineral deposits (copper, molybdenum, gold, silver, limestone and magnetite).
E & E REPORT

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Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT

Prepared by Heather Mathieson
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| Round Table 5 | • Choose the criteria to rate the Proposals. |
| Task Time 6   | • Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares. |
| Task Time 7   | • Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal |
| Round Table 7 | • Present a Proposal and listen to other groups present their Proposal. |
| Task Time 8   | • Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better. |
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**Amount of Minerals** $\$\$\$

**Value of Minerals** $\$

[Image: Mining Map Information Table]
Map Rap

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Role Information

NANCY FINLAYSON: Settlement Spokesperson

Personal Profile:
• 44 years old, married to Herb
• 4 children, 1 grandchild
• likes swimming, drawing and painting
• belongs to: Pangea Car Pool Club

Nancy’s ways to make car pooling more fun:
1. Give everyone in your car pool a nickname.
2. Make Monday morning snack morning. One person a week makes a breakfast-in-a-hurry snack for everyone in the car pool.
3. Make Tuesday joke day. Each person tells a funny story or a joke.
4. Make Wednesday newspaper day. Each person brings a newspaper article to discuss.
5. Make Thursday after-work movie night. The whole group goes to a movie on the way home.
6. Make Friday tune day. Someone brings a cassette or disc for everyone to sing along to.

Education/Work History:
• dropped out of high school in Grade 11 to work on the family farm. (Her parents were both disabled in an accident.)
• kept the books for her husband's Mac Tool business.
• took night school courses to finish high school when her youngest child was in Grade 8.
• got interested in computers and took some courses.
• became a Real Estate Agent (someone who buys and sells land and houses).

Nancy won a $6-million lottery on her 34th birthday. After she gave all her kids $50,000 each, she went on a month-long cruise to Hawaii with Herb. Then she bought some land with the rest of her money. She hired a construction company to build 100 houses on the land. She sold those 100 houses and with her profit she had 100 more houses built. Nancy hopes to continue buying and selling land and houses for 10 more years. Then she would like to retire with Herb and move to Hawaii.
Viewpoint

The other day I read something in the newspaper about how land developers were ruining the Pangea Valley.

I would like to set the record straight. I have lived half my life as a "country mouse" and the other half as a "city mouse". (I hope you are all familiar with the old children's story about the country mouse wanting to live in the city and the city mouse wanting to live in the country. When they actually traded places, they found they weren't happy after all.)

When I was a "country mouse" living and working on my parents' farm north of Tumbleweed, we tried to farm in an environmentally friendly way. But when we spread manure on our crops, our neighbours (not farmers) complained about the smell. When we tried to pay our farm workers a decent wage, we had to charge more for our vegetables than the big chain stores. People complained about the high cost of farm goods. They went across the border and bought their fruits, vegetables and eggs more cheaply.

When I became a "city mouse" and began buying and selling land, I heard very different complaints. My friends and neighbours would go shopping and say, "Why should I spend more on food to buy local vegetables and fruits? If I can buy the food across the border cheaper, I will. Besides as long as there's lots of food in the supermarket, why should I care where it's grown?" Or I would hear about the bad farmers: "They're dumping fertilizers all over our land. It's polluting our water, too. Their cattle are causing problems when they walk in our streams."

I must say, I am still not sure if there is a "right" way to decide how our land should be used. I am sure that we all have to put ourselves in the other person's shoes and see things from his or her viewpoint.
About Your Sector

Settlement
How Settlement Works

Settlement is what people do to change the land. They make a place where they can live and work. Settlement changes the land because people need or want many things.

The land is changed when people:
• clear land,
• put up buildings,
• cover land with pavement,
• take out natural plants,
• add new plants,
• drain or fill in streams.

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The Settlement of A Town

| People come to a place for many reasons | People like the climate, hope to find jobs or want to live near friends and relatives. They like the lifestyle. |
| People stay because their needs are met. | The Pangea Valley has many places to live. There are shops nearby, lots of things to do and places to go. It is easy to get around. |
| More people come to live and work. | Other people hear about the Pangea Basin by word-of-mouth, advertising and conventions. |
| More people create a demand for services. | Even small towns have services such as police, road repair, garbage disposal, health care, and schools. People want lots of services: parks, libraries and stores. |
| Land is changed to suit peoples' needs. | Land is changed quickly and in big ways with modern machines. Rivers are dammed for electricity. Land is drained for malls, parks, golf courses and houses. Forests are divided by logging operations, power lines and roads. |
| Settlements can come and go. | Empire Mines built a gold mine in 1932. The small town of Empire thrived. When the mine closed in 1971, the town died. People left to find work. The bank, post office and stores closed. |
| Settlements spread and grow. They swallow up land. | People often move to the suburbs to get away from the noise and traffic of the city. But as more people move, wooded areas and farms are replaced by roads and buildings. The quiet outskirts become part of the big city. |
| Settlement is big business! | People buy and sell many goods and services. This means jobs for lots of people in building, manufacturing, and services. Jobs mean money to support their way of life. |
Settlement Really is Big Business

Business people who develop or change areas of land are called developers. Developers look at a piece of land (perhaps that old vacant lot next to the gas station) and decide what to put in that location.

Developers do a lot of thinking before they make a decision about land. Developers want to know how much money it will cost to develop the land (cost) and how much money they will get back (return) when the project is finished. Remember, developers are in business to make money, so they want to do projects that will earn a profit. Some of the facts that developers think about are shown on the chart.

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About Settlement in the Pangea Valley

Pangea has a population of 400,000. Many people want to live here because the Pangea Valley has a good climate, beautiful scenery, many job opportunities and great outdoor recreational activities.

Sagebrush is a large city in the Pangea Valley with a population of 190,000. More and more people are coming to the Pangea Basin every year. More land will be needed for housing, industries, stores and offices.

On the outskirts of Sagebrush are Tumbleweed and Trail Dust City. These towns are growing and will soon have populations of 30,000 each. In another 5 years, when you drive from Sagebrush to Tumbleweed or Trail Dust City, there will be no farm or forest land to be seen. It will be one long stretch of houses, businesses and industries.

Timbertown began as a logging and mill town. It now has a population of 50,000. Knoxville, which began as a gold mining town in the late 1800’s, has a population of 25,000. These smaller towns are also growing and will need more land.

There are much smaller communities scattered across the Pangea Valley. There are about 65,000 people living in these other areas.
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.
A. An environmental study has shown that Settlement may harm the environment.

1. Hard surfaces such as roads, sidewalks, parking lots and buildings stop soil from soaking up rain water. Run off from these hard surfaces carries pollution into streams and raises stream levels too quickly.

2. Wildlife and wildlife habitat is lost when trees are cut down and soil is eroded.

3. Wastes from homes and industries are discharged into streams and rivers.

4. Water is diverted from (taken from) streams and rivers for human use. This leaves less water for fish and wildlife.

5. Air pollution is caused by too many cars.

6. Cultural and historical sites may be destroyed during land development.

B. Developers and builders interviewed said, "We do not harm the environment."

1. We construct buildings so more people can live and work in a smaller area. (For example, we might build a tall building in one block of land instead of a short building on 20 blocks of land.) That way we don’t cover as much land with hard surfaces.

2. We set aside wildlife habitat as parkland.

3. We treat our wastes in sewage treatment plants.

4. We educate people about ways to conserve water. We support laws to stop people from watering their lawns in the summer. We use water meters so people pay more if they use more water.

5. We build public transit systems to reduce the use of cars.

6. We identify cultural and historical sites and preserve them.
C. The Ministry of Lands and Housing pointed out that:

1. Anyone planning to build in the Pangea Basin must get permission from the environmental committee. This committee looks at effects on the environment and has input from many citizens in Pangea.

2. Development in Pangea is planned.

3. Pangea has a Heritage Preservation Society. Over 100 members make sure heritage sites are found and preserved.

4. Settlement is important to the economy of the Pangea Basin.
   - There are 12,000 people with direct jobs in settlement.
   - There are 1,286 businesses in all of the cities in Pangea Basin.
   - All businesses make money because of settlement. These are spin-off businesses. For example, a construction company buys materials from a lumber store or a hardware store. It may use the services of a tree removal company, a paving company or a roofing company (not to mention plumbers and electricians).
   - Each year money goes to the government from settlement. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Property taxes: Each person who owns property must pay some money for services to the government each year.
     Building permits: Builders must pay money to the government for the right to build.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.

SETTLEMENT
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

<table>
<thead>
<tr>
<th>Task Time 6</th>
<th>Charcoal  20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each proposal.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Time 7</td>
<td>Present a Proposal and listen to other groups present their Proposal.</td>
</tr>
<tr>
<td>Task Time 8</td>
<td>Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better.</td>
</tr>
</tbody>
</table>
Map Rap

Settlement needs 8 squares of land on the map so that people moving to Pangea in the next five years will have somewhere to live. This will also give jobs to 12,000 people for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best 8 squares, think about:

• People often want to live in places that are already settled. This means that cities and towns need room to grow.
• Settlement is easier and less costly if power, water and transportation are nearby.
• Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

• the number of squares each Sector needs (# of Squares)
• the total number of people employed by each Sector (Total # of Jobs)
• the number of people employed in each square (# of Jobs/Square)
• the total amount of money each Sector gives to the government (Gov’t Revenue)
• the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>12</td>
<td>12,000</td>
<td>1,000</td>
<td>$840,000</td>
<td>$70,000</td>
</tr>
<tr>
<td>Conservation</td>
<td>20</td>
<td>2,000</td>
<td>100</td>
<td>$200,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Fishing</td>
<td>25</td>
<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
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<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
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<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
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<td>15</td>
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Pangea River Valley Map

There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.

Legend:
- River
- Mountain
- City
- Town
- Road
- Railroad
- Airport
- Lake
Settlement Sector Role File
Ken Nasachuk

Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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ABOUT YOUR SECTOR ......................................................... 5
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MAP RAP .......................................................................... 15
MAP OF PANGEA VALLEY ................................................... 16
Role Information

KEN NASACHUK: Settlement Alternate

Personal Profile:

- 36 years old
- married to Hannah (also a land developer)
- two children, twin boys, Daniel and Adam
- likes ballroom dancing, racquetball, mountain biking, golf
- belongs to: Big Brothers

Ken met his wife Hannah at a ballroom dancing class. She was shy and spoke very little English. She had just immigrated from Hong Kong. For both of them, it was love at first sight. Her mother and father didn’t want Hannah to date Ken. So she only saw him at dance class for 2 years. Finally, her parents gave in and the couple was married.

Education/Work History

- graduated at the top of his high school class.
- went to college and got a degree in Math.
- wrote for the student newspaper and was captain of the debate team for 2 years.
- had many different summer jobs (clerk at his uncle’s store, fruit picker, road building crew, waiter).
- has his own company that builds houses and shopping malls.

Ken worked hard at many jobs. He saved as much money as he could. He learned about how to build houses. He found out how to invest his money. Then he started his own company. He hired a crew to build a house. Then he sold it and made a profit. With this profit he built two more houses. Then he sold them and made more money. Pretty soon he had enough money to build a shopping mall.
Viewpoint

Interviewer: Mr. Nasachuk, you are very young to be such a success in business.

Ken: Thank you. I do not come from a wealthy family. In fact, my great grandfather came to B.C. from Poland. He helped to build the railway. I come from a very poor family. My grandfather owned a small grocery store and my father was a truck driver. I guess I have been very lucky.

Interviewer: Many people say you and your company are wrong to build and sell huge homes and shopping malls.

Ken: Yes, I know some people don’t want the city to grow. Perhaps these people should attend more city council meetings. After all, I don’t make the zoning laws. I don’t decide how much growth there should be.

Interviewer: Good point.

Ken: Most people go along in their lives, going to work, raising a family, playing golf. They never think much about what's happening outside their own backyard. That is until someone builds a house next door that they don't like.

Interviewer: Do you think people should get more involved in how our land is being used?

Ken: Yes, I do. People wait until it’s too late, then they react. It's the same with parks. No one is too concerned about the park until someone wants to put up a high-rise or a mega mall. Then they start screaming. Where were these folks when the company asked for a building permit? Or even before that, where were they when the land-use plans were being made? Watching TV, I bet.

Interviewer: Are you in favour of more parkland?

Ken: I am if there is a well thought-out plan for land use. Park areas are needed but so are rec centres and schools. Let's face it, people are not leaving this province. They are coming to live and work here.

Interviewer: What you are saying is that B.C. is growing. We can either just let it grow here and there with no plan, or we can plan for the growth. We can have parks and malls and ranches if we do it right.

Ken: Yes, planning is the key. I am very sorry but I have a plane to catch.

Interviewer: Thank you for your time. I have enjoyed talking to you.
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E & E REPORT

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Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT

Prepared by Heather Mathieson
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6. Cultural and historical sites may be destroyed during land development.

B. Developers and builders interviewed said, “We do not harm the environment.”

1. We construct buildings so more people can live and work in a smaller area. (For example, we might build a tall building in one block of land instead of a short building on 20 blocks of land.) That way we don’t cover as much land with hard surfaces.

2. We set aside wildlife habitat as parkland.

3. We treat our wastes in sewage treatment plants.

4. We educate people about ways to conserve water. We support laws to stop people from watering their lawns in the summer. We use water meters so people pay more if they use more water.

5. We build public transit systems to reduce the use of cars.

6. We identify cultural and historical sites and preserve them.
C. The Ministry of Lands and Housing pointed out that:

1. Anyone planning to build in the Pangea Basin must get permission from the environmental committee. This committee looks at effects on the environment and has input from many citizens in Pangea.

2. Development in Pangea is planned.

3. Pangea has a Heritage Preservation Society. Over 100 members make sure heritage sites are found and preserved.

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   - There are 12,000 people with direct jobs in settlement.
   - There are 1,286 businesses in all of the cities in Pangea Basin.
   - All businesses make money because of settlement. These are spin-off businesses. For example, a construction company buys materials from a lumber store or a hardware store. It may use the services of a tree removal company, a paving company or a roofing company (not to mention plumbers and electricians).
   - Each year money goes to the government from settlement. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
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   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

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Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

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Settlement needs 8 squares of land on the map so that people moving to Pangea in the next five years will have somewhere to live. This will also give jobs to 12,000 people for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best 8 squares, think about:

• People often want to live in places that are already settled. This means that cities and towns need room to grow.

• Settlement is easier and less costly if power, water and transportation are nearby.

• Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

• the number of squares each Sector needs (# of Squares)

• the total number of people employed by each Sector (Total # of Jobs)

• the number of people employed in each square (# of Jobs/Square)

• the total amount of money each Sector gives to the government (Gov’t Revenue)

• the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
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<tr>
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Settlement Sector Role File

Karen Fugeta

Do Not Write In This Book

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Role Information

KAREN FUGETA: Settlement Alternate

Personal Profile:
- 25 years old
- single
- lives with her parents
- likes boating, bowling, watching movies
- belongs to: Pangea Choir

Karen likes to bowl. She bowls on two teams. On Tuesday nights she bowls on a team with other people from work. Her team mates include a roofer, a house painter and a plumber. On Thursday nights, she bowls on a team with 3 friends from high school. They have bowled together for almost 10 years.

Education/Work History:
- finished high school.
- went to a trade school (a school where you learn how to do a job).
- got a job with a construction company as a crane operator.

One day when Karen was in Grade 5, her father took her to work with him. He was an architect. He had drawn the plans for a building. He wanted her to see how a building was built. Karen's father showed her the blueprints (plans) that he had drawn. He told her that the builders had to follow his plans so the building would be safe. While her father was talking Karen was watching a huge crane. It was moving high up above the ground. She couldn't take her eyes off the crane. From that day on, Karen knew what she wanted to do when she grew up. She wanted to be a crane operator.
Viewpoint

I can see why so many people are confused about how we should use the land and water in the Pangea Valley. Should we be setting aside more land for parks? Or should we be letting people log on the land? Maybe we should be building more highways and malls and schools.

I am lucky because I know people who feel strongly about all sides of the issue.

My friend Jack is a house painter. I have known him since he was four years old. We bowl on Tuesday and Thursday nights. He thinks we have too much parkland. He would like to see more logging and mining. Jack says the more people who have good jobs in mining and logging, the more people who have money to buy houses. If people can afford to buy houses, Jack will always have a job.

On Tuesdays I bowl with the people I work with. John is a roofer who works with me. He’s a great bowler. And his ideas about how we should use our land and water are much the same as Jack’s. Kim is a plumber who works with us, too. She’s not such a great bowler. But she sure feels strongly about protecting wildlife. She says we are taking over wildlife habitat everytime we build more houses. She wants to have her job and she knows that means building houses and stores and offices. But she thinks we should pick places to build that are not where animals live.

My friend Alice, who I bowl with on Thursday nights is a travel agent. She wants to see more tourists coming to the Pangea Valley. She says they will only come if we have both wildlife and hotels. She thinks we need to have a balance between parks and buildings. When she talks about her ideas she makes sense.

I said I was lucky to be able to hear a lot of people’s viewpoints about how we will use our land and water. I am lucky but I have to keep telling my friends to talk less and bowl more.
About Your Sector

Settlement
How Settlement Works

Settlement is what people do to change the land. They make a place where they can live and work. Settlement changes the land because people need or want many things.

The land is changed when people:
- clear land,
- put up buildings,
- cover land with pavement,
- take out natural plants,
- add new plants,
- drain or fill in streams.

<table>
<thead>
<tr>
<th>People Want</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>buildings</td>
<td>house, office, school, library, factory, store, hospital</td>
</tr>
<tr>
<td>transportation routes</td>
<td>road, railroad, bridge, airport, boat harbour</td>
</tr>
<tr>
<td>power</td>
<td>heating, fuel, electricity, gas, dam</td>
</tr>
<tr>
<td>communication methods</td>
<td>telephone line, cellular network, television cable</td>
</tr>
<tr>
<td>water/waste systems</td>
<td>sewage treatment plant, sewer, storm drain, water main</td>
</tr>
<tr>
<td>recreation</td>
<td>pool, museum, park, library, river, mountain</td>
</tr>
<tr>
<td>scenic views</td>
<td>mountain, lake, forest, canyon</td>
</tr>
</tbody>
</table>
## The Settlement of A Town

| People come to a place for many reasons | People like the climate, hope to find jobs or want to live near friends and relatives. They like the lifestyle. |
| People stay because their needs are met. | The Pangea Valley has many places to live. There are shops nearby, lots of things to do and places to go. It is easy to get around. |
| More people come to live and work. | Other people hear about the Pangea Basin by word-of-mouth, advertising and conventions. |
| More people create a demand for services. | Even small towns have services such as police, road repair, garbage disposal, health care, and schools. People want lots of services: parks, libraries and stores. |
| Land is changed to suit peoples' needs. | Land is changed quickly and in big ways with modern machines. Rivers are dammed for electricity. Land is drained for malls, parks, golf courses and houses. Forests are divided by logging operations, power lines and roads. |
| Settlements can come and go. | Empire Mines built a gold mine in 1932. The small town of Empire thrived. When the mine closed in 1971, the town died. People left to find work. The bank, post office and stores closed. |
| Settlements spread and grow. They swallow up land. | People often move to the suburbs to get away from the noise and traffic of the city. But as more people move, wooded areas and farms are replaced by roads and buildings. The quiet outskirts become part of the big city. |
| Settlement is big business! | People buy and sell many goods and services. This means jobs for lots of people in building, manufacturing, and services. Jobs mean money to support their way of life. |
Settlement Really is Big Business

Business people who develop or change areas of land are called developers. Developers look at a piece of land (perhaps that old vacant lot next to the gas station) and decide what to put in that location.

Developers do a lot of thinking before they make a decision about land. Developers want to know how much money it will cost to develop the land (cost) and how much money they will get back (return) when the project is finished. Remember, developers are in business to make money, so they want to do projects that will earn a profit. Some of the facts that developers think about are shown on the chart.

<table>
<thead>
<tr>
<th>Fact</th>
<th>What Developers Think About</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>Some land is cheaper to build on. It costs less money to build on flat land than on mountainous land.</td>
</tr>
<tr>
<td>Money Earned</td>
<td>People will pay more money for some areas than for other areas. Some people like to be near water (lake, ocean, river); to have a view of the mountains; to be in areas with less traffic.</td>
</tr>
<tr>
<td>Goods and Services</td>
<td>Is there somewhere close for people to shop (food, clothing, equipment)? Can people get the services they want (doctor, dentist, lawyer)?</td>
</tr>
<tr>
<td>Transportation</td>
<td>Does the area have a good road system? Is there an airport nearby? Are there bus routes?</td>
</tr>
<tr>
<td>Power</td>
<td>How much will it cost to bring in gas? electricity?</td>
</tr>
<tr>
<td>Communication</td>
<td>How much will it cost to bring in telephone? television?</td>
</tr>
<tr>
<td>Water &amp; Waste</td>
<td>Is there a nearby lake or river, or do wells have to be dug? Will sewer pipes or septic fields be used?</td>
</tr>
<tr>
<td>Recreation</td>
<td>Are there enough recreation activities to attract people to the area?</td>
</tr>
<tr>
<td>Scenery</td>
<td>Will the area help people to relax and give them a sense of peacefulness?</td>
</tr>
</tbody>
</table>

About Settlement in the Pangea Valley

Pangea has a population of 400,000. Many people want to live here because the Pangea Valley has a good climate, beautiful scenery, many job opportunities and great outdoor recreational activities.

Sagebrush is a large city in the Pangea Valley with a population of 190,000. More and more people are coming to the Pangea Basin every year. More land will be needed for housing, industries, stores and offices.

On the outskirts of Sagebrush are Tumbleweed and Trail Dust City. These towns are growing and will soon have populations of 30,000 each. In another 5 years, when you drive from Sagebrush to Tumbleweed or Trail Dust City, there will be no farm or forest land to be seen. It will be one long stretch of houses, businesses and industries.

Timbertown began as a logging and mill town. It now has a population of 50,000. Knoxville, which began as a gold mining town in the late 1800’s, has a population of 25,000. These smaller towns are also growing and will need more land.

There are much smaller communities scattered across the Pangea Valley. There are about 65,000 people living in these other areas.
E & E REPORT

☑️ ENVIRONMENT
☑️ ECONOMY
This report looks at the economy and the environment from your sector’s point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.
A. An environmental study has shown that Settlement may harm the environment.
   1. Hard surfaces such as roads, sidewalks, parking lots and buildings stop soil from soaking up rain water. Run off from these hard surfaces carries pollution into streams and raises stream levels too quickly.
   2. Wildlife and wildlife habitat is lost when trees are cut down and soil is eroded.
   3. Wastes from homes and industries are discharged into streams and rivers.
   4. Water is diverted from (taken from) streams and rivers for human use. This leaves less water for fish and wildlife.
   5. Air pollution is caused by too many cars.
   6. Cultural and historical sites may be destroyed during land development.

B. Developers and builders interviewed said, “We do not harm the environment.”
   1. We construct buildings so more people can live and work in a smaller area. (For example, we might build a tall building in one block of land instead of a short building on 20 blocks of land.) That way we don’t cover as much land with hard surfaces.
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- Sectors with 4 syllables don’t get any squares at all.
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Settlement needs 8 squares of land on the map so that people moving to Pangea in the next five years will have somewhere to live. This will also give jobs to 12,000 people for the next five years.

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- People often want to live in places that are already settled. This means that cities and towns need room to grow.
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- Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

- the number of squares each Sector needs (# of Squares)
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Role Information

LISA ZOPPITELLO: Settlement Alternate

Personal Profile:

• 35 years old

• divorced, no children (Lisa would like to adopt a child from China)

• likes wine-making, reading and singing

• belongs to: Pangea Travel Club

After her divorce, Lisa moved back to her hometown and bought a small hotel. She called the hotel Slumber in Sagebrush. Lisa made many changes to the hotel. For example, she hired a chef and turned the small coffee shop into a first-class dining room. She added two new meeting rooms to the hotel. Now small businesses in Sagebrush can hold their meetings in the hotel.

Education/Work History:

• after high school, went to a college and took courses in how to run a small business.

• worked as the front desk clerk at a fishing lodge in Campbell River, on Vancouver Island.

• moved to Banff, Alberta, and worked in the gift shop at the ski lodge.

• worked in a health spa in Palm Springs.

• got her Real Estate Licence.

• bought a small hotel in Sagebrush.

• bought some land near Summerlake. She is trying to get the city to let her build cottages on the land.

Lisa is known as a smart businesswoman. She got her Real Estate licence last year. She sells houses for people. She is always on the lookout for a good deal. As well as being a Real Estate agent, she also likes to buy houses that no one else wants. Then she fixes them up and sells them for a profit.
Viewpoint

As the owner of a small business, I am often called a "fence-sitter. A fence-sitter is someone who doesn't want to take sides in an issue. He or she wants to stay in the middle.

Maybe I don't like to take sides. Sometimes it's because I see that both sides have good points. Other times it's because I think both sides are just trying to look good to the public. And, I have to admit, a lot of the time, it's just bad for business to be on one side or the other.

A lot of people have to think of what's good for their business. My brother owns Tunes, a small music store. He sells tapes, CDs and posters. It's the only music store in town. An environmental group wanted him to sell a tape with protest songs on it. The poster that went with it showed an open-pit mine and a lot of dead fish in the water near it. It was really ugly. My brother didn't think it was a great tape or poster. And he didn't want to make the miners mad. But he said he'd sell them.

Well, did this ever cause problems. Pretty soon miners (and some loggers) were picketing in front of his store. Then the environmentalists came and sang protest songs. It got really noisy with both sides ready to get into a fight. My brother lost lots of business because people didn't want to buy tapes in a place when there was all that conflict.

It's the same with me in the hotel business. My hotel is open to anyone who wants to stay here. As long as folks pay the bill and don't break any of my rules they are welcome. (Quiet after midnight. No stealing towels, etc.)

Label me a "fence-sitter." I have my own private thoughts about how our land and water should be used. I don't think we need to be on one side or the other. We can all be part of the planning. Planning is what is needed. Strikes and protests and name-calling is bad for business.
About Your Sector

Settlement
How Settlement Works

Settlement is what people do to change the land. They make a place where they can live and work. Settlement changes the land because people need or want many things.

The land is changed when people:
- clear land,
- put up buildings,
- cover land with pavement,
- take out natural plants,
- add new plants,
- drain or fill in streams.

<table>
<thead>
<tr>
<th>People Want</th>
<th>Examples ...</th>
</tr>
</thead>
<tbody>
<tr>
<td>buildings</td>
<td>house, office, school, library, factory, store, hospital</td>
</tr>
<tr>
<td>transportation routes</td>
<td>road, railroad, bridge, airport, boat harbour</td>
</tr>
<tr>
<td>power</td>
<td>heating, fuel, electricity, gas, dam</td>
</tr>
<tr>
<td>communication methods</td>
<td>telephone line, cellular network, television cable</td>
</tr>
<tr>
<td>water/waste systems</td>
<td>sewage treatment plant, sewer, storm drain, water main</td>
</tr>
<tr>
<td>recreation</td>
<td>pool, museum, park, library, river, mountain</td>
</tr>
<tr>
<td>scenic views</td>
<td>mountain, lake, forest, canyon</td>
</tr>
</tbody>
</table>
# The Settlement of A Town

<table>
<thead>
<tr>
<th>People come to a place for many reasons</th>
<th>People like the climate, hope to find jobs or want to live near friends and relatives. They like the lifestyle.</th>
</tr>
</thead>
<tbody>
<tr>
<td>People stay because their needs are met.</td>
<td>The Pangea Valley has many places to live. There are shops nearby, lots of things to do and places to go. It is easy to get around.</td>
</tr>
<tr>
<td>More people come to live and work.</td>
<td>Other people hear about the Pangea Basin by word-of-mouth, advertising and conventions.</td>
</tr>
<tr>
<td>More people create a demand for services.</td>
<td>Even small towns have services such as police, road repair, garbage disposal, health care, and schools. People want lots of services: parks, libraries and stores.</td>
</tr>
<tr>
<td>Land is changed to suit peoples' needs.</td>
<td>Land is changed quickly and in big ways with modern machines. Rivers are dammed for electricity. Land is drained for malls, parks, golf courses and houses. Forests are divided by logging operations, power lines and roads.</td>
</tr>
<tr>
<td>Settlements can come and go.</td>
<td>Empire Mines built a gold mine in 1932. The small town of Empire thrived. When the mine closed in 1971, the town died. People left to find work. The bank, post office and stores closed.</td>
</tr>
<tr>
<td>Settlements spread and grow.</td>
<td>People often move to the suburbs to get away from the noise and traffic of the city. But as more people move, wooded areas and farms are replaced by roads and buildings. The quiet outskirts become part of the big city.</td>
</tr>
<tr>
<td>Settlement is big business!</td>
<td>People buy and sell many goods and services. This means jobs for lots of people in building, manufacturing, and services. Jobs mean money to support their way of life.</td>
</tr>
</tbody>
</table>
Settlement Really is Big Business

Business people who develop or change areas of land are called developers. Developers look at a piece of land (perhaps that old vacant lot next to the gas station) and decide what to put in that location.

Developers do a lot of thinking before they make a decision about land. Developers want to know how much money it will cost to develop the land (cost) and how much money they will get back (return) when the project is finished. Remember, developers are in business to make money, so they want to do projects that will earn a profit. Some of the facts that developers think about are shown on the chart.

<table>
<thead>
<tr>
<th>Fact</th>
<th>What Developers Think About</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>Some land is cheaper to build on. It costs less money to build on flat land than on mountainous land.</td>
</tr>
<tr>
<td>Money Earned</td>
<td>People will pay more money for some areas than for other areas. Some people like to be near water (lake, ocean, river); to have a view of the mountains; to be in areas with less traffic.</td>
</tr>
<tr>
<td>Goods and Services</td>
<td>Is there somewhere close for people to shop (food, clothing, equipment)? Can people get the services they want (doctor, dentist, lawyer)?</td>
</tr>
<tr>
<td>Transportation</td>
<td>Does the area have a good road system? Is there an airport nearby? Are there bus routes?</td>
</tr>
<tr>
<td>Power</td>
<td>How much will it cost to bring in gas? electricity?</td>
</tr>
<tr>
<td>Communication</td>
<td>How much will it cost to bring in telephone? television?</td>
</tr>
<tr>
<td>Water &amp; Waste</td>
<td>Is there a nearby lake or river, or do wells have to be dug? Will sewer pipes or septic fields be used?</td>
</tr>
<tr>
<td>Recreation</td>
<td>Are there enough recreation activities to attract people to the area?</td>
</tr>
<tr>
<td>Scenery</td>
<td>Will the area help people to relax and give them a sense of peacefulness?</td>
</tr>
</tbody>
</table>

About Settlement in the Pangea Valley

Pangea has a population of 400,000. Many people want to live here because the Pangea Valley has a good climate, beautiful scenery, many job opportunities and great outdoor recreational activities.

Sagebrush is a large city in the Pangea Valley with a population of 190,000. More and more people are coming to the Pangea Basin every year. More land will be needed for housing, industries, stores and offices.

On the outskirts of Sagebrush are Tumbleweed and Trail Dust City. These towns are growing and will soon have populations of 30,000 each. In another 5 years, when you drive from Sagebrush to Tumbleweed or Trail Dust City, there will be no farm or forest land to be seen. It will be one long stretch of houses, businesses and industries.

Timbertown began as a logging and mill town. It now has a population of 50,000. Knoxville, which began as a gold mining town in the late 1800’s, has a population of 25,000. These smaller towns are also growing and will need more land.

There are much smaller communities scattered across the Pangea Valley. There are about 65,000 people living in these other areas.
E & E REPORT

☑ ENVIRONMENT ☑ ECONOMY
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.

**Eco Star Ltd.**

**A REPORT ON THE ECONOMY AND THE ENVIRONMENT**

*Prepared by Heather Mathieson*
A. An environmental study has shown that Settlement may harm the environment.

1. Hard surfaces such as roads, sidewalks, parking lots and buildings stop soil from soaking up rain water. Run off from these hard surfaces carries pollution into streams and raises stream levels too quickly.

2. Wildlife and wildlife habitat is lost when trees are cut down and soil is eroded.

3. Wastes from homes and industries are discharged into streams and rivers.

4. Water is diverted from (taken from) streams and rivers for human use. This leaves less water for fish and wildlife.

5. Air pollution is caused by too many cars.

6. Cultural and historical sites may be destroyed during land development.

B. Developers and builders interviewed said, “We do not harm the environment.”.

1. We construct buildings so more people can live and work in a smaller area. (For example, we might build a tall building in one block of land instead of a short building on 20 blocks of land.) That way we don’t cover as much land with hard surfaces.

2. We set aside wildlife habitat as parkland.

3. We treat our wastes in sewage treatment plants.

4. We educate people about ways to conserve water. We support laws to stop people from watering their lawns in the summer. We use water meters so people pay more if they use more water.

5. We build public transit systems to reduce the use of cars.

6. We identify cultural and historical sites and preserve them.
C. The Ministry of Lands and Housing pointed out that:

1. Anyone planning to build in the Pangea Basin must get permission from the environmental committee. This committee looks at effects on the environment and has input from many citizens in Pangea.

2. Development in Pangea is planned.

3. Pangea has a Heritage Preservation Society. Over 100 members make sure heritage sites are found and preserved.

4. Settlement is important to the economy of the Pangea Basin.
   - There are 12,000 people with direct jobs in settlement.
   - There are 1,286 businesses in all of the cities in Pangea Basin.
   - All businesses make money because of settlement. These are spin-off businesses. For example, a construction company buys materials from a lumber store or a hardware store. It may use the services of a tree removal company, a paving company or a roofing company (not to mention plumbers and electricians).
   - Each year money goes to the government from settlement. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Property taxes: Each person who owns property must pay some money for services to the government each year.
     Building permits: Builders must pay money to the government for the right to build.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)
- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

<p>| Round Table 5 | • Choose the criteria to rate the Proposals. |
| Task Time 6 | • Work as part of a Proposal Group to decide how to share the land between the Sectors. Explain how Sectors can share squares. |
| Task Time 7 | • Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal |
| Round Table 7 | • Present a Proposal and listen to other groups present their Proposal. |
| Task Time 8 | • Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better. |</p>
<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>3</td>
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<td>4</td>
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<td>5</td>
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<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Settlement Map Information
Map Rap

Settlement needs 8 squares of land on the map so that people moving to Pangea in the next five years will have somewhere to live. This will also give jobs to 12,000 people for the next five years.

The map shows land areas that might be good for your sector. But some of the squares are better than others. To choose the best 8 squares, think about:

- People often want to live in places that are already settled. This means that cities and towns need room to grow.
- Settlement is easier and less costly if power, water and transportation are nearby.
- Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
- the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>12</td>
<td>12,000</td>
<td>1,000</td>
<td>$840,000</td>
<td>$70,000</td>
</tr>
<tr>
<td>Conservation</td>
<td>20</td>
<td>2,000</td>
<td>100</td>
<td>$200,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Fishing</td>
<td>25</td>
<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
</tbody>
</table>
There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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MAP RAP ......................................................... 15
MAP OF PANGEA VALLEY ................................. 16
Role Information

JASON NISHIMO: Tourism & Rec Spokesperson

Personal Profile:

• 27 years old
• married to Jill, with one child Jonathan, age 3
• interested in mountain biking, cross-country and downhill skiing, snowboarding, kayaking, mountain climbing and golfing
• other activities: Inventors Club (Jason has already invented several cold-weather survival gadgets)

Education/Work History:

• graduated one of the top 20 high school students in B.C. (Achieved 99% in Math and 98% in Chemistry and Physics.)
• received a Masters of Business degree from the University of British Columbia (with honours).
• spent two years travelling to all Pacific Rim countries as part of a Youth in Business exchange program.
• started an outdoor magazine, "Wild & Wonderful," for young outdoor types. It was translated in six languages. The focus of the magazine was "high-tech outdoor equipment."
• now co-owner of Outdoor Adventures, a company that organizes tours in B.C. for the wealthy.
• has thought about going into politics.

Jason and Jill both take turns helping at Jonathan's cooperative preschool. They believe in being very involved in their son's education. They have enrolled in an adult Mandarin class. They both already speak their native Japanese, as well as English and Spanish. They hope Jonathan will learn to speak several languages, too.

Jason Nishimo and his partners are involved in at least 2 businesses. They publish Wild & Wonderful, an outdoor magazine and they own Outdoor Adventures. Both businesses are doing extremely well. The three young men had to borrow money to start these companies and then they had to work very hard to make them successful. Jason hopes to be a millionaire by the time he is 35.
Viewpoint

Interviewer: Why do you think so many people want to come to the Pangea River Valley for an Outdoor Adventure?

Jason: Hey, take a look around. We have it all. Mountains. Valleys. Clean water. Great fishing. Lots of wilderness areas. The gods must have felt good when they "made B.C."

Interviewer: I guess that's why they call it super natural B.C.

Jason: The Pangea Basin is the perfect place for someone wanting an outdoor holiday. We have good flights to and from all Pacific Rim countries and Europe. We have excellent hotels, lodges and bed-and-breakfast places.

Interviewer: What are the most popular adventure tours?

Jason: Depends, of course, on the time of year. Heli skiing and heli fishing are the most popular. Backpacking is beginning to catch on, and, of course, canoeing, kayaking and white-water rafting are pretty big.

Interviewer: Some people would argue that these activities harm the environment.

Jason: Of course, there are always critics. Some of them have good points.

Interviewer: I've heard horror stories about places that wanted tourists to come. Then when they came, they wished they hadn't.

Jason: Of course, there are horror stories. That happens at first when any industry is booming. There are far more benefits than drawbacks to having a growing tourism sector.

Interviewer: You make it sound like we can have it all. Can we have outdoor recreation and mining? Agriculture and tourism? Logging and wilderness? Don't we have to make choices?

Jason: Of course, we have to make choices. Tough ones, too. We have to take a look at each watershed or region and decide what is the best use of the land and the water. Some areas are hands-off to everyone - except grizzly bears or moose. Some other areas can be shared. We need to look at our land and involve as many "players" as possible.

Interviewer: What happens when some of the "players" don't agree with the solutions?

Jason: That's another story. Sorry, you said this interview would last 30 minutes. I have another meeting in 10 minutes.

Interviewer: Thank you, Mr. Nishimo.
About Your Sector

Tourism & Rec
How Tourism Works

Tourism is travel for enjoyment and relaxation. The tourism industry sells anything that makes people want to visit an area. Tourism sells outdoor recreation, scenery, historical buildings, special events, and wildlife.

Many tourists plan a vacation by asking questions. The answers help tourists decide what to do. The plans of two tourists are shown on the chart below. Look at the way the answers affect each vacation plan.

<table>
<thead>
<tr>
<th>LET'S GO!</th>
<th>Tourist A</th>
<th>Tourist B</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do I want to spend?</td>
<td>$4,400</td>
<td>$80</td>
</tr>
<tr>
<td>Where do I want to go?</td>
<td>Pangea</td>
<td>Pangea</td>
</tr>
<tr>
<td>How long to get there?</td>
<td>It does not matter.</td>
<td>Only 3 or 4 hours by car.</td>
</tr>
<tr>
<td>How long can I stay?</td>
<td>One week.</td>
<td>Four days.</td>
</tr>
<tr>
<td>What do I want to do?</td>
<td>Ski and see the wilderness.</td>
<td>Hike, enjoy the outdoors.</td>
</tr>
<tr>
<td>Vacation Plan</td>
<td>Stay at a resort and go helicopter skiing.</td>
<td>Camp in a provincial campsite.</td>
</tr>
</tbody>
</table>

Tourists can get help planning vacations by talking to a travel agent or a Tourist Centre.

<table>
<thead>
<tr>
<th>Travel Agent</th>
<th>Tourist Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>A travel agent will do all the work for the tourist:</td>
<td>British Columbia is divided into many tourism areas. Each one has a Tourist Centre. Tourists use information from the Tourist Centre to plan vacations in that area. But the tourist must make all the arrangements.</td>
</tr>
<tr>
<td>* get the information,</td>
<td></td>
</tr>
<tr>
<td>* arrange the transportation,</td>
<td></td>
</tr>
<tr>
<td>* make hotel reservations,</td>
<td></td>
</tr>
<tr>
<td>* arrange tours or other activities.</td>
<td></td>
</tr>
</tbody>
</table>
A guest ranch is one of the many tourist attractions in Pangea. Most tourists go to a guest ranch because they want to go horseback riding. Read the chart to find out how a horseback riding adventure happens.

<table>
<thead>
<tr>
<th>What the Tourist Does</th>
<th>Who Helps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watch television advertising about guest ranches in Pangea.</td>
<td>film-maker, local tourism association</td>
</tr>
<tr>
<td>Make reservations at the Cowpoke Dude Ranch.</td>
<td>reservation clerk</td>
</tr>
<tr>
<td>Catch a plane to a town near the ranch.</td>
<td>pilot, flight attendant</td>
</tr>
<tr>
<td>Rent a car and drive to the ranch.</td>
<td>car rental clerk</td>
</tr>
<tr>
<td>Check in at the front desk.</td>
<td>reservation clerk</td>
</tr>
<tr>
<td>Have a riding lesson on a horse.</td>
<td>riding instructor</td>
</tr>
<tr>
<td>Enjoy the home-cooked meals in the cookhouse.</td>
<td>ranch cook, waiter</td>
</tr>
<tr>
<td>Sleep in the bunkhouse.</td>
<td>cleaning staff</td>
</tr>
<tr>
<td>Go on a seven-hour horseback ride.</td>
<td>head wrangler</td>
</tr>
<tr>
<td>Buy cowboy hats and books about horses.</td>
<td>gift shop clerk</td>
</tr>
<tr>
<td>Pay the bill at the end of the vacation.</td>
<td>guest ranch manager</td>
</tr>
</tbody>
</table>

**Tourism is Growing**

Tourism has grown to be one of British Columbia's two main industries. Much of this growth is due to more advertising. Both the tourism industry and the government want tourists to see British Columbia as an outdoor province with natural beauty. There are many advertisements that show British Columbia as wild, rugged, beautiful, untouched, and remote.

Advertising is just one reason that tourism is growing. Some of the other reasons are listed below.

- There is a wide range of tourism activities.
- People want to do many different things.
- More and more people live in the Pangea valley.
- People will now spend more money on tourism.
- British Columbia is famous for its scenery, wildlife, wilderness, and outdoor recreation.
- It is easy for people in other countries to find out about British Columbia.
- There are lots of easy ways to travel in the Pangea Basin (car, plane, bus, ferry, train).
There are many tourism businesses. Each one helps to meet the needs of tourists (see chart). For example, the Science Centre in Vancouver is a place tourists like to go. There is a gift shop inside. Across the street is the SkyTrain, which makes it easy to get to the Center. Tourists can eat lunch at one of the restaurants nearby. The Science Center is the main tourist attraction. But the other businesses make some money from tourism because they fill the other needs of the tourists.

<table>
<thead>
<tr>
<th>Tourists need:</th>
<th>Businesses that meet those needs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>to visit attractions</td>
<td>theme park, museum, natural wonder, garden park, theatre, campground, recreation, outdoor wilderness</td>
</tr>
<tr>
<td>to stay somewhere</td>
<td>hotel, motel, resort, bed and breakfast, campground</td>
</tr>
<tr>
<td>to travel</td>
<td>car rental agency, airline, bus line, railway, cruise ship</td>
</tr>
<tr>
<td>to eat</td>
<td>fast food, take-out, restaurant, delicatessen, supermarket</td>
</tr>
<tr>
<td>to buy items</td>
<td>photography, sports equipment, clothing, souvenir</td>
</tr>
<tr>
<td>to get help</td>
<td>travel agency, travel research, advertisement, government and community travel information service</td>
</tr>
</tbody>
</table>

**Tourism in the Pangea Valley**

Tourists like visiting the Pangea Valley because there is a wide variety of fish and wildlife, many mountain ranges, rolling grasslands, forests, vast wilderness areas and hundreds of lakes and rivers.

There are 400 tourism businesses in the Pangea Valley. The wide variety of tourism activities help to bring tourists to the Pangea Valley. Many of these activities take place in wilderness areas that are far away from big cities. This means that tourism needs:

- transportation routes into wilderness areas, lakes, forests, and rivers
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E & E REPORT

☑ ENVIRONMENT  ☑ ECONOMY
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

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Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT

Prepared by Heather Mathieson
A. An environmental study has shown that Tourism and outdoor recreation may harm the environment.

1. Wildlife and wildlife habitat can be disturbed or destroyed by tourists and their activities. Tourists may not be as careful about protecting the environment in the places they visit because they don’t have to live there.

2. Tourists need places to stay and to eat. They need highways and airports. This means land must be cleared and developed.

3. Tourists and people in outdoor recreation use water, wood, food products and mineral products which produce wastes. This leads to more trees logged, more land cleared for farming and more mines built.


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B. People interviewed in the tourist industry said, “We do not harm the environment.”

1. We try to protect the plants and animals in the places we visit. We stay on the hiking trails and put our garbage in the proper cans.

2. We recycle and practice conservation just as we would at home.

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4. We follow the rules on the hunting and fishing licences that we must buy. We only kill the number of fish and other animals allowed by the government.
C. The Ministry of Tourism pointed out that:

1. Tourism is quite a "clean" industry.

2. People in the tourism industry try to preserve wilderness (ecotourism), natural features (white water rafting and skiing) and heritage sites (museums and historical landmarks).

3. Tourism is important to the economy of Pangea.
   - There are 22,500 people with direct jobs in tourism.
   - There are 500 businesses that make money only from tourism. If fewer tourists came to the Pangea Basin, these businesses would lose money. The workers might lose their jobs.
   - Many other businesses make money because of tourism. These are spin-off businesses. For example, tourists come to Pangea and spend money to learn about the history of the Gold Rush. But these people may also spend money at gas stations, grocery stores and movie theatres. These spin-off businesses were not started just for tourists, but they do make money from tourists.
   - Each year money goes to the government from tourism. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
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The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

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Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
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Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

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Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

<table>
<thead>
<tr>
<th>Round Table 5</th>
<th>Choose the criteria to rate the Proposals.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Task Time 6</td>
<td>Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares.</td>
</tr>
<tr>
<td>Task Time 7</td>
<td>Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal.</td>
</tr>
<tr>
<td>Round Table 7</td>
<td>Present a Proposal and listen to other groups present their Proposal.</td>
</tr>
<tr>
<td>Task Time 8</td>
<td>Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better.</td>
</tr>
</tbody>
</table>
Map Rap

Tourism needs 15 squares of land on the map. This will give jobs to 22,500 tourism workers for the next five years. The map shows land that might be good for Tourism. But some squares are better than others. To choose the best 15 squares, think about:

- Where are the activities located? (Some people want to do activities that are near where they live. Some people want to do activities that are far away from where people live.)

- Is the activity close to transportation or to cities or towns? (An activity costs more if the tourist has to travel farther. But some tourists will pay large sums of money to vacation in wilderness areas.)

- How much money is now being made by tourism in the square? (This may indicate how much money can be made in the future. But remember that tourism could develop new activities in an area.)

- Is there a variety of activities? (Tourism makes more money if there are many activities because there will be something of interest for everyone.) This list shows the activities in the Pangea Valley.

<table>
<thead>
<tr>
<th>Wilderness</th>
<th>Trail</th>
<th>Wildlife</th>
</tr>
</thead>
<tbody>
<tr>
<td>backpacking, skiing,</td>
<td>horseback riding, biking,</td>
<td>hunting, wildlife viewing,</td>
</tr>
<tr>
<td>mountaineering in areas with</td>
<td>hiking, snowshoeing, snowmobiling,</td>
<td>nature</td>
</tr>
<tr>
<td>no people, heli-skiing</td>
<td>camping</td>
<td>study, photography</td>
</tr>
<tr>
<td>Water</td>
<td>Urban</td>
<td>Scenic</td>
</tr>
<tr>
<td>fishing and fly-in fishing,</td>
<td>golf, theater, museum, zoo,</td>
<td>touring, historic sites,</td>
</tr>
<tr>
<td>canoeing, river rafting, swimming</td>
<td>bowling, concert, fair,</td>
<td>waterfall, canyon, mountain</td>
</tr>
<tr>
<td></td>
<td>waterslide</td>
<td>range, views</td>
</tr>
</tbody>
</table>

This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
- the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>12</td>
<td>12,000</td>
<td>1,000</td>
<td>$840,000</td>
<td>$70,000</td>
</tr>
<tr>
<td>Conservation</td>
<td>20</td>
<td>2,000</td>
<td>100</td>
<td>$200,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Fishing</td>
<td>25</td>
<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
</tbody>
</table>
There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Tourism & Rec Sector Role File

Jackson Barnes

Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
# Table of Contents

- **ROLE INFORMATION** ......................................................... 3
- **VIEWPOINT** ................................................................. 4
- **ABOUT YOUR SECTOR** ..................................................... 5
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- **MAP RAP** ................................................................. 15
- **MAP OF PANGEA VALLEY** ............................................... 16
Role Information

JACKSON BARNES: Tourism & Rec Alternate

Personal Profile:

• 30 years old
• divorced (2 children, Diane and Donna)
• likes mountain biking, fishing and canoeing
• belongs to: Minor hockey (Jackson coaches a Pee Wee team)

Education/Work History:

• worked in the summers during Grades 11 and 12 at a Dude Ranch.
• took one year of college, dropped out and worked 2 years at a large resort. (During the two years, he was a busboy, waiter, bellman, and also worked on the front desk.)
• took a travel agent's course and passed with the best mark in the class.
• worked at A Summer Days Travel in Sagebrush for 3 years.
• now working as a travel agent at Pangea Travel. (Plans to spend his holidays for the next 2 years travelling in B.C.)
Viewpoint

Jackson writes for a magazine called the Traveller’s Times. Here is one of his articles:

TOURIST TALK by Jackson Barnes

Did you know that tourism is the fastest growing industry in Western Canada? It really is BIG BUSINESS.

Tourism has brought new life to hundreds of small towns. In many places, where closed mines and logging camps left ghost towns, tourism has become the new industry.

True, there are folks who wonder if lots of tourists are good for their town. But tourism in B.C. is here to stay. We may as well find ways to try and make the best of this booming business.

People are going to come to the Pangea Basin for many reasons:

1. We have lots of scenic, rugged land.
2. We have lots of clean rivers and lakes.
3. We have good roads and railroads. We have a new airport.
4. We have many new hotels and campgrounds.
5. We are building a new theme park.
6. We have six new wilderness parks in the valley.
About Your Sector

Tourism & Rec
How Tourism Works

Tourism is travel for enjoyment and relaxation. The tourism industry sells anything that makes people want to visit an area. Tourism sells outdoor recreation, scenery, historical buildings, special events, and wildlife.

Many tourists plan a vacation by asking questions. The answers help tourists decide what to do. The plans of two tourists are shown on the chart below. Look at the way the answers affect each vacation plan.

<table>
<thead>
<tr>
<th>LET'S GO!</th>
<th>Tourist A</th>
<th>Tourist B</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do I want to spend?</td>
<td>$4,400</td>
<td>$80</td>
</tr>
<tr>
<td>Where do I want to go?</td>
<td>Pangea</td>
<td>Pangea</td>
</tr>
<tr>
<td>How long to get there?</td>
<td>It does not matter.</td>
<td>Only 3 or 4 hours by car.</td>
</tr>
<tr>
<td>How long can I stay?</td>
<td>One week.</td>
<td>Four days.</td>
</tr>
<tr>
<td>What do I want to do?</td>
<td>Ski and see the wilderness.</td>
<td>Hike, enjoy the outdoors.</td>
</tr>
<tr>
<td>Vacation Plan</td>
<td>Stay at a resort and go helicopter skiing.</td>
<td>Camp in a provincial campsite.</td>
</tr>
</tbody>
</table>

Tourists can get help planning vacations by talking to a travel agent or a Tourist Centre.

<table>
<thead>
<tr>
<th>Travel Agent</th>
<th>Tourist Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>A travel agent will do all the work for the tourist:</td>
<td>British Columbia is divided into many tourism areas. Each one has a Tourist Centre. Tourists use information from the Tourist Centre to plan vacations in that area. But the tourist must make all the arrangements.</td>
</tr>
<tr>
<td>* get the information,</td>
<td></td>
</tr>
<tr>
<td>* arrange the transportation,</td>
<td></td>
</tr>
<tr>
<td>* make hotel reservations,</td>
<td></td>
</tr>
<tr>
<td>* arrange tours or other activities.</td>
<td></td>
</tr>
</tbody>
</table>
A guest ranch is one of the many tourist attractions in Pangea. Most tourists go to a guest ranch because they want to go horseback riding. Read the chart to find out how a horseback riding adventure happens.

<table>
<thead>
<tr>
<th>What the Tourist Does</th>
<th>Who Helps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watch television advertising about guest ranches in Pangea.</td>
<td>film-maker, local tourism association</td>
</tr>
<tr>
<td>Make reservations at the Cowpoke Dude Ranch.</td>
<td>reservation clerk</td>
</tr>
<tr>
<td>Catch a plane to a town near the ranch.</td>
<td>pilot, flight attendant</td>
</tr>
<tr>
<td>Rent a car and drive to the ranch.</td>
<td>car rental clerk</td>
</tr>
<tr>
<td>Check in at the front desk.</td>
<td>reservation clerk</td>
</tr>
<tr>
<td>Have a riding lesson on a horse.</td>
<td>riding instructor</td>
</tr>
<tr>
<td>Enjoy the home-cooked meals in the cookhouse.</td>
<td>ranch cook, waiter</td>
</tr>
<tr>
<td>Sleep in the bunkhouse.</td>
<td>cleaning staff</td>
</tr>
<tr>
<td>Go on a seven-hour horseback ride.</td>
<td>head wrangler</td>
</tr>
<tr>
<td>Buy cowboy hats and books about horses.</td>
<td>gift shop clerk</td>
</tr>
<tr>
<td>Pay the bill at the end of the vacation.</td>
<td>guest ranch manager</td>
</tr>
</tbody>
</table>

**Tourism is Growing**

Tourism has grown to be one of British Columbia's two main industries. Much of this growth is due to more advertising. Both the tourism industry and the government want tourists to see British Columbia as an outdoor province with natural beauty. There are many advertisements that show British Columbia as wild, rugged, beautiful, untouched, and remote.

Advertising is just one reason that tourism is growing. Some of the other reasons are listed below.

- There is a wide range of tourism activities.
- People want to do many different things.
- More and more people live in the Pangea valley.
- People will now spend more money on tourism.
- British Columbia is famous for its scenery, wildlife, wilderness, and outdoor recreation.
- It is easy for people in other countries to find out about British Columbia.
- There are lots of easy ways to travel in the Pangea Basin (car, plane, bus, ferry, train).
There are many tourism businesses. Each one helps to meet the needs of tourists (see chart). For example, the Science Centre in Vancouver is a place tourists like to go. There is a gift shop inside. Across the street is the SkyTrain, which makes it easy to get to the Center. Tourists can eat lunch at one of the restaurants nearby. The Science Center is the main tourist attraction. But the other businesses make some money from tourism because they fill the other needs of the tourists.

<table>
<thead>
<tr>
<th>Tourists need:</th>
<th>Businesses that meet those needs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>to visit attractions</td>
<td>theme park, museum, natural wonder, garden park, theatre, campground,</td>
</tr>
<tr>
<td></td>
<td>recreation, outdoor wilderness</td>
</tr>
<tr>
<td>to stay somewhere</td>
<td>hotel, motel, resort, bed and breakfast, campground</td>
</tr>
<tr>
<td>to travel</td>
<td>car rental agency, airline, bus line, railway, cruise ship</td>
</tr>
<tr>
<td>to eat</td>
<td>fast food, take-out, restaurant, delicatessen, supermarket</td>
</tr>
<tr>
<td>to buy items</td>
<td>photography, sports equipment, clothing, souvenir</td>
</tr>
<tr>
<td>to get help</td>
<td>travel agency, travel research, advertisement, government and community</td>
</tr>
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<td></td>
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<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td><img src="image" alt="Snowboard" /></td>
<td><img src="image" alt="Wilderness" /></td>
<td><img src="image" alt="Horse" /></td>
<td><img src="image" alt="Horse" /></td>
<td><img src="image" alt="Swan" /></td>
<td><img src="image" alt="Ski" /></td>
</tr>
<tr>
<td></td>
<td>$$$$</td>
<td></td>
<td>$</td>
<td>$$$$</td>
<td>$$$$</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td><img src="image" alt="Swan" /></td>
<td></td>
<td><img src="image" alt="Swan" /></td>
<td><img src="image" alt="Horse" /></td>
<td><img src="image" alt="Water" /></td>
<td><img src="image" alt="Horse" /></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$$$$</td>
<td>$</td>
<td>$$$$</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td><img src="image" alt="Snowboard" /></td>
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<td><img src="image" alt="Sailboat" /></td>
</tr>
<tr>
<td></td>
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</tr>
<tr>
<td>4</td>
<td><img src="image" alt="Snowboard" /></td>
<td><img src="image" alt="Wilderness" /></td>
<td><img src="image" alt="Horse" /></td>
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<td><img src="image" alt="Swan" /></td>
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<td><img src="image" alt="Horse" /></td>
<td><img src="image" alt="Swan" /></td>
<td><img src="image" alt="Sailboat" /></td>
</tr>
<tr>
<td>5</td>
<td><img src="image" alt="Wilderness" /></td>
<td><img src="image" alt="Wilderness" /></td>
<td><img src="image" alt="Horse" /></td>
<td><img src="image" alt="Horse" /></td>
<td><img src="image" alt="Swan" /></td>
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</tr>
<tr>
<td></td>
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<td><img src="image" alt="Swan" /></td>
<td><img src="image" alt="Water" /></td>
</tr>
<tr>
<td>6</td>
<td><img src="image" alt="Snowboard" /></td>
<td><img src="image" alt="Wilderness" /></td>
<td><img src="image" alt="Horse" /></td>
<td><img src="image" alt="Horse" /></td>
<td><img src="image" alt="Swan" /></td>
<td><img src="image" alt="Sailboat" /></td>
</tr>
<tr>
<td></td>
<td>$$$$</td>
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</tbody>
</table>

Trail ![Snowboard](image) Wilderness ![Wilderness](image) Urban ![Urban](image) Scenic ![Scenic](image) Wildlife ![Swan](image) Water ![Water](image) Value of Tourism $
Map Rap

Tourism needs 15 squares of land on the map. This will give jobs to 22,500 tourism workers for the next five years. The map shows land that might be good for Tourism. But some squares are better than others. To choose the best 15 squares, think about:

- Where are the activities located? (Some people want to do activities that are near where they live. Some people want to do activities that are far away from where people live.)
- Is the activity close to transportation or to cities or towns? (An activity costs more if the tourist has to travel farther. But some tourists will pay large sums of money to vacation in wilderness areas.)
- How much money is now being made by tourism in the square? (This may indicate how much money can be made in the future. But remember that tourism could develop new activities in an area.)
- Is there a variety of activities? (Tourism makes more money if there are many activities because there will be something of interest for everyone.) This list shows the activities in the Pangea Valley.

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<td>backpacking, skiing, mountaineering in areas with no people, heli-skiing</td>
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This chart shows:

- the number of squares each Sector needs (# of Squares)
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<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
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<td>12</td>
<td>12,000</td>
<td>1,000</td>
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<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
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</table>
There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.

Pangea River Valley Map

A B C D E F

1 2 3 4 5 6

Knoxville

Tumbleweed

SAGEBRUSH

Homeslake

Timbertown

Trail Dust City

Airport

Lake

Road

Railroad

City

Town

River

Mountain
Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
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ROLE INFORMATION .......................................................... 3
VIEWPOINT ........................................................................ 4
ABOUT YOUR SECTOR ..................................................... 5
E & E REPORT .................................................................. 9
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MAP OF PANGEA VALLEY .................................................. 16
Role Information

JESSICA STARK: Tourism & Rec Alternate

Personal Profile:

- 60 years old
- married, with 4 children, 6 grandchildren
- likes camping, fishing, hiking and writing to penpals
- belongs to: ACCESS

Jessica lost the use of her right eye at the age of 15 because of a rare eye disease. She is now losing her sight in her left eye. She doesn’t let this “blind thing”, as she calls it, get her down. She does her crossword puzzles with a special hand lens. Jessica is also very active in ACCESS. This is a group that tries to make sure that people can enjoy the outdoors. For example, her group builds ramps for wheelchairs at viewpoints and along hiking trails.

Education/Work History:

- finished high school and worked for a year as a ski team coach.
- got a nursing degree. (She married Allan in her 4th year in college, had 4 children in the next 6 years and did not work outside of the home.)
- returned to college and upgraded her nursing skills when her children were in high school. Began working in the local hospital when she was 40. Had to quit nursing when she began losing her eyesight.

Throughout her life, Jessica and her family have been very involved in all outdoor sports. Jessica played floor hockey in high school and college. Her daughters both play tennis. They also enjoy cross-country skiing. One of her sons owns a wilderness fishing lodge. Both Jessica and Allan have been life-long hikers, birdwatchers and campers.
Viewpoint

I am almost without sight and yet I "see" so much beauty in the world around me. What I see often disturbs me. I see adults who do not understand how to respect nature. I see their children growing up not learning simple rules about how to behave in nature.

After many years of exploring the wilderness. I have come up with a few simple rules for how to behave.

Jessica's tips for a enjoying nature:

1. When you are looking under a rock, or around a tree or in the water, be gentle. Turn the rock back over, gently, when you are finished. Leave the tree and soil as you found them. Do not disturb the streambed. There may be salmon eggs under the gravel.

2. Explore with all your senses. But do not remove any plants or animals from their homes. Remember, even dead leaves, shells, seeds and stones are part of nature.

3. Leave only footprints. Try and leave the place you are in just as you found it. Or better yet, if there is garbage, why not pick it up?

4. Take home only memories. Do not take home "souvenirs". While you are exploring, try taking a picture of the place. Or you can make a sketch or write a poem about what you have seen. Maybe you could record sounds on a tape recorder to remind you of your visit.
About Your Sector

Tourism & Rec
How Tourism Works

Tourism is travel for enjoyment and relaxation. The tourism industry sells anything that makes people want to visit an area. Tourism sells outdoor recreation, scenery, historical buildings, special events, and wildlife.

Many tourists plan a vacation by asking questions. The answers help tourists decide what to do. The plans of two tourists are shown on the chart below. Look at the way the answers affect each vacation plan.

<table>
<thead>
<tr>
<th>LET’S GO!</th>
<th>Tourist A</th>
<th>Tourist B</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do I want to spend?</td>
<td>$4,400</td>
<td>$80</td>
</tr>
<tr>
<td>Where do I want to go?</td>
<td>Pangea</td>
<td>Pangea</td>
</tr>
<tr>
<td>How long to get there?</td>
<td>It does not matter.</td>
<td>Only 3 or 4 hours by car.</td>
</tr>
<tr>
<td>How long can I stay?</td>
<td>One week.</td>
<td>Four days.</td>
</tr>
<tr>
<td>What do I want to do?</td>
<td>Ski and see the wilderness.</td>
<td>Hike, enjoy the outdoors.</td>
</tr>
<tr>
<td>Vacation Plan</td>
<td>Stay at a resort and go helicopter skiing.</td>
<td>Camp in a provincial campsite.</td>
</tr>
</tbody>
</table>

Tourists can get help planning vacations by talking to a travel agent or a Tourist Centre.

<table>
<thead>
<tr>
<th>Travel Agent</th>
<th>Tourist Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>A travel agent will do all the work for the tourist:</td>
<td>British Columbia is divided into many tourism areas. Each one has a Tourist Centre. Tourists use information from the Tourist Centre to plan vacations in that area. But the tourist must make all the arrangements.</td>
</tr>
<tr>
<td>· get the information,</td>
<td></td>
</tr>
<tr>
<td>· arrange the transportation,</td>
<td></td>
</tr>
<tr>
<td>· make hotel reservations,</td>
<td></td>
</tr>
<tr>
<td>· arrange tours or other activities.</td>
<td></td>
</tr>
</tbody>
</table>
A guest ranch is one of the many tourist attractions in Pangea. Most tourists go to a guest ranch because they want to go horseback riding. Read the chart to find out how a horseback riding adventure happens.

<table>
<thead>
<tr>
<th>What the Tourist Does</th>
<th>Who Helps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watch television advertising about guest ranches in Pangea.</td>
<td>film-maker, local tourism association</td>
</tr>
<tr>
<td>Make reservations at the Cowpoke Dude Ranch.</td>
<td>reservation clerk</td>
</tr>
<tr>
<td>Catch a plane to a town near the ranch.</td>
<td>pilot, flight attendant</td>
</tr>
<tr>
<td>Rent a car and drive to the ranch.</td>
<td>car rental clerk</td>
</tr>
<tr>
<td>Check in at the front desk.</td>
<td>reservation clerk</td>
</tr>
<tr>
<td>Have a riding lesson on a horse.</td>
<td>riding instructor</td>
</tr>
<tr>
<td>Enjoy the home-cooked meals in the cookhouse.</td>
<td>ranch cook, waiter</td>
</tr>
<tr>
<td>Sleep in the bunkhouse.</td>
<td>cleaning staff</td>
</tr>
<tr>
<td>Go on a seven-hour horseback ride.</td>
<td>head wrangler</td>
</tr>
<tr>
<td>Buy cowboy hats and books about horses.</td>
<td>gift shop clerk</td>
</tr>
<tr>
<td>Pay the bill at the end of the vacation.</td>
<td>guest ranch manager</td>
</tr>
</tbody>
</table>

**Tourism is Growing**

Tourism has grown to be one of British Columbia's two main industries. Much of this growth is due to more advertising. Both the tourism industry and the government want tourists to see British Columbia as an outdoor province with natural beauty. There are many advertisements that show British Columbia as wild, rugged, beautiful, untouched, and remote.

Advertising is just one reason that tourism is growing. Some of the other reasons are listed below.

- There is a wide range of tourism activities.
- People want to do many different things.
- More and more people live in the Pangea valley.
- People will now spend more money on tourism.
- British Columbia is famous for its scenery, wildlife, wilderness, and outdoor recreation.
- It is easy for people in other countries to find out about British Columbia.
- There are lots of easy ways to travel in the Pangea Basin (car, plane, bus, ferry, train).
There are many tourism businesses. Each one helps to meet the needs of tourists (see chart). For example, the Science Centre in Vancouver is a place tourists like to go. There is a gift shop inside. Across the street is the SkyTrain, which makes it easy to get to the Center. Tourists can eat lunch at one of the restaurants nearby. The Science Center is the main tourist attraction. But the other businesses make some money from tourism because they fill the other needs of the tourists.

<table>
<thead>
<tr>
<th>Tourists need:</th>
<th>Businesses that meet those needs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>to visit attractions</td>
<td>theme park, museum, natural wonder, garden park, theatre, campground, recreation, outdoor wilderness</td>
</tr>
<tr>
<td>to stay somewhere</td>
<td>hotel, motel, resort, bed and breakfast, campground</td>
</tr>
<tr>
<td>to travel</td>
<td>car rental agency, airline, bus line, railway, cruise ship</td>
</tr>
<tr>
<td>to eat</td>
<td>fast food, take-out, restaurant, delicatessen, supermarket</td>
</tr>
<tr>
<td>to buy items</td>
<td>photography, sports equipment, clothing, souvenir</td>
</tr>
<tr>
<td>to get help</td>
<td>travel agency, travel research, advertisement, government and community travel information service</td>
</tr>
</tbody>
</table>

**Tourism in the Pangea Valley**

Tourists like visiting the Pangea Valley because there is a wide variety of fish and wildlife, many mountain ranges, rolling grasslands, forests, vast wilderness areas and hundreds of lakes and rivers.

There are 400 tourism businesses in the Pangea Valley. The wide variety of tourism activities help to bring tourists to the Pangea Valley. Many of these activities take place in wilderness areas that are far away from big cities. This means that tourism needs:

- transportation routes into wilderness areas, lakes, forests, and rivers
- a wide variety of wildlife species for viewing, hunting and fishing
- large land areas for horseback riding, wildlife viewing, and hunting
- beautiful scenery along travel routes
- clean rivers and lakes for fishing, swimming and water-based activities
E & E REPORT

☑ Environment
☑ Economy
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.

Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT
Prepared by Heather Mathieson
A. An environmental study has shown that Tourism and outdoor recreation may harm the environment.

1. Wildlife and wildlife habitat can be disturbed or destroyed by tourists and their activities. Tourists may not be as careful about protecting the environment in the places they visit because they don't have to live there.

2. Tourists need places to stay and to eat. They need highways and airports. This means land must be cleared and developed.

3. Tourists and people in outdoor recreation use water, wood, food products and mineral products which produce wastes. This leads to more trees logged, more land cleared for farming and more mines built.


B. People interviewed in the tourist industry said, "We do not harm the environment."

1. We try to protect the plants and animals in the places we visit. We stay on the hiking trails and put our garbage in the proper cans.

2. We recycle and practice conservation just as we would at home.

3. We belong to an outdoor recreation club that teaches how to respect the environment. We are also members of a volunteer group that built a walkway into a marsh area so hikers do not disturb the marsh habitat.

4. We follow the rules on the hunting and fishing licences that we must buy. We only kill the number of fish and other animals allowed by the government.
C. The Ministry of Tourism pointed out that:

1. Tourism is quite a "clean" industry.

2. People in the tourism industry try to preserve wilderness (ecotourism), natural features (white water rafting and skiing) and heritage sites (museums and historical landmarks).

3. Tourism is important to the economy of Pangea.
   - There are 22,500 people with direct jobs in tourism.
   - There are 500 businesses that make money only from tourism. If fewer tourists came to the Pangea Basin, these businesses would lose money. The workers might lose their jobs.
   - Many other businesses make money because of tourism. These are spin-off businesses. For example, tourists come to Pangea and spend money to learn about the history of the Gold Rush. But these people may also spend money at gas stations, grocery stores and movie theatres. These spin-off businesses were not started just for tourists, but they do make money from tourists.
   - Each year money goes to the government from tourism. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Sales taxes: Stores give some of the money spent by tourists to the government.
     Licences: Hunters and fishers pay money to the government to be allowed to hunt.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

- Sectors that rhyme with ‘dining’ get their squares.
- Sectors with 4 syllables don’t get any squares at all.
- Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

- How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

- Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people’? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

| Round Table 5 | • Choose the criteria to rate the Proposals. |
| Task Time 6   | • Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares. |
| Task Time 7   | • Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal |
| Round Table 7 | • Present a Proposal and listen to other groups present their Proposal. |
| Task Time 8   | • Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better. |

Food Proposal

I think lunches will be better if:

- serving sizes are smaller so there is not as much food wasted
- we stop serving beef stew because the students do not like it
- students clean the tables after lunch

Criteria

The rules you follow in order to do something are called the criteria.

- The criteria to pass a test might be: answer 10 out of 15 questions correctly.
- The criteria to buy a car might be: red, costs less than $8000, seats 5 people.
- The criteria to be a member of the basketball team might be: over 15, makes 5/8 baskets from the free throw line, comes to practice every day for an hour.
<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>🍃 $$$</td>
<td>🦆 $$$$</td>
<td>🏔️ $$$$</td>
<td>🐎 $$$$</td>
<td>🦆 $$$</td>
<td>$</td>
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<tr>
<td>2</td>
<td></td>
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<tr>
<td>3</td>
<td>🕵️ $$$</td>
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<td>🕵️ $$$$</td>
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<td>🎵 🕵️ $$$$</td>
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- Is the activity close to transportation or to cities or towns? (An activity costs more if the tourist has to travel farther. But some tourists will pay large sums of money to vacation in wilderness areas.)

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- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
- the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
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<td>5,000</td>
<td>200</td>
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<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
</tbody>
</table>
Pangea River Valley Map

There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
Tourism & Rec Sector Role File

Bindy Dosanjh

Do Not Write In This Book

This Role File has information that will help you complete this unit of study. Do not write in this book. You also have a Directions File and a Work File. The Directions File will tell you what to do. The Work File is the place you keep all your finished work.
Table of Contents

ROLE INFORMATION ................................................................. 3
VIEWPOINT .............................................................................. 4
ABOUT YOUR SECTOR .............................................................. 5
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TOURISM & REC MAP INFORMATION ................................ 14
MAP RAP .................................................................................. 15
MAP OF PANGEA VALLEY ....................................................... 16
Role Information

BINDY DOSANJH: Tourism & Rec Alternate

Personal Profile:

- 36 years old
- married to Ria, a lawyer
- has 3 children: Jas, 14; Jody, 12; Mari, 6
- likes reading, tennis and bird watching
- belongs to: Hikers & Campers Club of Pangea

Education/Work History:

- finished college with a degree in business.
- worked 4 years for a large computer company.
- saved his money and bought a small sporting goods store. (All Seasons Sports Store.)
- plans to open a second store next year.
Viewpoint

If you want to have a good business, you have to know your business. I own a sports store. I know all about the things I sell in my store. I find out from the people who play hockey what skates are the best. I ask people who play baseball what kind of mitt they prefer. This way I can plan before I order. I will get the kinds of sports gear that people want.

It is the same with planning in a community. Before we can plan how we want to use our land and water we must find out as much as we can about these resources. We also need to know who uses the land and the water.

If we want to find out more about how tourism uses land and water, we should ask a travel agent. Or we could ask hotel owners what they think. Or we could go to the Tourism Centre and find out more about the topic. If we want to know about how farming uses land and water, we should talk to a rancher or a farmer. Loggers and logging companies will be able to tell us how they use land and water.

The Pangea Round Table has the right idea. If we want to plan how we are going to use our land and our water we must ask the people who will be using our land and our water. The more we know, the better we can plan. Just like in a business, you have to know as much as you can if you want to be a success.
About Your Sector

Tourism & Rec
How Tourism Works

Tourism is travel for enjoyment and relaxation. The tourism industry sells anything that makes people want to visit an area. Tourism sells outdoor recreation, scenery, historical buildings, special events, and wildlife.

Many tourists plan a vacation by asking questions. The answers help tourists decide what to do. The plans of two tourists are shown on the chart below. Look at the way the answers affect each vacation plan.

<table>
<thead>
<tr>
<th>LET'S GO!</th>
<th>Tourist A</th>
<th>Tourist B</th>
</tr>
</thead>
<tbody>
<tr>
<td>What do I want to spend?</td>
<td>$4,400</td>
<td>$80</td>
</tr>
<tr>
<td>Where do I want to go?</td>
<td>Pangea</td>
<td>Pangea</td>
</tr>
<tr>
<td>How long to get there?</td>
<td>It does not matter.</td>
<td>Only 3 or 4 hours by car.</td>
</tr>
<tr>
<td>How long can I stay?</td>
<td>One week.</td>
<td>Four days.</td>
</tr>
<tr>
<td>What do I want to do?</td>
<td>Ski and see the wilderness.</td>
<td>Hike, enjoy the outdoors.</td>
</tr>
<tr>
<td>Vacation Plan</td>
<td>Stay at a resort and go helicopter skiing.</td>
<td>Camp in a provincial campsite.</td>
</tr>
</tbody>
</table>

Tourists can get help planning vacations by talking to a travel agent or a Tourist Centre.

<table>
<thead>
<tr>
<th>Travel Agent</th>
<th>Tourist Centre</th>
</tr>
</thead>
<tbody>
<tr>
<td>A travel agent will do all the work for the tourist:</td>
<td>British Columbia is divided into many tourism areas. Each one has a Tourist Centre. Tourists use information from the Tourist Centre to plan vacations in that area. But the tourist must make all the arrangements.</td>
</tr>
<tr>
<td>* get the information,</td>
<td></td>
</tr>
<tr>
<td>* arrange the transportation,</td>
<td></td>
</tr>
<tr>
<td>* make hotel reservations,</td>
<td></td>
</tr>
<tr>
<td>* arrange tours or other activities.</td>
<td></td>
</tr>
</tbody>
</table>
A guest ranch is one of the many tourist attractions in Pangea. Most tourists go to a guest ranch because they want to go horseback riding. Read the chart to find out how a horseback riding adventure happens.

<table>
<thead>
<tr>
<th>What the Tourist Does</th>
<th>Who Helps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watch television advertising about guest ranches in Pangea.</td>
<td>film-maker, local tourism association</td>
</tr>
<tr>
<td>Make reservations at the Cowpoke Dude Ranch.</td>
<td>reservation clerk</td>
</tr>
<tr>
<td>Catch a plane to a town near the ranch.</td>
<td>pilot, flight attendant</td>
</tr>
<tr>
<td>Rent a car and drive to the ranch.</td>
<td>car rental clerk</td>
</tr>
<tr>
<td>Check in at the front desk.</td>
<td>reservation clerk</td>
</tr>
<tr>
<td>Have a riding lesson on a horse.</td>
<td>riding instructor</td>
</tr>
<tr>
<td>Enjoy the home-cooked meals in the cookhouse.</td>
<td>ranch cook, waiter</td>
</tr>
<tr>
<td>Sleep in the bunkhouse.</td>
<td>cleaning staff</td>
</tr>
<tr>
<td>Go on a seven-hour horseback ride.</td>
<td>head wrangler</td>
</tr>
<tr>
<td>Buy cowboy hats and books about horses.</td>
<td>gift shop clerk</td>
</tr>
<tr>
<td>Pay the bill at the end of the vacation.</td>
<td>guest ranch manager</td>
</tr>
</tbody>
</table>

**Tourism is Growing**

Tourism has grown to be one of British Columbia's two main industries. Much of this growth is due to more advertising. Both the tourism industry and the government want tourists to see British Columbia as an outdoor province with natural beauty. There are many advertisements that show British Columbia as wild, rugged, beautiful, untouched, and remote.

Advertising is just one reason that tourism is growing. Some of the other reasons are listed below.

- There is a wide range of tourism activities.
- People want to do many different things.
- More and more people live in the Pangea valley.
- People will now spend more money on tourism.
- British Columbia is famous for its scenery, wildlife, wilderness, and outdoor recreation.
- It is easy for people in other countries to find out about British Columbia.
- There are lots of easy ways to travel in the Pangea Basin (car, plane, bus, ferry, train).
There are many tourism businesses. Each one helps to meet the needs of tourists (see chart). For example, the Science Centre in Vancouver is a place tourists like to go. There is a gift shop inside. Across the street is the SkyTrain, which makes it easy to get to the Center. Tourists can eat lunch at one of the restaurants nearby. The Science Center is the main tourist attraction. But the other businesses make some money from tourism because they fill the other needs of the tourists.

<table>
<thead>
<tr>
<th>Tourists need:</th>
<th>Businesses that meet those needs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>to visit attractions</td>
<td>theme park, museum, natural wonder, garden park, theatre, campground, recreation, outdoor wilderness</td>
</tr>
<tr>
<td>to stay somewhere</td>
<td>hotel, motel, resort, bed and breakfast, campground</td>
</tr>
<tr>
<td>to travel</td>
<td>car rental agency, airline, bus line, railway, cruise ship</td>
</tr>
<tr>
<td>to eat</td>
<td>fast food, take-out, restaurant, delicatessen, supermarket</td>
</tr>
<tr>
<td>to buy items</td>
<td>photography, sports equipment, clothing, souvenir</td>
</tr>
<tr>
<td>to get help</td>
<td>travel agency, travel research, advertisement, government and community travel information service</td>
</tr>
</tbody>
</table>

**Tourism in the Pangea Valley**

Tourists like visiting the Pangea Valley because there is a wide variety of fish and wildlife, many mountain ranges, rolling grasslands, forests, vast wilderness areas and hundreds of lakes and rivers.

There are 400 tourism businesses in the Pangea Valley. The wide variety of tourism activities help to bring tourists to the Pangea Valley. Many of these activities take place in wilderness areas that are far away from big cities. This means that tourism needs:

- transportation routes into wilderness areas, lakes, forests, and rivers
- a wide variety of wildlife species for viewing, hunting and fishing
- large land areas for horseback riding, wildlife viewing, and hunting
- beautiful scenery along travel routes
- clean rivers and lakes for fishing, swimming and water-based activities
E & E REPORT

☑️ ENVIRONMENT
☑️ ECONOMY
This report looks at the economy and the environment from your sector's point of view. It explains some of the strong points and weak points about your sector.

Please note: Not all of the businesses in your sector harm the environment. Some businesses have no effect and some businesses have a positive effect on the environment.

Also, in the future, your sector may do less harm to the environment. For example, the government may change the law to make it more difficult for your sector to do as much harm. Or, your sector may build new equipment or tools that stop it from harming the environment. Or, a new method of working may be found that is safer for the environment.

Eco Star Ltd.

A REPORT ON THE ECONOMY AND THE ENVIRONMENT

Prepared by Heather Mathieson
A. An environmental study has shown that Tourism and outdoor recreation may harm the environment.

1. Wildlife and wildlife habitat can be disturbed or destroyed by tourists and their activities. Tourists may not be as careful about protecting the environment in the places they visit because they don’t have to live there.

2. Tourists need places to stay and to eat. They need highways and airports. This means land must be cleared and developed.

3. Tourists and people in outdoor recreation use water, wood, food products and mineral products which produce wastes. This leads to more trees logged, more land cleared for farming and more mines built.


B. People interviewed in the tourist industry said, “We do not harm the environment.”

1. We try to protect the plants and animals in the places we visit. We stay on the hiking trails and put our garbage in the proper cans.

2. We recycle and practice conservation just as we would at home.

3. We belong to an outdoor recreation club that teaches how to respect the environment. We are also members of a volunteer group that built a walk way into a marsh area so hikers do not disturb the marsh habitat.

4. We follow the rules on the hunting and fishing licences that we must buy. We only kill the number of fish and other animals allowed by the government.
C. The Ministry of Tourism pointed out that:

1. Tourism is quite a “clean” industry.

2. People in the tourism industry try to preserve wilderness (ecotourism), natural features (white water rafting and skiing) and heritage sites (museums and historical landmarks).

3. Tourism is important to the economy of Pangea.
   - There are 22,500 people with direct jobs in tourism.
   - There are 500 businesses that make money only from tourism. If fewer tourists came to the Pangea Basin, these businesses would lose money. The workers might lose their jobs.
   - Many other businesses make money because of tourism. These are spin-off businesses. For example, tourists come to Pangea and spend money to learn about the history of the Gold Rush. But these people may also spend money at gas stations, grocery stores and movie theatres. These spin-off businesses were not started just for tourists, but they do make money from tourists.
   - Each year money goes to the government from tourism. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Sales taxes: Stores give some of the money spent by tourists to the government.
     Licences: Hunters and fishers pay money to the government to be allowed to hunt.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B.C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
The Nitty Gritty

Proposal

A proposal is a plan. A proposal gives ideas on how to make something or to fix something. For example, you write a Food Proposal about how to improve the meals at school. You give it to the Food Committee (Principal, 2 students, 2 parents, 2 teachers). The Food Committee may accept your proposal and ask you to get your plan working. Or the Food Committee may reject your proposal.

A proposal at the Round Table will be a plan on how to divide the land between the sectors. This plan will show how the environment and the economy will be affected. There will be at least four Proposals given at the Round Table. You will be a member of one of these groups.

Criteria

Round Table members choose the criteria that will be used to rate the Proposals. Here are some ideas:

• Sectors that rhyme with ‘dining’ get their squares.
• Sectors with 4 syllables don’t get any squares at all.
• Squares with a railway track cannot be used.

Remember all the Proposals must follow the criteria. Think carefully:

• How will you know if a Proposal has followed the criteria? (If the criteria states: All the people living in the Pangea Valley should be happy, how do you know if each Proposal has met this criteria? What does the Proposal Group do to prove that people living in the Pangea Valley are happy?)

• Is there a way to measure the criteria? (If the criteria states: Most people in the Pangea Valley will keep their jobs, how do you measure ‘most people'? Do you mean 99% of the people or 60% of the people?)

The Future

Some of the work you do now can make a difference to work you will do later. This chart lists the important tasks that you will complete in the next two or three Task Times and Round Table meetings.

| Round Table 5 | • Choose the criteria to rate the Proposals. |
| Task Time 6 | • Work as part of a Proposal Group to decide how to share the land between all the Sectors. Explain how Sectors can share squares. |
| Task Time 7 | • Use Worksheet 20 (Data Sheet) to show the amount of habitat protected by each proposal and the number of jobs protected by each Proposal. |
| Round Table 7 | • Present a Proposal and listen to other groups present their Proposal. |
| Task Time 8 | • Think about the strong and weak points of each Proposal. Give ideas for changes that will make them better. |
Map Rap

Tourism needs 15 squares of land on the map. This will give jobs to 22,500 tourism workers for the next five years. The map shows land that might be good for Tourism. But some squares are better than others. To choose the best 15 squares, think about:

- Where are the activities located? (Some people want to do activities that are near where they live. Some people want to do activities that are far away from where people live.)

- Is the activity close to transportation or to cities or towns? (An activity costs more if the tourist has to travel farther. But some tourists will pay large sums of money to vacation in wilderness areas.)

- How much money is now being made by tourism in the square? (This may indicate how much money can be made in the future. But remember that tourism could develop new activities in an area.)

- Is there a variety of activities? (Tourism makes more money if there are many activities because there will be something of interest for everyone.) This list shows the activities in the Pangea Valley.

<table>
<thead>
<tr>
<th>Wilderness</th>
<th>Trail</th>
<th>Wildlife</th>
</tr>
</thead>
<tbody>
<tr>
<td>backpacking, skiing,</td>
<td>horseback riding, biking,</td>
<td>hunting, wildlife viewing, nature</td>
</tr>
<tr>
<td>mountaineering in areas with</td>
<td>hiking, snowshoeing, snowmobiling,</td>
<td>study, photography</td>
</tr>
<tr>
<td>no people, heli-skiing</td>
<td>camping</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Urban</td>
<td>Scenic</td>
</tr>
<tr>
<td>fishing and fly-in fishing,</td>
<td>golf, theater, museum, zoo,</td>
<td>touring, historic sites, waterfall,</td>
</tr>
<tr>
<td>canoeing, river rafting,</td>
<td>bowling, concert, fair,</td>
<td>canyon, mountain range, views</td>
</tr>
<tr>
<td>swimming</td>
<td>waterslide</td>
<td></td>
</tr>
</tbody>
</table>

This chart shows:

- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
- the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>12</td>
<td>12,000</td>
<td>1,000</td>
<td>$840,000</td>
<td>$70,000</td>
</tr>
<tr>
<td>Conservation</td>
<td>20</td>
<td>2,000</td>
<td>100</td>
<td>$200,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Fishing</td>
<td>25</td>
<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
</tr>
<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
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<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
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<tr>
<td>Settlement</td>
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<td>1,500</td>
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<td>1,500</td>
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<td>$150,000</td>
</tr>
</tbody>
</table>
Pangea River Valley Map

There are hundreds of small streams and lakes all over the Pangea River basin. Only the larger rivers and lakes are shown.
# Summary of Worksheets

This chart lists the student worksheets in Table Talk.

<table>
<thead>
<tr>
<th>#</th>
<th>Title</th>
<th>Role</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Keeping Track</td>
<td>All Roles</td>
<td>List of worksheets to be completed by each role.</td>
</tr>
<tr>
<td>2</td>
<td>Role With It</td>
<td>Secretary</td>
<td>List of students and role names.</td>
</tr>
<tr>
<td>3</td>
<td>Purpose of Meetings</td>
<td>All Roles</td>
<td>To assess understanding of the basic ideas for Table Talk.</td>
</tr>
<tr>
<td>4</td>
<td>Role Introduction</td>
<td>All Roles</td>
<td>To present information about each character.</td>
</tr>
<tr>
<td>5</td>
<td>Membership Agreement</td>
<td>All Roles</td>
<td>Rules for the Round Table meetings.</td>
</tr>
<tr>
<td>6</td>
<td>My Thoughts About Meeting</td>
<td>All Roles</td>
<td>A journal of the Round Table meetings.</td>
</tr>
<tr>
<td>7</td>
<td>For The Record A</td>
<td>All Roles</td>
<td>To record information sources.</td>
</tr>
<tr>
<td>8</td>
<td>For The Record B</td>
<td>All Roles</td>
<td>To record information sources.</td>
</tr>
<tr>
<td>9</td>
<td>Room For All Views</td>
<td>All Roles</td>
<td>To present personal views of each role.</td>
</tr>
<tr>
<td>10</td>
<td>Sector Secrets</td>
<td>Sector</td>
<td>To learn more about how each Sector operates.</td>
</tr>
<tr>
<td>12</td>
<td>Map Grid</td>
<td>Sector</td>
<td>To choose the land wanted by each Sector.</td>
</tr>
<tr>
<td>13</td>
<td>The Rating Game</td>
<td>Sector</td>
<td>To record and analyze economic and environmental information from E &amp; E report. To brainstorm for criteria for Proposals.</td>
</tr>
<tr>
<td>14</td>
<td>Clearing The Table</td>
<td>Secretary</td>
<td>List of final criteria for evaluating Proposals.</td>
</tr>
<tr>
<td>15</td>
<td>Master Map Grid</td>
<td>Assistant</td>
<td>To collate information from Worksheet 12.</td>
</tr>
<tr>
<td>16</td>
<td>Proposal Map Grid</td>
<td>Proposal Group</td>
<td>To show each Proposal Groups plan for dividing the land.</td>
</tr>
<tr>
<td>17</td>
<td>Square Dancing</td>
<td>Proposal Group</td>
<td>To explain how Sectors can share land without conflict.</td>
</tr>
<tr>
<td>18</td>
<td>Sudden Impact</td>
<td>Proposal Group</td>
<td>Shows how proposal will impact economy, environment and community.</td>
</tr>
<tr>
<td>19</td>
<td>Number Cruncher</td>
<td>Proposal Group</td>
<td>To provide the data for Worksheet 20.</td>
</tr>
<tr>
<td>20</td>
<td>Data Sheet</td>
<td>Proposal Group</td>
<td>To calculate the of # of jobs and amount of habitat protected for each Proposal.</td>
</tr>
</tbody>
</table>
# Keeping Track

Name ____________________________  □ Organizer

Role Name ____________________________  □ Sector Representative

Directions: Place a checkmark (✓) beside the name of the worksheets you have finished.

<table>
<thead>
<tr>
<th>#</th>
<th>Worksheet Name</th>
<th>Sector</th>
<th>Organizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Keeping Track</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Role With It</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Purpose of Meetings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Role Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Membership Agreement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>My Thoughts About Meeting 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>My Thoughts About Meeting 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>My Thoughts About Meeting 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>My Thoughts About Meeting 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>My Thoughts About Meeting 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>My Thoughts About Meeting 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>My Thoughts About Meeting 7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>My Thoughts About Meeting 8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>For The Record A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>For The Record B</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Keeping Track

Name ________________________  □ Organizer
Role Name _____________________  □ Sector Representative

Directions: Place a checkmark (√) beside the name of the worksheets you have finished.

<table>
<thead>
<tr>
<th>#</th>
<th>Worksheet Name</th>
<th>Sector</th>
<th>Organizer</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Room For All Views</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>10</td>
<td>Sector Secrets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Sector Map Grid</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>The Rating Game</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Clearing The Table</td>
<td></td>
<td>□ (Secretary only)</td>
</tr>
<tr>
<td>15</td>
<td>Master Map Grid</td>
<td></td>
<td>□ (Assistant only)</td>
</tr>
<tr>
<td>16</td>
<td>Proposal Map Grid</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Square Dancing</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Sudden Impact</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>Number Crunching Chart</td>
<td>□</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Data Sheet Chart</td>
<td>□</td>
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</tbody>
</table>
## Role With It

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Sector Role</th>
<th>Role Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>Bill Vanderporten</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>Ashley Vaikoski</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>Maggie Kim</td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td>Noami Zis</td>
<td></td>
</tr>
<tr>
<td>Conservation</td>
<td>Talia Ragona</td>
<td></td>
</tr>
<tr>
<td>Conservation</td>
<td>Adam Kruger</td>
<td></td>
</tr>
<tr>
<td>Conservation</td>
<td>Tony Parker</td>
<td></td>
</tr>
<tr>
<td>Conservation</td>
<td>Heather Mathieson</td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td>Eileen Cilantro</td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td>Nicole Kraumanis</td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td>Byron Reynolds</td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td>Mary Sterritt</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td>Frank MacQuiggan</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td>Vijay Singla</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td>Mark Fletcher</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td>Brady Hyslop</td>
<td></td>
</tr>
<tr>
<td>Mining</td>
<td>Sharon White</td>
<td></td>
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<tr>
<td>Mining</td>
<td>Ray Fortinski</td>
<td></td>
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<tr>
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<td>Kevin Chang</td>
<td></td>
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<tr>
<td>Mining</td>
<td>John Pitt</td>
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</tr>
<tr>
<td>Settlement</td>
<td>Nancy Finlayson</td>
<td></td>
</tr>
<tr>
<td>Settlement</td>
<td>Ken Nasachuk</td>
<td></td>
</tr>
<tr>
<td>Settlement</td>
<td>Karen Fugeta</td>
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<tr>
<td>Settlement</td>
<td>Lisa Zoppitello</td>
<td></td>
</tr>
<tr>
<td>Tourism &amp; Rec</td>
<td>Jason Nishino</td>
<td></td>
</tr>
<tr>
<td>Tourism &amp; Rec</td>
<td>Jackson Barnes</td>
<td></td>
</tr>
<tr>
<td>Tourism &amp; Rec</td>
<td>Jessica Stark</td>
<td></td>
</tr>
<tr>
<td>Tourism &amp; Rec</td>
<td>Bindi Desanji</td>
<td></td>
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</tbody>
</table>

## Organizer Role

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Organizer Role</th>
<th>Role Name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chairperson</td>
<td>Annie Peng</td>
</tr>
<tr>
<td></td>
<td>Secretary</td>
<td>Andrew Todd-Miller</td>
</tr>
<tr>
<td></td>
<td>Assistant</td>
<td>Christine Walker</td>
</tr>
</tbody>
</table>
Purpose of Meetings

Real Name ___________________________________ Date _____________________
Role Name ________________________________

What is your role? □ Organizer □ Sector Rep ________________________________

What does your role do?

Who is part of the Round Table?

How will you know what to do at each Round Table?

What are Task Times?

How will you know what to do at Task Times?

What do you do if you do not understand one of the directions for a Task Time?

What is Pangea?

What is the Premier asking you to do?
Role Introduction

Real Name _________________________ Date ________________

<table>
<thead>
<tr>
<th>Role Name</th>
<th>Age</th>
<th>Sex</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
</table>

Something Unusual About Me

(picture & key words, web, chart)

Main Interests

____________________
____________________
____________________
____________________

At The Round Table
(Why were you chosen to be at the Round Table?)

____________________
____________________
____________________
____________________

My Picture

On the back of this page, write down what you will say at Round Table 1 to introduce yourself to the other students.
Membership Agreement

This Agreement lists the rules to be followed by the Members of this Round Table. Members of this Round Table were invited by the Premier of British Columbia to attend the Round Table meetings.

1. The voting Members of the Table are the spokespersons for:
   - Agriculture
   - Conservation
   - Forestry
   - Fishing
   - Mining
   - Settlement
   - Tourism & Rec

2. The following people may speak at any time in the meetings when recognized by the Chair:
   - Agriculture Reps
   - Conservation Reps
   - Forestry Reps
   - Fishing Reps
   - Mining Reps
   - Settlement Reps
   - Tourism & Rec Reps
   - Teacher

3. The Table will use shared decision-making to come to agreement.

4. If Round Table members cannot agree on some issues, they will:

5. The Round Table will give the Premier ideas on how to compensate any sector that loses land or jobs.

6. The Round Table will give the Premier ideas about how to make the social, environmental and economic impacts less harmful to all sectors.

7. The Table will continue seeking solutions until:
   - all of the tasks are finished
   - teacher declares Table is finished
   - members agree to stop
   - Premier directs the Table to stop

We agree with and will follow the rules in this Membership Agreement in an orderly and enthusiastic way.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Signature</th>
<th>Sector</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td></td>
<td>Mining</td>
<td></td>
</tr>
<tr>
<td>Conservation</td>
<td></td>
<td>Settlement</td>
<td></td>
</tr>
<tr>
<td>Fishing</td>
<td></td>
<td>Tourism &amp; Rec</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dated this _____ day of ________, 19____. Witnessed by ____________________
My Thoughts About the Meeting

Name: ____________________  Round Table #: ___  Date: ______________

A. This meeting was about:

__________________________________________________________________

__________________________________________________________________

__________________________________________________________________

B. This was a good meeting because:

__________________________________________________________________

C. The meeting would be better if:

__________________________________________________________________

My Thoughts About the Meeting

Name: ____________________  Round Table #: ___  Date: ______________

A. This meeting was about:

__________________________________________________________________

__________________________________________________________________

__________________________________________________________________

B. This was a good meeting because:

__________________________________________________________________

C. The meeting would be better if:

__________________________________________________________________
For The Record A

Name ___________________________ Date ________________

Sector Name _______________________

<table>
<thead>
<tr>
<th>Information Source</th>
<th>Positive Information</th>
<th>Negative Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pot-Luck</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EcoTimes, Issue 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EcoTimes, Issue 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EcoTimes, Issue 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>About Your Sector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>E &amp; E Report</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
For The Record B

<table>
<thead>
<tr>
<th>Source</th>
<th>Ideas for Sharing the Land</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pot-Luck</td>
<td></td>
</tr>
<tr>
<td>EcoTimes, Issue 1</td>
<td></td>
</tr>
<tr>
<td>EcoTimes, Issue 2</td>
<td></td>
</tr>
<tr>
<td>EcoTimes, Issue 3</td>
<td></td>
</tr>
<tr>
<td>About Your Sector</td>
<td></td>
</tr>
<tr>
<td>E &amp; E Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Room For All Views

Role Name ___________________________________________ Date ____________________________
Real Name ___________________________________________ □ Organizer □ Sector Rep

Viewpoint

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

(picture & key words, web, chart) [main ideas]

Two reasons I like my Viewpoint

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

Two reasons I do not like my Viewpoint

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
Sector Secrets

Role Name ___________________________ Date ________________
Real Name ___________________________ Sector ________________

1. Read About This Sector in your Role File.
2. Think of 7 questions that have answers in About This Sector. Print the questions in the boxes.
3. Circle the number of each question in a different colour. (Circle the 1 in yellow, circle the 2 in green, etc.)
4. Find the answer to each question in About This Sector. Then underline the answer in the correct colour. (The answer to question 1 is underlined in yellow.)
5. On the back of this page, draw a picture to show how this sector works. Put labels on the picture.

1. Where

2. What

3. What

4. How

5. Why

6. Why
Critic's Choice

Observer ___________________ Date ________ Group ________

A. Watch what people do at the meeting.
   • Print the name of the student.
   • Print what the student did.
   • Tell how it changed the meeting.

Some of the things people might do:
   • interrupt  • get angry
   • go off topic  • stay calm
   • ask questions  • have good ideas
   • follow the rules  • speak well

<table>
<thead>
<tr>
<th>Name</th>
<th>What did he/she do?</th>
<th>How did this change the meeting?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B. Choose Yes or No for each statement. Beside each statement print what you observed that supports your rating.

<table>
<thead>
<tr>
<th>Statement</th>
<th>What I Observed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes No  People tried to take over the meeting.</td>
<td></td>
</tr>
<tr>
<td>Yes No  People forced others to agree with them.</td>
<td></td>
</tr>
<tr>
<td>Yes No  Some people wanted a lot of attention.</td>
<td></td>
</tr>
<tr>
<td>Yes No  The meeting was well organized.</td>
<td></td>
</tr>
<tr>
<td>Yes No  Lots of ideas were talked about.</td>
<td></td>
</tr>
<tr>
<td>Yes No  Most people paid attention</td>
<td></td>
</tr>
</tbody>
</table>
## Sector Map Grid

- **Student Names**
- **Sector**
- **Date**

Use coloured dots to show the squares your Sector wants. Print the reasons for your choices in each square. (On the back of this page, Settlement draws a detailed plan of the development they propose for one of their squares.)

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2</td>
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<tr>
<td>6</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
The Rating Game

Sector ___________________________ Date ___________________________

Names ___________________________

A. Our Sector is important to the Pangea Basin for the following reasons:

1. _______________________________________

2. _______________________________________

3. _______________________________________

4. _______________________________________

B. Rate the importance of each Sector to the Pangea Basin. (1 = Not Important 5 = Very Important)
   Explain your rating. (Hint: Read EcoTimes and the E & E reports from other Sectors.)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Conservation</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Fishing</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Forestry</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Mining</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Settlement</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Tourism</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

C. List 2 or 3 criteria that could be used to evaluate the Proposals.

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________

_________________________________________________________________
Clearing The Table

1st column: Print the criteria agreed to at Round Table 5.
2nd - 7th columns: Spokespersons for each Sector sign their initials beside each of the criteria to show they agree with the criteria. (A - Agriculture, C - Conservation, Fi - Fishing, F - Forestry, M - Mining, S - Settlement, T - Tourism & Rec)
Bottom of page: Sector Spokespersons sign their complete names.

The following criteria will be used to evaluate the Proposals.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>A</th>
<th>C</th>
<th>Fi</th>
<th>F</th>
<th>M</th>
<th>S</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. There may be only 4 Sectors in each square.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Only 2 of these Sectors may be together in a square: Agriculture, Conservation, Forestry, Settlement.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Criteria may be changed only if all the Sector Spokesperson(s) agree and sign their initials by the changes.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Signature</th>
<th>Sector</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td></td>
<td>Mining</td>
<td></td>
</tr>
<tr>
<td>Conservation</td>
<td></td>
<td>Settlement</td>
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</tr>
<tr>
<td>Fishing</td>
<td></td>
<td>Tourism &amp; Rec</td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dated this _____ day of _____, 19____. Witnessed by ____________________________

(Secretary)
<table>
<thead>
<tr>
<th>Date</th>
<th>Proposal Map Grid</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Student Names**

Directions: Show how the land will be divided in your Proposal.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
</table>
Square Dancing

Names

Proposal Name ___________________________ Date __________________

Column 1: Print the coordinates (eg. A3, B6) of five squares that are shared by 4 Sectors in your group's Proposal.

Column 2: For each square, place a checkmark beside the names of the Sectors that will share that square in your Proposal.

Column 3: Explain how the Sectors in that square will share the land without conflict.

Column 4: Do not write in this column. The Assistant will complete it at Round Table 6.

Dashed Box: Justify your answer. Where did you find information to complete Column 3? (teacher, parents, EcoTimes, Pot-Luck, E & E Report, local newspaper, book, etc.)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agriculture</td>
<td>Forestry</td>
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</tr>
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<tr>
<td></td>
<td>Tourism &amp; Rec</td>
<td></td>
<td></td>
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</table>

<table>
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</tr>
<tr>
<td></td>
<td>Tourism &amp; Rec</td>
<td></td>
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</tr>
</tbody>
</table>

Table Talk: 663
## Square Dancing

### Names

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Agriculture ☐ Forestry</td>
<td>☐ Conservation ☐ Mining</td>
<td>☐ Settlement ☐ Fishing</td>
<td>☐ Tourism &amp; Rec</td>
</tr>
<tr>
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<td>☐ Settlement ☐ Fishing</td>
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</tbody>
</table>

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<table>
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<th>3</th>
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<tbody>
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<td>☐ Tourism &amp; Rec</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Agriculture ☐ Forestry</td>
<td>☐ Conservation ☐ Mining</td>
<td>☐ Settlement ☐ Fishing</td>
<td>☐ Tourism &amp; Rec</td>
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<td>☐ Agriculture ☐ Forestry</td>
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<td>☐ Tourism &amp; Rec</td>
</tr>
</tbody>
</table>

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<table>
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<tr>
<th>1</th>
<th>2</th>
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<tr>
<td>☐ Agriculture ☐ Forestry</td>
<td>☐ Conservation ☐ Mining</td>
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<td>☐ Tourism &amp; Rec</td>
</tr>
<tr>
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<td>☐ Conservation ☐ Mining</td>
<td>☐ Settlement ☐ Fishing</td>
<td>☐ Tourism &amp; Rec</td>
</tr>
</tbody>
</table>
Sudden Impact

Proposal Name ___________________________ Date ____________

Student Names __________________________________________

Think about how your Proposal will affect the environment, the economy and the people in the community. Record both the positive and negative impacts. Then explain how to minimize the negative impacts.

<table>
<thead>
<tr>
<th>Environment</th>
<th>Positive Impacts</th>
<th>Negative Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ways to minimize the impacts:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Economy</th>
<th>Positive Impacts</th>
<th>Negative Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ways to minimize the impacts:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Community</th>
<th>Positive Impacts</th>
<th>Negative Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Ways to minimize the impacts:</td>
</tr>
</tbody>
</table>
Number Crunching Directions

Student Names ____________________________

This is Worksheet 19 A (Number Crunching Directions). It gives directions for Worksheet 19 B (Number Crunching Chart).

Read slowly and carefully!

Follow each step in order. One person needs to do each of the following jobs:

1. Read the directions for each step.
2. Find the information.
3. Call out the information.
4. Record the information.
5. Witness the recording of the information.

A The Number Crunching Chart (NC Chart) has empty boxes with different borders:

- Thin line border
- Double line border
- Dotted line border
- Thick line border
- Dashed line border

B Start with square A1 on Worksheet 16 (Proposal Map Grid). Read the name(s) of the Sector(s) that got this square. For this square, decide what to record on the NC Chart:

1. If a Sector gets a whole square that it wanted, print the coordinate of the square in this box.
2. If a Sector gets a whole square that it didn’t want, print the coordinate of the square in this box.
3. If 2 - 3 Sectors share a square, print the coordinate of the square in this box in each Sector’s column.
4. If 4 Sectors share a square and you have a good reason to explain how these Sectors can share without conflict, print the coordinate of the square in this box in each Sector’s column.

C Follow the directions in Step B for each square.

D Add up the number of coordinates listed in each box. Put the total in the right corner of the box as shown in the diagram.

E Transfer the numbers from the rows of boxes on the NC Chart to Worksheet 20B (Data Sheet). (Don’t forget to transfer the numbers from the Conservation column of the NC Chart to Row V of Worksheet 20B.)
# Number Crunching Chart

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Sector</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>Conservation</td>
</tr>
<tr>
<td>Not shared</td>
<td></td>
</tr>
<tr>
<td>Not shared and not wanted</td>
<td></td>
</tr>
<tr>
<td>2 - 3 Sectors share a square</td>
<td></td>
</tr>
<tr>
<td>4 Sectors share (good reason)</td>
<td></td>
</tr>
<tr>
<td>4 Sectors share (poor reason)</td>
<td></td>
</tr>
</tbody>
</table>

- Put these numbers in to Chart 1, Row V
- Print these numbers into Chart 2, Row A
- Print these numbers into Chart 3, Row D
- Print these numbers into Chart 4, Row G
- Print these numbers into Chart 5, Row J
- Print these numbers into Chart 6, Row M
**Data Sheet Directions**

Proposal Name __________________________ Date __________

Student Names __________________________

**Information**

Jobs and habitat are two criteria that may be important when you rate or evaluate the Proposals. When each Proposal group completes this worksheet, you will have information on:

- how many jobs are protected by each Proposal
- how much habitat is protected by each Proposal

This information may be used by members of the Round Table to help rate the Proposals. But remember, Proposals must meet the list of criteria on Worksheet 14 (Clearing The Table).

The charts on **Worksheet 208** give the following information:

**Chart 1:** Amount of Habitat Protected.

**Chart 2:** Number of Jobs Protected when a Sector gets all of the land in one of its squares.

**Chart 3:** Number of Jobs Protected when a Sector gets a square that it did not choose.

**Chart 4:** Number of Jobs Protected when a Sector shares one of its squares with 1 or 2 other Sectors.

**Chart 5:** Number of Jobs Protected when a Sector shares one of its squares with 3 other Sectors. The reasons for sharing the squares must have been rated **Good**.

**Chart 6:** Number of Jobs Protected when a Sector shares one of its squares with 3 other Sectors. The reasons for sharing the squares must have been rated **Poor**.

**Hints**

This worksheet may look complicated. But if you follow these hints, it will be easy!

- get the numbers you need from **Worksheet 198 (Number Crunching Chart)**
- make sure you copy the numbers correctly
- go slowly
- read carefully
- do one chart at a time
- use a calculator and do each calculation twice
- remember, a row goes across; a column goes down

**Directions**

1. Put the numbers from **Worksheet 198 (Number Crunching Chart)** onto Charts 1, 2, 3, 4, 5 and 6 of **Worksheet 20** (Data Sheet Chart).

2. Do the multiplication and addition as shown on each of these charts. Use a calculator.

3. For Chart 7, transfer the numbers in the last rows of Charts 2, 3, 4, 5, and 6 to the correct rows in Chart 7. (eg. the number in the Agriculture column of Chart 2, Row C is printed in the Agriculture column of Chart 7, Row P) Add up all the numbers in each of the columns and record this number in Row U.
# Data Sheet

## Proposal Name ___________________________  Date ___________

## Student Names ___________________________

### Chart 1: Amount of habitat protected

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td># of squares</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>W</td>
<td>amount of habitat (sq km)</td>
<td>x 100</td>
<td>x 20</td>
<td>x 75</td>
<td>x 60</td>
</tr>
<tr>
<td>X (V x W)</td>
<td>amount of habitat protected</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Total Habitat Protected in the Pangea Valley (add up numbers in Row X) [ ]

### Chart 2: Jobs Protected

<table>
<thead>
<tr>
<th></th>
<th>Agr</th>
<th>Con</th>
<th>Fish</th>
<th>For</th>
<th>Min</th>
<th>Set</th>
<th>Tour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td># of 1st choice whole squares</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B</td>
<td># of jobs per square</td>
<td>x 1000</td>
<td>x 100</td>
<td>x 200</td>
<td>x 1500</td>
<td>x 2000</td>
<td>x 1500</td>
</tr>
<tr>
<td>C (A x B)</td>
<td># of jobs protected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Chart 3: Jobs Protected

<table>
<thead>
<tr>
<th></th>
<th>Agr</th>
<th>Con</th>
<th>Fish</th>
<th>For</th>
<th>Min</th>
<th>Set</th>
<th>Tour</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td># of squares the Sector did not want</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td># of jobs per square</td>
<td>x 200</td>
<td>x 20</td>
<td>x 40</td>
<td>x 300</td>
<td>x 400</td>
<td>x 300</td>
</tr>
<tr>
<td>F (D x E)</td>
<td># of jobs protected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Chart 4: Jobs Protected

<table>
<thead>
<tr>
<th></th>
<th>Agr</th>
<th>Con</th>
<th>Fish</th>
<th>For</th>
<th>Min</th>
<th>Set</th>
<th>Tour</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td># of squares shared with 1 or 2 Sectors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H</td>
<td># of jobs per square</td>
<td>x 750</td>
<td>x 75</td>
<td>x 150</td>
<td>x 1125</td>
<td>x 1500</td>
<td>x 1125</td>
</tr>
<tr>
<td>I (G x H)</td>
<td># of jobs protected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table Talk 675
## Data Sheet

<table>
<thead>
<tr>
<th>Proposal Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Student Names</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

**Chart 5: Jobs Protected**

<table>
<thead>
<tr>
<th></th>
<th>Agr</th>
<th>Con</th>
<th>Fish</th>
<th>For</th>
<th>Min</th>
<th>Set</th>
<th>Tour</th>
</tr>
</thead>
<tbody>
<tr>
<td>J</td>
<td></td>
<td></td>
<td>x 600</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K</td>
<td></td>
<td></td>
<td>x 60</td>
<td></td>
<td></td>
<td>x 120</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x 900</td>
<td>x 900</td>
</tr>
</tbody>
</table>

**Chart 6: Jobs Protected**

<table>
<thead>
<tr>
<th></th>
<th>Agr</th>
<th>Con</th>
<th>Fish</th>
<th>For</th>
<th>Min</th>
<th>Set</th>
<th>Tour</th>
</tr>
</thead>
<tbody>
<tr>
<td>M</td>
<td></td>
<td></td>
<td>x 200</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td></td>
<td></td>
<td>x 20</td>
<td></td>
<td>x 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>O</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x 300</td>
<td>x 300</td>
<td></td>
</tr>
</tbody>
</table>

**Chart 7: TOTAL Number of Jobs Protected**

<table>
<thead>
<tr>
<th></th>
<th>Agr</th>
<th>Con</th>
<th>Fish</th>
<th>For</th>
<th>Min</th>
<th>Set</th>
<th>Tour</th>
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<td></td>
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<td>Q</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>S</td>
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<tr>
<td>T</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Jobs Protected in the Pangea Valley (add up numbers in Row U)
Direction File: Chair

This is the Direction File. It lists a series of tasks that need to be done. As you finish each task, place a checkmark in the box beside that task. **You may write in this File.**

### Symbols

- 🌟 Work by yourself.
- 😊 Meet with the teacher.
- 🗣 Meet with your group.
- ☐ A task you MUST do.
- ⭐ A task that is optional.

### Styles of Print

- *Worksheet names are printed in italics.*
- **The title of sections in your Role File are underlined.**
- The title of material that is not in your Role File is in bold.

---

**The Directions' Contract**

1. *I will read each direction carefully.*

2. *I will show that I have finished each task by putting a checkmark in the box beside the task.*

3. *If I do not understand what to do, I will ask one of my group members for help. That person must sign his/her name beside the direction.*

4. *If I still do not understand what to do, I will ask the Assistant for help. The Assistant's name is ___________________________. The Assistant will sign his/her name beside the direction.*

5. *If I still do not understand what to do, I will ask the teacher for help.*

__________________________  __________________________
(signature of Chair)         (signature of Witness)
Read Me First

You will find out how to run a meeting in Read Me First.

1. Read the Table of Contents. Make sure you have all the pages.

2. Read How To Run a Meeting in your Role File.

3. Meet with the teacher to discuss how to run a meeting:
   • where and when meetings should be held
   • questions you have about the agenda, Speaker’s List or voting
   • the teacher’s role as the Meeting Facilitator

Task Time 1

You will learn about your role and meet with the other Organizers in Task Time 1.

1. Read the Role Information in your Role File.

2. If you change the name or sex of your role, you must tell the Assistant. (Print your real name, your character’s old name and your character’s new name on a piece of paper. Give this paper to the Assistant.)

3. Complete Worksheet 4 (Role Introduction).

   - On the back of Worksheet 4 (Role Introduction), write out what you will say to introduce your role at Round Table. This is your Role Introduction. Read it to yourself to see if it makes sense.

4. Practice your Role Introduction at least three times. (Introduce yourself to the Assistant and Secretary and to at least one other person.)
   • Speak s-l-o-w-l-y, clearly and loudly.
   • You want to sound confident when you speak at the Round Table meeting.

5. Give Worksheet 4 (Role Introduction) to the teacher for marking.

6. Reread How To Run a Meeting in your Role File. At the Round Table meeting, be ready to explain:
   • what an agenda is and how to add items to the agenda
   • how to make a motion and vote

You might use a chart while you explain. People will pay more attention when there is something to look at.
7. Read the **Agenda** for Round Table 1. Be ready to read it out loud at the beginning of the meeting.

8. Discuss your plans for Round Table 1.

9. Meet with the Assistant and the Secretary.
   - Discuss how to run a meeting:
     - getting the room ready
     - recording motions and votes
     - posting minutes on bulletin board
   - Read the **Agenda** and change (if necessary).

10. Each role needs to make a Name Tag. Talk about the Name Tags with the other Organizers.
    - What size of letter is easy to read? (You must be able to read the names from across the room.) What ink colour is easiest to read?
    - Name Tags need a logo. A logo is a small picture. Each Organizer should have the same logo.
    - Get paper for the Name Tags from the teacher.

**Round Table 1**

The purpose of Round Table 1 is to introduce all the roles and give the Organizers practice at running a meeting.

1. Welcome everyone to the meeting.

2. Explain that all students should:
   - have the Direction Files open to Round Table 1
   - mark in the check-boxes as they complete the tasks for this Round Table

3. Read Agenda 1. Ask if there are any items to add to the Agenda.

4. Ask the Secretary to explain the ‘minutes of the meeting’.

5. Ask the Assistant to explain the Speaker’s List.

6. Teach group members:
   - how to make a motion
   - how to vote

7. Hold up your Name Tag and introduce your role. Use the information from **Worksheet 4 (Role Introduction)**.
   - Speak *s-l-o-w-l-y*, **clearly** and **loudly**.

8. Ask students to introduce their roles.
   - Remind everyone that each person has two minutes to speak.
   - Remind everyone to speak *s-l-o-w-l-y*, **clearly** and **loudly**.
9. Invite people to ask questions.

10. Thank everyone for coming to the meeting.

11. At the end of this meeting, the teacher will discuss how to complete Worksheet 6 (My Thoughts About The Meeting).

12. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 1. Give it to the teacher for marking.

**Task Time 2**

The purpose of Task Time 2 is to think about some rules for the Round Table meetings.

1. Think about Round Table 1.
   - What worked well? What could be improved or changed for Round Table 2?

2. Discuss Round Table 1.
   - Make a list of the strong and weak points of the meeting.
   - Give this list to the teacher.

3. Discuss Round Table 1.

4. The teacher will discuss Worksheet 5 (Membership Agreement).

5. Read Worksheet 5 (Membership Agreement).
   - Complete Section 4 and 7. Remember, these are your ideas. There is no right or wrong answer. Later on, you will discuss this with the other Organizers.
   - If you agree with these rules, do not make any changes to the other sections.
   - If you do not agree with these rules, make changes.

6. Discuss Worksheet 5 (Membership Agreement) with the other Organizers.
   - Look at the changes that everyone made. Decide which changes that the Organizers would like to make.
   - Look at the way everyone completed Sections 4 and 7. Decide how the Organizers would like these Sections to be completed.
   - At Round Table 2, Worksheet 5 (Membership Agreement) will be discussed. You must be ready to tell the rest of the Round Table what you want. Then the Round Table will vote to decide on a final Membership Agreement.

7. As the Chair, you will lead the discussion of Worksheet 5 (Membership Agreement) at Round Table 3. You will read each Section out loud and ask if there are any changes. Then vote on each Section.

8. Read the Rules of Order. Be ready to lead a brainstorming session about the Rules at Round Table 2. (Only the Organizers have this list of rules.)
   - Write down 10 rules that you think are the most important.
9. Read the Agenda for Round Table 2. Be ready to read it out loud at the beginning of the meeting.

10. Meet with the Assistant and the Secretary.
   • Read the Agenda and change (if necessary).
   • Discuss the Round Table 2 meeting and assign tasks (if necessary).
   • Compare the Chair’s, Secretary’s and Assistant’s lists of the Rules of Order. Combine these lists to make one final list of 10 rules. This is called the Organizers’ Rules of Order. Give a copy of the list to the teacher.
   • Decide how to conduct the brainstorming session for the Rules of Order.
     - The Chair keeps the meeting in order.
     - The Assistant records the Rules that students suggest. These rules are called the Round Table Rules of Order.
     - The Secretary checks the list of rules suggested by the students against those listed on the Organizers’ Rules of Order.
     - The Chair adds rules from the Organizers’ Rules of Order to the Round Table Rules of Order.

Round Table 2

The purpose of Round Table 2 is to agree on the rules for the Round Table meetings.

1. Welcome everyone to the meeting.

2. Read Agenda 2. Ask if there are any items to add to the Agenda.

3. Lead a brainstorm session to create the Round Table Rules of Order.
   • The Assistant records the Round Table Rules of Order on large chart paper.
   • The Secretary checks off any of the Organizers’ Rules of Order that are suggested by the other students. The Secretary tells the Chair to add any of the Organizers’ Rules of Order that are not on the Round Table Rules of Order.
   • Ask all students to come to consensus on the Round Table Rules of Order.
   Hint: people should only make comments or ask questions about the Rules of Order. If someone asks a different question, say “We are on the topic of the Rules of Order right now. Please ask your question during the Question Period.”

4. Discuss Worksheet 5 (Membership Agreement).
   • Read each statement aloud. Ask if there are any questions. Ask for a vote of agreement on the statement. Then move on to the next statement.
   • Ask for suggestions on how to complete the missing information. If students are having trouble, get help from the Meeting Facilitator (teacher).
   • Direct the Secretary to make the changes agreed to by all members. The Secretary will get the signatures of Sector Spokespersons on Worksheet 5 (Membership Agreement).

5. Invite people to ask questions.

6. Thank everyone for coming to the meeting.
7. At the end of this meeting, the teacher will discuss how you completed Worksheet 6 (My Thoughts About The Meeting).

8. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 2. Give it to the teacher for marking.

Task Time 3

The purpose of Task Time 3 is to learn more about your role.

- 1. Think about Round Table 2.
   - What worked well? What could be improved or changed for Round Table 3?

- 2. Discuss Round Table 2.
   - Make a list of the strong and weak points of the meeting.
   - Give this list to the teacher.

- 3. Discuss Round Table 2.

- 4. Read the Viewpoint in your Role File.

- 5. Complete Worksheet 9 (Room For All Views). Give it to the teacher for marking.

- 6. Read the Agenda for Round Table 3. Be ready to read it out loud at the beginning of the meeting.

- 7. Meet with the Assistant and the Secretary.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 3 meeting and assign tasks (if necessary).

Round Table 3

The purpose of Round Table 3 is to learn about the Sectors.

1. Welcome everyone to the meeting.

2. Read Agenda 3. Ask if there are any items to add to the Agenda.

3. Ask each Sector to give their presentation.

   Hint: people should only make comments or ask questions about what the Sectors have presented. If someone asks a different question, say "We are talking about the Sectors right now. Please ask your question during the Question Period."

4. Invite people to ask questions.
5. Thank everyone for coming to the meeting.

6. At the end of the meeting, the teacher will discuss the way you completed *Worksheet 6 (My Thoughts About The Meeting)* for the Round Table 2 meeting.

7. Complete *Worksheet 6 (My Thoughts About The Meeting)* for Round Table 3. Give it to the teacher for marking.

**Task Time 4**

The purpose of Task Time 4 is to make maps for the Sectors and for the Assistant.

1. Ask members from at least two Sectors to explain *Worksheet 12 (Sector Map Grid)*.

2. Study the *Pangea River Basin Map* in your Role File. Make one large version of this map with the Secretary. Give it to the Assistant as quickly as possible.
   - Make sure to include the grid.
   - Use only pencil. Do not use colour.
   - Do not make a legend.

3. Make another large map of the Pangea Valley with the Secretary. This map will be used during the Round Tables.
   - Use color and symbols to show mountains, flat land, rivers, lakes, cities, roads and railroads.
   - Make a legend.

4. Read the *Agenda* for Round Table 4. Be ready to read it out loud at the beginning of the meeting.

5. Think about Round Table 3.
   - What worked well? What could be improved or changed for Round Table 4?

6. Discuss Round Table 3.
   - Make a list of the strong and weak points of the meeting.
   - Give this list to the teacher.

7. Discuss Round Table 3.

8. Meet with the Assistant and the Secretary.
   - Read the *Agenda* and change (if necessary).
   - Discuss the Round Table 4 meeting and assign tasks (if necessary).
Round Table 4

The purpose of Round Table 4 is to see the places that all the Sectors want in the Pangea Valley.

1. Welcome everyone to the meeting.

2. Read Agenda 4. Ask if there are any items to add to the Agenda.

3. Ask the Assistant to distribute and talk about Worksheet 15 (Master Map Grid).

4. Lead a discussion. Invite each Sector to explain why it needs the same squares as the other Sectors. Ask the Sectors to return to Round Table 5 with some ideas on rules that can be used to divide the land.

5. Invite people to ask questions.

6. Thank everyone for coming to the meeting.

7. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 4. Give it to the teacher for marking.

Task Time 5

The purpose of Task Time 5 is to read and perform the Skit.

1. Read The Nitty Gritty in your Role File. At Round Table 5 you will explain how criteria will be used.

2. Find out how students will be assigned to the Proposal Groups.

3. Meet with the Assistant and the Secretary.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 5 meeting and assign tasks (if necessary).
   - The Assistant will record the criteria during Round Table 5.

4. Read the Skit in your Role File.

5. Discuss the skit.

6. Work with the Secretary and the Assistant to put on the Skit as a mini-presentation. You may need to get other students to help you play the parts.
Round Table 5

The purpose of Round Table 5 is to agree on a list of criteria that will be used to divide up the land in the Pangea Valley.

1. Welcome everyone to the meeting.

2. Read Agenda 5. Ask if there are any items to add to the Agenda.

3. Define the word criteria. Explain how the criteria will be used.
   - Lead a brainstorm session for criteria that the Proposal Groups will use to evaluate their Proposals. (The Assistant records on large chart paper.)
   - Help the Round Table members come to agreement on the criteria.

4. Form the Proposal Groups. Make sure each student knows which group he/she will be in. The Secretary will record the student names and Group Number on a large chart paper. Proposal Groups should take 3 minutes to choose a name. (The Secretary should record the Group Name on the chart.)

5. Invite people to ask questions.

6. Thank everyone for coming to the meeting.

7. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 5. Give it to the teacher for marking.

Task Time 6

The purpose of Task Time 6 is to make maps for the Proposal Groups to use.

1. Make chart-sized maps of the Pangea Valley and give one to each Proposal Group.
   - DO NOT use coloured pens.
   - Include the grid.
   - Keep the map simple.
   - Do not include a legend.

2. Reread The Nitty Gritty in your Role File.

3. Read the Agenda for Round Table 6. Be ready to read it out loud at the beginning of the meeting.

4. Meet with the Assistant and the Secretary.
   - Read the Agenda and change (if necessary).
Round Table 6

The purpose of Round Table 6 is to listen to the Proposals for dividing up the land.

1. Welcome everyone to the meeting.

2. Read Agenda 6. Ask if there are any items to add to the Agenda.

3. Each Proposal Group presents information on their Proposal.

4. Invite people to ask questions.

5. Thank everyone for coming to the meeting.

6. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 6. Give it to the teacher for marking.

Task Time 7

The purpose of Task Time 7 is to make charts that will be helpful for the Proposal Groups in Round Table 7.

1. Help the Assistant make the Criteria Chart, Job Protection Chart and Habitat Protection Chart.

2. Read the Agenda for Round Table 7. Be ready to read it out loud at the beginning of the meeting.

3. Meet with the Assistant and the Secretary.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 7 meeting and assign tasks (if necessary).
     - How will the Assistant complete the Criteria Chart?
     - Will the Assistant ask Round Table members to vote on whether they think each Proposal met each of the criteria?

Round Table 7

The purpose of Round Table 7 is to see if the Proposals meet the criteria.

1. Welcome everyone to the meeting.

2. Read Agenda 7. Ask if there are any items to add to the Agenda.

3. Ask the Assistant to go over the Job Protection Chart and the Habitat Protection Chart. The Assistant should also explain how the Criteria Chart will be used during the presentations.

4. Ask one Proposal Group to make their presentation.
5. After the presentation:
   • Read out one criteria from the Criteria Chart.
     - Ask the members to decide if the Proposal met that criteria.
     - Take a vote.
     - The Assistant records Yes or No on Criteria Chart to show if the Proposal met that criteria.
   • Read out the next criteria from the Criteria Chart. (Then ask the members to vote and the Assistant to record.)
   • Keep going until you have read all of the criteria.

6. Ask another Proposal Group to make their presentation. Ask the members to vote on whether this Proposal met each of the criteria.

7. Invite people to ask questions.

8. Thank everyone for coming to the meeting.

9. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 7. Give it to the teacher for marking.

Task Time 8

The purpose of Task Time 8 is to find out how to help the Proposal Groups rank the Proposals.

1. Read How To Decide in your Role File.
   • Will any of these ideas help the Round Table members choose the best Proposal?
   • How will you explain these ideas to the Round Table members? (Hint: would it be helpful to make a chart to show how the idea works?)

2. Discuss How To Decide.

3. Read the Agenda for Round Table 8. Be ready to read it out loud at the beginning of the meeting.

4. Meet with the Assistant and the Secretary.
   • Read the Agenda and change (if necessary).
   • Discuss the Round Table 8 meeting and assign tasks (if necessary).
     - Will the Chair need the Secretary or the Assistant to record information on chart paper?

Round Table 8

The purpose of Round Table 8 is to choose the best Proposal for dividing the land in the Pangea Valley.

1. Welcome everyone to the meeting.

2. Read Agenda 8. Ask if there are any items to add to the Agenda.
3. Lead members in a discussion of all the Proposals.
   • Rank the Proposals.
   • Then discuss the top two Proposals again. (Will changes to these Proposals make them meet more criteria?)

4. Help the Round Table members come to agreement on a final Proposal.
   • You may stop the meeting if the discussion is not getting anywhere. Ask Proposal Groups to think about these top two Proposals during another Task Time.

5. Invite people to ask questions.

6. Thank everyone for coming to the meeting.

7. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 8. Give it to the teacher for marking.

Task Time 9

The purpose of Task Time 9 is to work on a final project.

1. Read the Agenda for Round Table 9. Be ready to read it out loud at the beginning of the meeting.

2. Meet with the Assistant and the Secretary.
   • Write a letter that informs the Premier of the Round Table's success or failure to plan the future land and water use in the Pangea Valley.
     - Be ready to read this letter out loud at Round Table 9.
     - All Round Table members must agree to the wording of the letter.
     - Leave spaces for the Sector Spokespersons to sign the letter.
   • Read the Agenda and change (if necessary).

3. Discuss the Round Table 9 meeting and assign tasks (if necessary).

4. Each Sector does a project and the Organizers do a project for Round Table. Think about:
   • what it was like to take an Organizer role
   • some of the funny things that happened during the meetings
   • some of the frustrations you had while working as a group
   • some of the problems that your group had that the other groups did not have
   • things you wish the other students had done differently

5. Give it to the teacher for marking.

5. Be ready to present your project at Round Table 9.
   • How can you make your presentation interesting?
   • Remember: if people cannot hear, they will lose interest in listening to you.
Round Table 9

The purpose of Round Table 9 is to present your final project.

☐ 1. Welcome everyone to the meeting.

☐ 2. Read Agenda 9. Ask if there are any items to add to the Agenda.

☐ 3. Read the final letter to the Premier.
   • Get the agreement of the Sectors to send the letter.
   • Ask the Sector Spokespersons to sign the letter.

☐ 4. Projects of the Round Table.
   • Ask each Sector to present their project.
   • Present your project with the Assistant and the Secretary.

☐ 5. Invite people to ask any final questions.

☐ 6. Give a final thank you to all students for participating in the Round Table meetings.

Final Task Time

Give yourself a pat on the back for a job well done. This was a tough assignment - you made it!
This is the Direction File. It lists a series of tasks that need to be done. As you finish each task, place a checkmark in the box beside that task. **You may write in this File.**

### Symbols

- 🎵 Work by yourself.
- 😊 Meet with the teacher.
- 💬 Meet with your group.
- 🔴 A task you MUST do.
- ★ A task that is optional.

### Styles of Print

- *Worksheet names are printed in italics.*
- The title of sections in your Role File are underlined.
- The title of material that is not in your Role File is in bold.

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**The Directions’ Contract**

1. **I will read each direction carefully.**

2. **I will show that I have finished each task by putting a checkmark in the box beside the task.**

3. **If I do not understand what to do, I will ask one of my group members for help. That person must sign his/her name beside the direction.**

4. **I will help other students understand the directions. I will sign my name beside the direction to show that I have given some help.**

5. **If I still do not understand what to do, I will ask the teacher for help.**

______________________________  ______________________________
(signature of Assistant)        (signature of Witness)
Read Me First

You will find out how to run a meeting in Read Me First.

1. Read the Table of Contents. Make sure you have all the pages.

2. Read How To Run a Meeting in your Role File.

3. Meet with the teacher to discuss your role in How To Run A Meeting.

Task Time 1

You will learn about your role and meet with the other Organizers in Task Time 1.

1. Give out the Role Files to all students.

2. The teacher will give you a copy of Worksheet 2 (Role With It). It should list all the names of the roles and the names of the students taking the roles.

   - A student who changes his/her Role name will give you a paper with his/her role's old name and new name. Make these changes on Worksheet 2 (Role With It). If you are unsure of a name, check with the person involved. (Make the changes as neatly as possible.)

   - Decide if you are going to change your Role name. (Read the Role Information in your Role File.)

   - Give Worksheet 2 (Role With It) to the teacher.

3. Complete Worksheet 4 (Role Introduction).

   - On the back of Worksheet 4 (Role Introduction), write out what you will say to introduce your role at Round Table. This is your Role Introduction. Read it to yourself to see if it makes sense.

4. Practice your Role Introduction at least three times. (Introduce yourself to the Chair and Secretary and to at least one other person.)

   - Speak s-l-o-w-l-y, clearly and loudly.

   - You want to sound confident when you speak at the Round Table meeting.

5. Give Worksheet 4 (Role Introduction) to the teacher for marking.

6. Reread How To Run a Meeting in your Role File. At Round Table 1, be ready to explain the Speaker’s List. (Hint: Use a chart to help you explain. Then demonstrate the way the Speaker’s List works: ask four students to raise their hands to talk about their favourite pet. You write down the names while the Chair calls on the first person to begin speaking.)
7. Meet with the Chair and Secretary.
   - Discuss how to run a meeting: getting the room ready, recording motions and votes, posting minutes on bulletin board.
   - Read the Agenda and change (if necessary).

8. Each role needs to make a Name Tag. Talk about the Name Tags with the other Organizers.
   - What size of letter is easy to read? (You must be able to read the names from across the room.) What ink colour is easiest to read?
   - Name Tags need a logo. A logo is a small picture. Each Organizer should have the same logo.
   - Get paper for the Name Tags from the teacher.

Round Table 1

The purpose of Round Table 1 is to introduce all the roles and give the Organizers practice at running a meeting.

1. Before the meeting starts, remind students to use their Name Tags.

2. When asked by the Chair, explain how the Speaker’s List works.

3. Hold up your Name Tag and introduce your role. Use the information from Worksheet 4 (Role Introduction).
   - Speak s-l-o-w-l-y, clearly and loudly.

4. Complete tasks as assigned by the Chair.

5. At the end of this meeting, the teacher will discuss how to complete Worksheet 6 (My Thoughts About The Meeting).

6. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 1. Give it to the teacher for marking.

Task Time 2

The purpose of Task Time 2 is to think about some rules for the Round Table meetings.

1. Think about Round Table 1.
   - What worked well? What could be improved or changed for Round Table 2?

2. Discuss Round Table 1.
   - Make a list of the strong and weak points of the meeting.
     - Give this list to the teacher.

3. Discuss Round Table 1.
4. The teacher will discuss Worksheet 5 (Membership Agreement).

5. Read Worksheet 5 (Membership Agreement).
   - Complete Section 4 and 7. Remember, these are your ideas. There is no right or wrong answer. Later on, you will discuss this with the other Organizers.
   - If you agree with these rules, do not make any changes to the other sections.
   - If you do not agree with these rules, make changes.

6. Discuss Worksheet 5 (Membership Agreement) with the other Organizers.
   - Look at the changes that everyone made. Decide which changes that the Organizers would like to make.
   - Look at the way everyone completed Sections 4 and 7. Decide how the Organizers would like these Sections to be completed.
   - At Round Table 2, Worksheet 5 (Membership Agreement) will be discussed. You must be ready to tell the rest of the Round Table what you want. Then the Round Table will vote to decide on a final Membership Agreement.

7. Read the Rules of Order. (Only the Organizers have this list of rules.)
   - Write down the 10 rules that you think are the most important.

8. Meet with the Chair and the Secretary.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 2 meeting.
   - Compare the Chair's, Secretary's and Assistant's lists of the Rules of Order. Combine these lists to make one final list of 10 rules. This is called the Organizers' Rules of Order. Give a copy of the list to the teacher.
   - Decide how to conduct the brainstorming session for the Rules of Order.

Round Table 2

The purpose of Round Table 2 is to agree on the rules for the Round Table meetings.

1. Record the Round Table Rules of Order on chart paper or the blackboard.

2. Complete tasks as assigned by the Chair.

3. At the end of the meeting, the teacher will discuss the way you completed Worksheet 6 (My Thoughts About The Meeting) for the Round Table 1 meeting.

4. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 2. Give it to the teacher for marking.
Task Time 3

The purpose of Task Time 3 is to learn more about your role.

1. Think about Round Table 2.
   - What worked well? What could be improved or changed for Round Table 3?

2. Discuss Round Table 2.
   - Make a list of the strong and weak points of the meeting.
   - Give this list to the teacher.

3. Discuss Round Table 2.

4. Read the Viewpoint in your Role File.

5. Complete Worksheet 9 (Room For All Views). Give it to the teacher for marking.

6. Meet with the Chair and the Secretary.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 3 meeting.

7. Make a good copy of the Round Table Rules of Order.
   - Get the signatures of all class members.
   - Sign the Round Table Rules of Order as the witness.
   - Post the Round Table Rules of Order on the bulletin board.

Round Table 3

The purpose of Round Table 3 is to learn about the Sectors.

1. Complete tasks as assigned by the Chair.

2. At the end of the meeting, the teacher will discuss the way you completed Worksheet 6 (My Thoughts About The Meeting) for the Round Table 2 meeting.

3. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 3. Give it to the teacher for marking.
Task Time 4

The purpose of Task Time 4 is to develop a Master Map that will show the Sectors what areas of land are wanted by each of the Sectors.

1. Ask at least two Sectors to explain Worksheet 12 (Sector Map Grid).

2. Discuss Worksheet 15 (Master Map Grid).

3. Collect the completed Worksheet 12’s (Sector Map Grid) from all Sectors. Make sure the teacher has checked each Worksheet 12 (Sector Map Grid) BEFORE you collect it.

4. Transfer all of the information from each Sector’s copy of Worksheet 12 (Sector Map Grid) onto your copy of Worksheet 15 (Master Map Grid). You might ask the Chair or Secretary for help.
   - Ask the teacher to photocopy your completed copy of Worksheet 15 (Master Map Grid). (You need one copy for each student. These copies will be given out at Round Table 4.)
   - Analyze the data from Worksheet 15 (Master Map Grid):
     - Are there squares that no-one wants?
     - Are there squares that everyone wants? (Where are the biggest conflicts?)
   - The Chair and Secretary are making a large map of the Pangea Valley. You can use this map to display the information from Worksheet 15 (Master Map Grid).
     - Use a different symbol or color for each Sector to show the squares they want. (Make paper symbols to represent each Sector. These symbols may be taped or pinned onto the map. This will make changes easier than if you use coloured ink.)
     - Make a legend for the map.
     - Be ready to talk about this information at Round Table 4. (Do not worry if there are too many Sectors wanting a square. You do not have to solve this problem. You are just presenting the information.)

5. Think about Round Table 3.
   - What worked well? What could be improved or changed for Round Table 4?

6. Discuss Round Table 3.
   - Make a list of the strong and weak points of the meeting.
   - Give this list to the teacher.

7. Discuss Round Table 3.

8. Meet with the Chair and the Secretary.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 4 meeting.
Round Table 4

The purpose of Round Table 4 is to see the places that all the Sectors want in the Pangea Valley.

1. Distribute Worksheet 15 (Master Map Grid).

2. Discuss the large map of the Pangea Valley that shows all of the information from Worksheet 15 (Master Map Grid).
   • Explain how to read the legend on the map (eg. the symbol that represents each Sector).
   • Point out the squares that everyone wants and the squares that nobody wants.

3. Complete tasks as assigned by the Chair.

4. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 4. Give it to the teacher for marking.

Task Time 5

The purpose of Task Time 5 is to read and perform the Skit.

1. Read The Nitty Gritty in your Role File. At Round Table 5, you record criteria for the Proposals.

2. Meet with the Chair and the Secretary.
   • Read the Agenda and change (if necessary).
   • Discuss the Round Table 5 meeting.
   • The Assistant will record the criteria during Round Table 5.

3. Read the Skit in your Role File.

4. Discuss the Skit.

5. Work with the Secretary and Chair to put on the skit as a mini-presentation. You may need to get other students to help you play the parts.

Round Table 5

The purpose of Round Table 5 is to agree on a list of criteria to divide up the land in the Pangea Valley.

1. Record the criteria for the Proposals on chart paper or on the blackboard.

2. Complete tasks as assigned by the Chair.

3. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 5. Give it to the teacher for marking.
Task Time 6

The purpose of Task Time 6 is to make maps for the Proposal Groups to use.

1. Make chart-sized maps of the Pangea Valley and give one to each Proposal Group.
   - DO NOT use coloured pens.
   - Include the grid.
   - Keep the map simple.
   - Do not include a legend.

2. Reread the Nitty Gritty in your Role File.

3. Meet with the Chair and the Secretary.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 6 meeting.

Round Table 6

The purpose of Round Table 6 is to listen to the Proposals for dividing up the land.

1. Complete tasks as assigned by the Chair.

2. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 6. Give it to the teacher for marking.

Task Time 7

The purpose of Task Time 7 is to make charts that will be helpful for the Proposal Groups in Round Table 7.

1. Make a Criteria Chart like this example.
   a. Make one column for each Proposal Group plus one extra column.
   b. Print the heading List of Criteria at the top of Column 1.
   c. Print the criteria in the 1st column.
      (The criteria are listed on Worksheet 14 (Clearing The Table). You can get this worksheet from the Secretary.)
   d. Print the names of the Proposal Groups at the top of the other columns.
   e. Be ready to explain how the Criteria Chart will be used. (At Round Table 7, after each group presents a Proposal, print Yes or No beside each criteria to show if the Proposal did or did not meet the criteria.)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Proposal A</th>
<th>Proposal B</th>
<th>Proposal C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria 1</td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Criteria 2</td>
<td>No</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Criteria 3</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. Make a **Job Protection Chart** like this example.
   a. Make two columns for each Proposal Group plus two extra columns.
   b. Print the heading **Number of Jobs Wanted** at the top of Column 1.
   c. List the number of jobs that each Sector originally wanted in the 1st column. (This information is given on the Map Wrap page of each Sector Role File)
   d. Print the heading **Sector** at the top of Column 2.
   e. List the Sectors in the 2nd column.
   f. As shown in the example, print the name of a Proposal Group at the top of the next 2 columns.
   g. Print the heading **Number of Jobs Protected** at the top of the 3rd column.
   h. Print the number of jobs protected for each Sector by the Proposal in the 3rd column. (Get the data from each of the Proposal Groups. Wait until the Proposal Group is finished. Do not use inaccurate or incomplete data!)
   i. Print the heading **% of Jobs Protected** at the top of the 4th column.
   j. Calculate the % of jobs protected for each Sector. To calculate:
      \[
      \text{% of Jobs Protected} = \frac{\text{Number of Jobs Protected}}{\text{Number of Jobs Wanted}}
      \]
   k. Print the percentages (%) in the 4th column.
   l. Follow steps f - k for each Proposal Group.

3. Make a **Habitat Protection Chart** like this example.
   a. Make two columns for each Proposal Group plus one extra column.
   b. Print the heading **Possible Habitat** at the top of Column 1.
   c. Print 2000 sq km in column 1.
   d. As shown in the example, print the name of a Proposal Group at the top of the next 2 columns.
   e. Print the heading **Amount of Habitat Protected** at the top of the 2nd column.
   f. Print the amount of habitat protected by that Proposal in the 2nd column. (Get the data from each of the Proposal Groups. Wait until the Proposal Group is finished. Do not use inaccurate or incomplete data!)
   g. Print the heading **% of Habitat Protected** at the top of the 3rd column.
   h. Calculate the % of habitat protected. To calculate:
      \[
      \text{% of Habitat Protected} = \frac{\text{Number of Jobs Protected}}{2000}
      \]
   i. Print the percent (%) in the 3rd column.
   j. Follow steps d - i for each Proposal Group.

4. Meet with the Chair and the Secretary.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 7 meeting.
     - How will Assistant complete Criteria chart? Will Assistant ask Round Table members to vote on whether they believe each Proposal met each of the criteria?
Round Table 7

The purpose of Round Table 7 is to see if the Proposals meet the criteria.

1. Explain the Job Protection Chart and the Habitat Protection Chart.
   • Explain that the Proposal Groups may want to use the chart during their presentation.
   • Explain where you got the numbers and what they mean.

2. Explain how the Criteria Chart will be used during the Proposals.

3. Complete the Criteria Chart after each Proposal is presented.

4. Complete tasks as assigned by the Chair.

5. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 7. Give it to the teacher for marking.

Task Time 8

The purpose of Task Time 8 is to find out how to help the Proposal Groups rank the Proposals.

1. Read How To Decide in your Role File.

2. Discuss How To Decide.

3. Meet with the Chair and the Secretary.
   • Read the Agenda and change (if necessary).
   • Discuss the Round Table 8 meeting.
     - Will the Chair need the Secretary or Assistant to record information on chart paper?

Round Table 8

The purpose of Round Table 8 is to choose the best Proposal for dividing the land in the Pangea Valley.

1. Complete tasks as assigned by the Chair.

2. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 8. Give it to the teacher for marking.
Task Time 9

The purpose of Task Time 9 is to work on a final project.

1. Meet with the Chair and the Secretary.
   - Write a letter that informs the Premier of the Round Table’s success or failure to plan the future land and water use in the Pangea Valley.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 9 meeting.

2. Discuss projects for the Round Table.

3. Each Sector does a project and the Organizers do a project for Round Table. Think about:
   - what it was like to take an Organizer role
   - some of the funny things that happened during the meetings
   - some of the frustrations you had while working as a group
   - some of the problems that your group had that the other groups did not have
   - things you wish the other students had done differently

   - Give it to the teacher for marking.

4. Be ready to present your project at Round Table 9.
   - How can you make your presentation interesting?
   - Remember: if people cannot hear, they will lose interest in listening to you.

Round Table 9

The purpose of Round Table 9 is to present your final project.

1. Complete tasks as assigned by the Chair.

2. Listen to the other presentations.

3. Present your project for the Round Table.

Final Task Time

Give yourself a pat on the back for a job well done. This was a tough assignment - you made it!
This is the Direction File. It lists a series of tasks that need to be done. As you finish each task, place a checkmark in the box beside that task. You may write in this File.

**Symbols**

- 🌟 Work by yourself.
- 😊 Meet with the teacher.
- 💬 Meet with your group.
- 📣 A task you MUST do.
- ⭐ A task that is optional.

**Styles of Print**

- Worksheet names are printed in italics.
- The title of sections in your Role File are underlined.
- The title of material that is not in your Role File is in bold.

---

**The Directions' Contract**

1. I will read each direction carefully.

2. I will show that I have finished each task by putting a checkmark in the box beside the task.

3. If I do not understand what to do, I will ask one of my group members for help. That person must sign his/her name beside the direction.

4. If I still do not understand what to do, I will ask the Assistant for help. The Assistant’s name is . The Assistant will sign his/her name beside the direction.

5. If I still do not understand what to do, I will ask the teacher for help.

______________________________  ______________________________
(signature of Secretary)  (signature of Witness)
**Task Time 1**

You will learn about your role and meet with the other Organizers in Task Time 1.

1. Read the Table of Contents. Make sure you have all the pages.
2. Read *How To Run a Meeting* in your Role File. At Round Table 1, be ready to explain what the 'minutes' are and where they will be posted.
3. Talk about the Round Table meetings.
   - Where and when will the meetings be held?
   - How will the room be set up?
   - Where will the Agenda be placed so all students can see it?
   - How will you take the minutes (minutes) of the meeting?
4. Read the Role Information in your Role File.
5. Tell the Assistant if you change the name or sex of your role. (Print your real name, your character’s old name and your character’s new name on a piece of paper. Give this paper to the Assistant.)
6. Do Worksheet 4 (*Role Introduction*).
   - On the back of Worksheet 4 (*Role Introduction*), write out what you will say to introduce your role at Round Table. This is your Role Introduction. Read it to yourself to see if it makes sense.
7. Practice your Role Introduction at least three times. (Introduce yourself to the Assistant and Chair and to at least one other person.)
   - Speak *silently* clearly and *loudly*.
   - You want to sound confident when you speak at the Round Table meeting.
8. Give Worksheet 4 (*Role Introduction*) to the teacher for marking.
9. Meet with the Assistant and the Chair.
   - Discuss how to run a meeting:
   - Read the Agenda and change (if necessary).
10. Print Agenda 1 on chart paper.
11. Each role needs to make a Name Tag. Talk about the Name Tags with the other Organizers.
    - What size of letter is easy to read? (You must be able to read the names from across the room.) What ink colour is easiest to read?
    - Name Tags need a logo. A logo is a small picture. Each Organizer should have the same logo.
    - Get paper for the Name Tags from the teacher.
Round Table 1

The purpose of Round Table 1 is to introduce all the roles and give the Organizers practice at running a meeting.

1. Set up the room before the meeting.
2. Post Agenda 1.
3. Explain the ‘minutes of the meeting’.
4. Hold up your Name Tag and introduce your role. Use the information from Worksheet 4 (Role Introduction).
   - Speak s-l-o-w-l-y, clearly and loudly.
5. Complete any tasks as directed by the Chair.
6. Take the minutes at the meeting.
7. At the end of this meeting, the teacher will discuss how to complete Worksheet 6 (My Thoughts About The Meeting).
8. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 1. Give it to the teacher for marking.

Task Time 2

The purpose of Task Time 2 is to think about some rules for the Round Table meetings.

1. Post the minutes from Round Table 1 on the bulletin board.
2. Think about Round Table 1.
   - What worked well? What could be improved or changed for Round Table 2?
3. Discuss Round Table 1.
   - Make a list of the strong and weak points of the meeting.
   - Give this list to the teacher.
4. Discuss Round Table 1.
5. Read Worksheet 5 (Membership Agreement).
   - Complete Section 4 and 7. Remember, these are your ideas. There is no right or wrong answer. Later on, you will discuss this with the other Organizers.
   - If you agree with these rules, do not make any changes to the other sections.
   - If you do not agree with these rules, make changes.
6. Discuss Worksheet 5 (Membership Agreement) with the other Organizers.
   - Look at the changes that everyone made. Decide which changes that the Organizers would like to make.
   - Look at the way everyone completed Sections 4 and 7. Decide how the Organizers would like these Sections to be completed.
   - At Round Table 2, Worksheet 5 (Membership Agreement) will be discussed. You must be ready to tell the rest of the Round Table what you want. Then the Round Table will vote to decide on a final Membership Agreement.

7. Read the Rules of Order in your Role File. (Only the Organizers have this list of rules.)
   - Write down the 10 rules that you think are the most important.

8. Meet with the Assistant and the Chair.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 2 meeting.
   - Compare the Chair’s, Secretary’s and Assistant’s lists of the Rules of Order. Combine these lists to make one final list of 10 rules. This is called the Organizers’ Rules of Order. Give a copy of the list to the teacher.
   - Decide how to conduct the brainstorming session for the Rules of Order.

9. Print Agenda 2 on chart paper.

**Round Table 2**

The purpose of Round Table 2 is to agree on the rules for the Round Table meetings.

1. Set up the room before the meeting.

2. Post Agenda 2.

3. Take the minutes at the meeting.

4. During the brainstorm session for the Round Table Rules of Order.
   - Check off any of the Organizers’ Rules of Order that are suggested by the other students. Tell the Chair to add any of the Organizers’ Rules of Order that are not suggested by the other students.

5. Worksheet 5 (Membership Agreement):
   - Make changes as directed by the Chair.
   - Get signatures of Round Table members.
   - Witness signatures.
   - Post Worksheet 5 (Membership Agreement) on the bulletin board.
6. Complete tasks as directed by the Chair.

7. At the end of this meeting, the teacher will discuss how you completed Worksheet 6 (My Thoughts About The Meeting) for Round Table 1.

8. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 2. Give it to the teacher for marking.

Task Time 3

The purpose of Task Time 3 is to learn more about your role.

1. Post the minutes from Round Table 2.

2. Think about Round Table 2.
   • What worked well? What could be improved or changed for Round Table 3?

3. Discuss Round Table 2.
   • Make a list of the strong and weak points of the meeting.
   • Give this list to the teacher.

4. Discuss Round Table 2.

5. Read the Viewpoint in your Role File.

6. Complete Worksheet 9 (Room For All Views). Give it to the teacher for marking.

7. Meet with the Assistant and the Chair.
   • Read the Agenda and change (if necessary).
   • Discuss the Round Table 3 meeting.

8. Print Agenda 3 on chart paper.

Round Table 3

The purpose of Round Table 3 is to learn about the Sectors.

1. Set up the room before the meeting.

2. Post Agenda 3.

3. Complete any tasks as directed by the Chair.

4. Take the minutes at the meeting.
5. At the end of this meeting, the teacher will discuss how you completed Worksheet 6 (My Thoughts About The Meeting) for Round Table 2.

6. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 3. Give it to the teacher for marking.

**Task Time 4**

The purpose of Task Time 4 is to make maps for the Sectors and for the Assistant.

1. Ask one Sector to explain Worksheet 12 (Sector Map Grid).

2. Study the Pangea River Basin Map in your Role File. Make one large version of this map with the Chair. Give it to the Assistant as quickly as possible.
   - Make sure to include the grid.
   - Use only pencil. Do not use colour.
   - Do not make a legend.

3. Make another large map of the Pangea Valley with the Chair. This map will be used during the Round Tables.
   - Use color and symbols to show mountains, flat land, rivers, lakes, cities, roads and railroads.
   - Make a legend.

4. Post the minutes from Round Table 3.

5. Think about Round Table 3.
   - What worked well? What could be improved or changed for Round Table 4?

6. Discuss Round Table 3.
   - Make a list of the strong and weak points of the meeting.
   - Give this list to the teacher.

7. Discuss Round Table 3.

8. Meet with the Assistant and the Chair.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 4 meeting.

9. Print Agenda 4 on chart paper.


Round Table 4

The purpose of Round Table 4 is to see the places that all the Sectors want in the Pangea Valley.

☐ 1. Set up the room before the meeting.

☐ 2. Post the large coloured map of the Pangea Valley (made by you and the Chair). Keep this map safe. You will need to post it again at Round Table 6 and Round Table 7.


☐ 4. Complete any tasks as directed by the Chair.

☐ 5. Take the minutes at the meeting.

⭐ 6. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 4. Give it to the teacher for marking.

Task Time 5

The purpose of Task Time 5 is to read and perform the Skit.

☐ 🎓 1. Post the minutes from Round Table 4 on the bulletin board.

☐ 🎓 2. Read The Nitty Gritty in your Role File.

☐ 🎓 3. Meet with the Assistant and the Chair.
   • Read the Agenda and change (if necessary).
   • Discuss the Round Table 5 meeting.

☐ 🎓 4. Print Agenda 5 on large chart paper.

☐ 🎓 5. Read the Skit in your Role File.

☐ 😊 6. Discuss the skit.

☐ 🎓 7. Work with the Chair and Assistant to put on the Skit as a mini-presentation. You may need to get other students to help you play the parts.
Round Table 5

The purpose of Round Table 5 is to agree on a list of criteria that will be used to divide up the land in the Pangea Valley.

1. Set up the room before the meeting.
2. Post Agenda 5.
3. Complete any tasks as directed by the Chair.
4. Take the minutes at the meeting.
5. Record the names of the students in each Proposal Group on chart paper.
7. Print the list of criteria from Round Table 5 onto Worksheet 14 (Clearing The Table).
   • Get Sector Spokespersons to sign this list.
   • Give the list to the teacher before Task Time 6.
8. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 5. Give it to the teacher for marking.

Task Time 6

The purpose of Task Time 6 is to make maps for the Proposal Groups to use.

1. Make chart-sized maps of the Pangea Valley and give one to each Proposal Group.
   • DO NOT use coloured pens.
   • Include the grid.
   • Keep the map simple.
   • Do not include a legend.
2. Post the minutes from Round Table 5 on the bulletin board.
3. Read the Nitty Gritty in your Role File.
4. Meet with the Assistant and the Chair.
   • Read the Agenda and change (if necessary).
   • Discuss the Round Table 6 meeting.
5. Print Agenda 6 on chart paper.
Round Table 6

The purpose of Round Table 6 is to listen to the Proposals for dividing up the land.

1. Set up the room before the meeting.
3. Post the large map of the Pangea Valley so it can be seen by everyone.
4. Complete any tasks as directed by the Chair.
5. Take the minutes at the meeting.
6. Complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 6. Give it to the teacher for marking.

Task Time 7

The purpose of Task Time 7 is to make charts that will be helpful for the Proposal Groups in Round Table 7.

1. Post the minutes from Round Table 6 on the bulletin board.
2. Help the Assistant make the Criteria Chart, Job Protection Chart and Habitat Protection Chart.
3. Meet with the Assistant and the Chair.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 7 meeting.
4. Print Agenda 7 on chart paper.

Round Table 7

The purpose of Round Table 7 is to see if the Proposals meet the criteria.

1. Set up the room before the meeting.
2. Post Agenda 7.
3. Complete any tasks as directed by the Chair.

4. Take the minutes at the meeting.

5. Complete Worksheet 6 (*My Thoughts About The Meeting*) for Round Table 7. Give it to the teacher for marking.

**Task Time 8**

The purpose of Task Time 8 is to find out how to help the Proposal Groups rank the Proposals.

1. Post the minutes from Round Table 7 on the bulletin board.

2. Read *How To Decide* in your Role File.

3. Discuss *How To Decide*.

4. Meet with the Assistant and the Chair.
   - Read the *Agenda* and change (if necessary).
   - Discuss the Round Table 8 meeting. (Will the Chair need the Secretary or Assistant to record information on chart paper?)

5. Print Agenda 8 on chart paper.

**Round Table 8**

The purpose of Round Table 8 is to choose the best Proposal for dividing the land in the Pangea Valley.

1. Set up the room before the meeting.

2. Post Agenda 8.

3. Complete any tasks as directed by the Chair.

4. Take the minutes at the meeting.

5. Complete Worksheet 6 (*My Thoughts About The Meeting*) for Round Table 8. Give it to the teacher for marking.
Task Time 9

The purpose of Task Time 9 is to work on a final project.

1. Post the minutes from Round Table 8.

2. Meet with the Assistant and the Chair.
   - Write a letter that informs the Premier of the Round Table’s success or failure to plan the future land and water use in the Pangea Valley.
   - Read the Agenda and change (if necessary).
   - Discuss the Round Table 9 meeting.

3. Print Agenda 9 on chart paper.

4. Discuss projects for the Round Table.

5. Each Sector does a project and the Organizers do a project for Round Table. Think about:
   - what it was like to take an Organizer role
   - some of the funny things that happened during the meetings
   - some of the frustrations you had while working as a group
   - some of the problems that your group had that the other groups did not have
   - things you wish the other students had done differently
   - Give it to the teacher for marking.

6. Be ready to present your project at Round Table 9.
   - How can you make your presentation interesting?
   - Remember: if people cannot hear, they will lose interest in listening to you.
Round Table 9

The purpose of Round Table 9 is to present your final project.

1. Set up the room before the meeting.
3. Complete any tasks as directed by the Chair.
4. Take the minutes at the meeting.
5. Listen to presentations.
6. Present your project of the Round Table with the Assistant and the Chair.

Final Task Time

Give yourself a pat on the back for a job well done. This was a tough assignment - you made it!
Direction File: Sector

This is the Direction File. It lists a series of tasks that need to be done. As you finish each task, place a checkmark in the box beside that task. You may write in this File.

Symbols

- Work by yourself.
- Meet with the teacher.
- Meet with your group.
- A task you MUST do.
- A task that is optional.

Styles of Print

- Worksheet names are printed in italics.
- The title of sections in your Role File are underlined.
- The title of material that is not in your Role File is in bold.

The Directions’ Contract

1. I will read each direction carefully.

2. I will show that I have finished each task by putting a checkmark in the box beside the task.

3. If I do not understand what to do, I will ask one of my group members for help. That person must sign his/her name beside the direction.

4. If I still do not understand what to do, I will ask the Assistant for help. The Assistant’s name is __________________. The Assistant will sign his/her name beside the direction.

5. If I still do not understand what to do, I will ask the teacher for help.

__________________________________________________
(signature of Sector Rep)    ________________________________
(signature of Witness)
Task Time 1

You will learn about your role in Task Time 1.

1. Read the Table of Contents. Make sure you have all the pages.

2. Tell the Assistant if you change the name or sex of your role. (Print your real name, your character's old name and your character's new name on a piece of paper. Give this paper to the Assistant.)

3. Do Worksheet 4 (Role Introduction).
   - On the back of Worksheet 4 (Role Introduction), write out what you will say to introduce your role at Round Table. This is your Role Introduction. Read it to yourself to see if it makes sense.

4. Practice your Role Introduction at least three times. (Introduce yourself to the people in your Sector and to at least one other person.)
   - Speak s-l-o-w-l-y, clearly and loudly.
   - You want to sound confident when you speak at the Round Table meeting.

5. Give Worksheet 4 (Role Introduction) to the teacher for marking.

6. Each role needs to make a Name Tag. Talk about the Name Tags with your Sector.
   - What size of letter is easy to read? (You must be able to read the names from across the room.) What ink colour is easiest to read?
   - Name Tags need a logo. A logo is a small picture. Each member of your Sector should have the same logo.
   - Get paper for the Name Tags from the teacher.

Round Table 1

The purpose of Round Table 1 is to introduce all the roles.

1. Hold up your Name Tag and introduce your role. Use the information from Worksheet 4 (Role Introduction).
   - Speak s-l-o-w-l-y, clearly and loudly.

2. At the end of this meeting, the teacher will talk about how to complete Worksheet 6 (My Thoughts About The Meeting).

3. Do Worksheet 6 (My Thoughts About The Meeting) for Round Table 1. Give it to the teacher for marking.
Task Time 2

The purpose of Task Time 2 is to think about some rules for the Round Table meetings.

1. The teacher will talk about *Worksheet 5 (Membership Agreement).*
   Make notes here:

2. Read *Worksheet 5 (Membership Agreement).*
   - Do Section 4 and 7. Remember, these are your ideas. There is no right or wrong answer. Later on, you will discuss this with your Sector.
   - If you agree with these rules, do not make any changes to the other sections.
   - If you do not agree with these rules, make changes.
   - Do not sign this *Membership Agreement*. Wait until Round Table 2.

3. Talk about *Worksheet 5 (Membership Agreement)* with your Sector.
   - Look at the changes that everyone made. Decide which changes that your Sector would like to make.
   - Look at the way everyone completed Sections 4 and 7. Decide how your Sector would like these Sections to be completed.
   - At Round Table 2, *Worksheet 5 (Membership Agreement)* will be discussed. You must be ready to tell the rest of the Round Table what you want. Then the Round Table will vote to decide on a final *Membership Agreement*. At this time, the Sector Spokesperson will sign the *Membership Agreement*.

4. Think of at least 8 rules about how to behave at meetings. These rules are called Rules of Order. Make a list of these rules. Give the Rules of Order to the teacher for marking. (At Round Table 2, all the students in the class will decide on a final list of rules that everyone must follow. These rules will be called the Round Table Rules of Order.)

5. Design a notepad. This notepad will be used at each Round Table meeting to take notes. Before you make your design, think about:
   - What type and size of paper do you want to use?
   - Is there information that should always be recorded at each meeting?
   - How will you record the information? (picture, diagram, web, key words, . . . )
   - Here are some ways of recording:
     - Sketch 3 main ideas from the meeting. Add key words or phrases.
     - Draw a picture of the topic of discussion. Add peoples’ names and the things they said.
     - Make a cartoon strip.

6. Look at each person’s notepad. Try to combine all the good ideas from each notepad. Then design a notepad for your Sector.

   - Give a final copy of the notepad to the teacher for marking.
Round Table 2

The purpose of Round Table 2 is to agree on the rules for the Round Table meetings.

1. Take notes on your Sector’s notepad. Give the notes to the teacher for marking.

2. Help make the Round Table Rules of Order.

3. Talk about Worksheet 5 (Membership Agreement).

4. At the end of the meeting, the teacher will discuss the way you completed Worksheet 6 (My Thoughts About The Meeting) for the Round Table 1 meeting.

5. Do Worksheet 6 (My Thoughts About The Meeting) for Round Table 2. Give it to the teacher for marking.

Task Time 3

The purpose of Task Time 3 is to learn about your Sector.

1. Talk about Worksheet 10 (Sector Secrets).
   Make notes here:

2. Read About Your Sector in the Role File.
   - Do Worksheet 10 (Sector Secrets).
   - Give Worksheet 10 (Sector Secrets) to the teacher for marking.

3. Reread About Your Sector. On a piece of paper, write the main ideas that tell how your Sector works.

4. Reread About Your Sector as a group. Each person in the group has a task:
   - The 1st person reads a paragraph and asks a question about it.
   - The 2nd person answers the question.
   - The 3rd person summarizes the paragraph.
   - The 4th person writes the main idea of the paragraph.
   - Read all the paragraphs in this way. Make sure each person gets to do each task.
5. Be ready to give a presentation at Round Table 3. You want people to know how your Sector works so they will understand why you need land. Think about and decide:
   - What information should be presented? (Main ideas? interesting details?)
   - How will the information be presented? (Chart, picture, diagram, web, etc.)
   - Who will present the information?
   - Presentations should be 7 minutes or less.
   - Will you be able to answer questions? (ie. Why do we need your Sector? How does your Sector work? Why does your Sector need land?)

6. Design a poster to represent your Sector. The poster will be explained at Round Table 3.

7. Talk about Worksheet 9 (Room For All Views).
   Make notes here:

8. Read the Viewpoint in your Role File. Think about what you would like to tell the Round Table about your ideas.
   - Do Worksheet 9 (Room For All Views).
   - Give Worksheet 9 (Room For All Views) to the teacher for marking.

Round Table 3

The purpose of Round Table 3 is to get information about the other Sectors.

1. Take notes. Give the notes to the teacher for marking.

2. Give the presentation on your Sector and your poster.

3. At the end of the meeting, the teacher will discuss the way you completed Worksheet 6 (My Thoughts About The Meeting) for the Round Table 2 meeting.

4. Do Worksheet 6 (My Thoughts About The Meeting) for Round Table 3. Give it to the teacher for marking.

Task Time 4

The purpose of Task Time 4 is to choose the best places in the Pangea Valley for your Sector.

1. Study the Sector Map Information in your Role File. It is a grid that shows the best places for your Sector in the Pangea Valley.
2. Read Map Wrap in your Role File.

3. Talk about Worksheet 12 (Sector Map Grid) with the teacher.
   Make notes here:

4. Use Worksheet 12 (Sector Map Grid) to show the squares that your Sector wants.
   - Give reasons for each of your choices.
   - Use the information from Map Wrap, your Sector Map Information and the Pangea River Basin Map.
   - Do not choose a square that is blank on your Sector Map Information.

5. Look at each Sector member’s copy of Worksheet 12 (Sector Map Grid). As a group, you must all agree on the squares that your Sector wants.
   - Make 2 new copies of Worksheet 12 (Sector Map Grid).
     ~ One copy shows the squares you want and gives the reasons why you want those squares. Give this copy to the teacher.
     ~ One copy only shows the squares you want. Give this copy to the Assistant.
   - Be ready to defend your choices at Round Table 4.

6. You may be asked to explain your Worksheet 12 (Sector Map Grid) to an Organizer.

7. Make a larger version of your Sector Map Information. It will be put up on the wall at Round Table 4. The map should show three different types of squares.
   - Squares that you could not choose: leave these squares blank.
   - Squares that you could choose, but decided against: put a small black and white picture of your Sector in these squares.
   - Squares that you did choose: put a small coloured picture of your Sector in these squares.

Round Table 4

The purpose of Round Table 4 is to see the places that all the Sectors want in the Pangea Valley.

1. Put your large Sector Map Information on the wall.

2. Take notes. Give the notes to the teacher for marking.

3. You may need to explain your Sector’s Worksheet 12 (Sector Map Grid).


5. Do Worksheet 6 (My Thoughts About The Meeting) for Round Table 4. Give it to the teacher for marking.
Task Time 5

The purpose of Task Time 5 is to think about the criteria to divide up the land in the Pangea Valley.

1. Read *The Nitty Gritty* in the Role File.
2. Reread the *E & E Report*.
3. Talk about *Worksheet 13 (The Rating Game).*
   Make notes here:

4. Do *Worksheet 13 (The Rating Game).*
   - Reread and think about the information from the *E & E Report*. What should the other Round Table members know about your Sector?
   - Check *Worksheet 7 (For The Record A)* and *Worksheet 8 (For The Record B)*. Does it list an information source that you can go to for help?
   - Think about the information in *Connections* and *EcoTimes*. What do you think about the importance of the other Sectors? (Do not just make up reasons for the way you rate the Sectors. Find good reasons for your rating.)
   - Think about the criteria for dividing the land among all the Sectors. What criteria would fit your ideas about the best future for the Pangea Valley? (Remember: all Sectors must agree with the criteria. But, you can also agree to change the criteria at a later time, if necessary.)

5. Give *Worksheet 13 (The Rating Game)* to the teacher for marking.

Round Table 5

The purpose of Round Table 5 is to agree on the criteria to divide up the land in the Pangea Valley.

1. Take notes. Give the notes to the teacher for marking.
2. Give suggestions for criteria for sharing the land with all the Sectors. Come to agreement on these criteria. They will be used to evaluate the plans that you will make for sharing the land in the Pangea Valley.
4. Do *Worksheet 6 (My Thoughts About The Meeting)*. Give it to the teacher for marking.
5. Sector Spokespersons sign a copy of *Worksheet 14 (Clearing The Table)*. It will be photocopied and given back to you.
Task Time 6

The purpose of Task Time 6 is to begin making a plan, or proposal, to divide the land in the Pangea Valley.

1. Reread the Nitty Gritty in your Role File.

2. Talk about Worksheet 16 (Proposal Map Grid), Worksheet 17 (Square Dancing), Worksheet 19 (Number Crunching) and Worksheet 20 (Data Sheet).
   Make notes here:

   • Tell the Proposal Group who you are.
   • Choose someone to be the Chair of the meeting.
   • Choose a Secretary to keep notes at the meetings. These are called the minutes of the meeting. All members must sign the minutes. Give the minutes of the meetings to the teacher for marking.

4. Study Worksheet 15 (Master Map Grid). It shows all of the places that each Sector wants.

5. Use a copy of Worksheet 16 (Proposal Map Grid) to show how your Proposal group thinks the land should be shared between all the Sectors.
   • This will not be easy. Keep trying!!
   • While you are doing this task, you need to look at:
     ~ Worksheet 15 (Master Map Grid)
     ~ a Map of the Pangea Valley
     ~ copies of the Map Information pages for all of the Sectors
   • Rules for dividing the land:
     ~ Only 4 Sectors may be in any one square of land.
     ~ Agriculture, Settlement, Conservation and Forestry need large amounts of land. Only 2 of these Sectors may exist together in any one square.
   • The number of jobs protected depends on the way you divide the squares:

<table>
<thead>
<tr>
<th>Method of Dividing</th>
<th>% of Jobs Protected</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ 1 Sector in a square:</td>
<td>100%</td>
</tr>
<tr>
<td>~ 2 - 3 Sectors in a square:</td>
<td>75%</td>
</tr>
<tr>
<td>~ 4 Sectors in a square (and a good reason for sharing):</td>
<td>60%</td>
</tr>
<tr>
<td>~ 4 Sectors in a square (and a poor reason for sharing):</td>
<td>20%</td>
</tr>
<tr>
<td>~ A Sector is given a square it did not want:</td>
<td>20%</td>
</tr>
</tbody>
</table>
• The amount of habitat protected depends on the way you divide the squares:

<table>
<thead>
<tr>
<th>Method of Dividing</th>
<th>% of Habitat Protected</th>
</tr>
</thead>
<tbody>
<tr>
<td>~ Conservation has the whole square:</td>
<td>100%</td>
</tr>
<tr>
<td>~ Conservation shares with 1 or 2 Sectors:</td>
<td>75%</td>
</tr>
<tr>
<td>~ Conservation shares with 3 Sectors (and a good reason for sharing):</td>
<td>50%</td>
</tr>
<tr>
<td>~ Conservation shares with 3 Sectors (and a poor reason for sharing):</td>
<td>20%</td>
</tr>
<tr>
<td>~ Conservation is given a square it does not want</td>
<td>20%</td>
</tr>
</tbody>
</table>

• Use a system to divide the land.
  a. Talk about one square at a time. For example, start with square A1.
  b. If there is no conflict (1, 2 or 3 Sectors in a square), give that square to those Sectors. Record this information on Worksheet 16 (Proposal Map Grid).
  c. If there is conflict, move to the next square (A2).
  d. Repeat steps b. and c. until all the 'no conflict' squares have been given to the Sectors.
  e. Go back to the 'conflict' squares (4 or more Sectors in a square). For each square, decide which Sectors 'win' the square and which Sectors 'lose' the square. Record this information on Worksheet 16 (Proposal Map Grid).
  f. Try to compensate 'losing' Sectors by giving them part or all of another square. Check the Sector Map Information pages to make sure that Sectors are given only those squares that are allowed.

• Make sure your Proposal has met the criteria on Worksheet 14 (Clearing The Table).

**F 6.** Do Worksheet 19 (Number Crunching). These numbers will then be used to complete Worksheet 20 (Data Sheet).
  • Work s-l-o-w-l-y and carefully. These numbers must be correct!!
  • At this time, pretend that your explanations were rated as 'good'.

**F 7.** Do Worksheet 20 (Data Sheet).
  • Work s-l-o-w-l-y and carefully. These numbers must be correct!!
  • You must get 2 witnesses to sign Worksheet 20 (Data Sheet).
    • One witness signs that you copied the numbers from Worksheet 19 to Worksheet 20 correctly.
    • One witness signs that the multiplying and adding on Worksheet 20 is correct.
  • Talk about the results of Worksheet 20 (Data Sheet).
    • Do you know how the other Proposals rated?
    • Do you want to change the way you divided the land to improve?

**F 8.** If you want to change the way you divided the land, use another copy of Worksheet 16 (Proposal Map Grid).
  • Now complete another copy of Worksheet 19 (Number Crunching) and Worksheet 20 (Data Sheet).
  • Did you do any better?

**F 9.** Decide if your Proposal Group is satisfied with the way the land has been divided.
  • If your answer is yes, go to Direction # 10.
  • If your answer is no, then go back to Direction # 8.
10. Do Worksheet 17 (Square Dancing). (Look at Worksheet 16 (Proposal Map Grid) to find out which squares are shared. EXPLAIN ONLY 5 OF YOUR SQUARES.)

- Check Worksheet 7 (For The Record A) and Worksheet 8 (For The Record B). It may tell you where to find information that will help you decide how to share the land.

- Use information from: EcoTimes, the E & E Report, the About Your Sector from each Sector and Pot-Luck.

- Ask for ideas from parents, teachers and friends.

11. Give Worksheet 17 (Square Dancing) to the teacher. It will be returned to you later.

12. When the teacher returns Worksheet 17 (Square Dancing), check to see how your reasons for sharing were rated.
   - If all your reasons were rated as ‘good’, go to Direction # 13.
   - If any of your reasons were rated as ‘poor’, complete Worksheet 19 (Number Crunching) and Worksheet 20 (Data Sheet) again.

13. Get ready to present your Proposal at Round Table 6.

- The Organizers will give you a large map of the Pangea Valley. Use it to show how you divided the land on Worksheet 16 (Proposal Map Grid). You will use this map at Round Table 6 and Round Table 7, so you want to make it easy to change. (Hint: make a base map and pin or tape on paper ‘cut-outs’ to represent the Sectors.)

- Make a large chart to show:
  ~ how many jobs are protected by your Proposal
  ~ how much land is protected by your Proposal

<table>
<thead>
<tr>
<th></th>
<th>Number of Jobs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>8,000</td>
</tr>
<tr>
<td>Conservation</td>
<td>800</td>
</tr>
<tr>
<td>Fishing</td>
<td>2,000</td>
</tr>
<tr>
<td><strong>TOTAL JOBS</strong></td>
<td><strong>11,800</strong></td>
</tr>
</tbody>
</table>

- Make sure that someone explains each of the charts and the map. (Keep this simple and short - it should not take longer than about 8 minutes.)

- Be ready to explain two squares from Worksheet 17 (Square Dancing).

- Be ready to answer questions such as:
  ~ What method did you use to divide the squares?
  ~ Would you do it differently next time? Why?
  ~ Which Sectors seem to share easily and why?
  ~ Which Sectors do not seem to share easily and why?

Round Table 6

The purpose of Round Table 6 is to listen to the Proposals for dividing up the land.

1. Take notes. Give the notes to the teacher for marking.
2. Present your Proposal.
   • Explain the map.
   • Explain the charts showing how much habitat and how many jobs were protected.
   • Explain two squares from Worksheet 17 (Square Dancing).

3. The Secretary of the Proposal Group takes notes. The Proposal Group members sign the notes. Give the notes to the teacher for marking.

4. Do Worksheet 6 (My Thoughts About The Meeting) for Round Table 6. Give it to the teacher for marking.

Task Time 7

The purpose of Task Time 7 is to make a final Proposal that meets the criteria for dividing the land.

1. Talk about Worksheet 18 (Sudden Impact).
   Make notes here:

2. Check Worksheet 7 (For The Record A) and Worksheet 8 (For The Record B) to help you complete Worksheet 18 (Sudden Impact). Then you might need to:
   • Reread About Your Sector and the E & E Report in your Role File.
   • Ask other Sectors to let you read parts of their Role Files.
   • Reread Issues 1, 2 and 3 of EcoTimes.
   • Reread parts of Pot-Luck.
   • Reread the Skits.

3. Do Worksheet 18 (Sudden Impact).
   • Give Worksheet 18 (Sudden Impact) to the teacher for marking.

4. Talk about the Proposal Presentation with the teacher.
   Make notes here:

5. Get ready to present your Proposal at Round Table 7. Make sure you can explain:
   • the method your group used to divide the land and why this method did or did not work
   • how your Proposal meets all the criteria on Worksheet 14 (Clearing The Table)
   • a summary of the information on Worksheet 18 (Sudden Impact)
   • a large map of the Pangea Valley showing how you divided the land (use the map from Round Table 6)
   • your final Job and Habitat Protection numbers (The Assistant is making a large chart with these numbers that you will be able to use at Round Table 7.)
6. Decide how you want to present your Proposal at Round Table 7. The presentation should be about 10 minutes.

7. Get the paperwork ready for your final Proposal.
   - Make sure your Proposal meets the criteria on Worksheet 14 (Clearing The Table).
     - You may want to try to change these criteria. Talk about your ideas with the other Proposal Groups. You may be able to get the Chair to call another Round Table meeting to change the criteria.
   - Put your Proposal together (These materials must be on letter-sized paper and in a folder.)
     ~ Title Page.
     ~ Worksheet 16 (Proposal Map Grid)
     ~ Worksheet 17 (Square Dancing)
     ~ Job Protection Chart
     ~ Habitat Protection Chart
     ~ Worksheet 18 (Sudden Impact)
     ~ Worksheet 20 (Data Sheet)

### Round Table 7

The purpose of Round Table 7 is to present your Proposal and find out which Proposals meet the criteria.

1. Take notes about each Proposal. These notes will help you to complete the Proposal evaluations in Task Time 8. Give these notes to the teacher for marking.

2. Present your Proposal.

3. Do Worksheet 6 (My Thoughts About The Meeting) for Round Table 7. Give it to the teacher for marking.

### Task Time 8

The purpose of Task Time 8 is to compare and evaluate the Proposals.

1. Read, study and think about each of the Proposals. (Make sure you read the copies of each Proposal.)

2. If you find a mistake in a Proposal, bring it to the attention of the teacher.

3. Brainstorm a list of the pros and cons for each Proposal. Give it to the teacher for marking.

4. Is there a way to improve any of the Proposals? (eg. to meet more criteria)

5. Make a list of ways to improve each Proposal. Give it to the teacher for marking.
6. Meet with other Proposal Groups to discuss changes to Proposals.
   • All changes must be made in writing.
   • All Proposal Groups must be told about the changes.
   • All Proposal Groups must agree with changes.
   • Agreement is shown with signatures beside the written changes.

**Round Table 8**

The purpose of Round Table 8 is to choose the best Proposal for dividing the land in the Pangea Valley.

1. Take notes. Give these notes to the teacher for marking.

2. Talk about Proposals.

3. Rank Proposals.

4. Come to an agreement about a final Proposal.

5. Do *Worksheet 6 (My Thoughts About The Meeting)* for Round Table 8. Give it to the teacher for marking.

**Task Time 9**

The purpose of Task Time 9 is to work on a final project.

1. Talk about the projects for the Round Table.
   Make notes here:

2. Do a project for the Round Table.
   • Each Sector does a project and the Organizers do a project.
   • Think about:
     ~ how your Sector is affected by the Proposal
     ~ what it was like to take a Sector role
     ~ some of the funny things that happened during the meetings
     ~ some of the frustrations you had while working as a group
     ~ some of the problems that your group had that the other groups did not have
     ~ things you wish the other groups had done differently
   • Give it to the teacher for marking.

3. Be ready to present your project at Round Table 9.
   • How can you make your presentation interesting?
   • Remember: if people cannot hear, they will lose interest in listening to you.
Round Table 9

The purpose of Round Table 9 is to present your final project.

☐ 1. Take notes. Give these notes to the teacher for marking.

☐ 2. Talk about the final letter to Premier.

☐ 3. Present your project.

☐ 4. Listen to the other presentations.

Final Task Time

Give yourself a pat on the back for a job well done. This was a tough assignment - you made it!
Pot-Luck
Potluck
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# POT-LUCK

## Characters

The people on the Pangea River Valley Round Table meetings decided after about four meetings that they needed to relate to one another in a more personal way. They wanted to get to know each other, relax and have some fun. So they formed two baseball teams. They play once a week. After the game they gather for some fun.

Jessica Stark plans the post-game party. So far, the group has had a pub night at Clancy's, an "all-you-can-eat" pizza night at Dinos, and a smorg night at the China Grill. The get-together after the game tonight is a pot-luck dinner at Eileen Cilantro’s home.

<table>
<thead>
<tr>
<th>Position</th>
<th>Spotted Owls Line-up</th>
<th>Chainsaws Line-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catcher</td>
<td>Jason</td>
<td>Brady</td>
</tr>
<tr>
<td>Backup Catcher</td>
<td>Maggie</td>
<td>Karen</td>
</tr>
<tr>
<td>Pitcher</td>
<td>Vijay</td>
<td>Ashley</td>
</tr>
<tr>
<td>Backup Pitcher</td>
<td>Kevin</td>
<td>Tony</td>
</tr>
<tr>
<td>First Base</td>
<td>Eileen</td>
<td>Byron</td>
</tr>
<tr>
<td>Second Base</td>
<td>Jackson</td>
<td>Ray</td>
</tr>
<tr>
<td>Third Base</td>
<td>Christine</td>
<td>Lisa</td>
</tr>
<tr>
<td>Short Stop</td>
<td>Mark</td>
<td>Naomi</td>
</tr>
<tr>
<td>Right Field</td>
<td>Sharon</td>
<td>Mary</td>
</tr>
<tr>
<td>Centre Field</td>
<td>Talia</td>
<td>Nancy</td>
</tr>
<tr>
<td>Left Field</td>
<td>Annie</td>
<td>Frank</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Andrew</th>
<th>Coach-Spotted Owls</th>
<th>Heather</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scorekeeper</td>
<td></td>
<td>Equipment</td>
<td>Nicole</td>
</tr>
<tr>
<td>Umpire</td>
<td>Adam</td>
<td>Social Organizer</td>
<td>Jessica</td>
</tr>
<tr>
<td>First Base Umpire</td>
<td>Bill</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coach-Chainsaws</td>
<td>Ken</td>
<td></td>
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</tr>
</tbody>
</table>

Several members of the group are not able to make it to the after-game get-together: Annie was running a marathon the next day; Frank and Byron had to go curling; Sharon had to catch a plane (she had a meeting to attend in Victoria with the Minister of Environment); Talia's little girl was having a birthday party; Nancy wasn't feeling well; Christine wasn't even able to make the game because of the flu. Bill's wife, Lila, was in the hospital recovering from surgery; Jason had to go to a meeting to speak to a group of investors about one of his inventions; Maggie couldn't spare the time from the farm; Karen had to bowl; Tony was taking a night course and Kevin had to babysit because his wife was out of town.

*Names that are in italics are not in the play.*
Potluck
ACT I

Scene I

People are scattered around Eileen’s living room eating buffet style. Some small groups are still discussing the game. Others are catching up on what’s happening with kids and spouses and jobs. A few people are helping themselves to seconds and thirds at the buffet table. The room is filled with the sound of laughter, chatter, background music, and the clatter of dishes.

A small group (Vijay, Mary, Andrew, Lisa, Brady, Adam and Mark) have gathered in the kitchen.

Vijay: What does pot-luck mean anyway?

Mary: Funny you should ask. When Jessica said our get-together after the game this week was going to be a pot-luck dinner at Eileen’s, I didn’t want to ask her what pot-luck meant. Then when she said I was supposed to bring a make-ahead casserole, stew or salad, I was even more intrigued so I got out the dictionary.

Vijay: So what did it say?

Mary: Pot-luck is a meal that doesn’t take a lot of time to make. Basically, it means everybody brings something that’s easy to make ahead and easy to serve. Like when you throw a lot of leftovers together and come up with Refrigerator Surprise.

Vijay: So a pot-luck dinner, in our case, means that no one has to go to a lot of work to make dinner for us. We all just bring something. Something that is easy to reheat or can be eaten cold.

Mary: You know what’s weird? When I was looking up pot-luck in the dictionary, the word just above it was pot-latch.

Vijay: What’s a pot-latch?

Mary: It’s a Native Indian custom. It isn’t practiced much anymore. A pot-latch was a ceremony or feast where the host gave gifts to all the guests. Sometimes the person giving the pot-latch would destroy all his property just to show how wealthy he was. Pot-luck is sort of the opposite cause the guests all bring something so the host doesn’t have to feed everyone.

Vijay: Interesting to know about other cultures and customs, isn’t it?

Andrew: This is the best lasagna I’ve ever eaten. And those Chinese vegetables that Annie sent along were so unusual.

Brady: Jessica is going to collect all the recipes and photocopy them for anyone who wants them. I can’t pronounce some of the food dishes we’ve eaten and I’ve never tasted half the ingredients before, but boy, were they good. My roommates think all food is either ordered at the drive-through or comes with directions to “just add water”. This pot-luck thing turned out great even though I made a fool of myself thinking I was supposed to bring a pot.
Mark: Live and learn. Next time you won't be afraid to just ask about something if you don't get it. We all have things we know about and other things we've never heard of. It doesn't mean we're dumb.

Andrew: Speaking of knowing about a word, but not really understanding the whole thing, I have a confession to make. In our Round Table discussions, the words sustainability and sustainable development keep coming up. I sort of know what they mean and I know we all should be working towards sustainability, but what actually does sustainable mean? I feel stupid asking, but heck, we're all friends here.

Lisa: Hey Andrew, am I glad you asked. I thought I was the only one in the group who didn't really know what sustainability means. Everybody talks about it but nobody seems to have a clear idea what it means.

Mark: A lot of people twist the meaning around to suit their cause. Sustainability does not have the same meaning to a big forest company as it does to the Sierra Club or another environmental group. A city or town council might have another spin on the meaning altogether.

Adam: I don't know a dictionary meaning. I think it means that how we use our land and water now will affect how our children and grandchildren will be able to live in the future. Sustainability means that things should last. Each generation of humans passes on to the next generation resources such as farmland and topsoil, fish and wildlife, forests and minerals and natural landscape. Each generation should pass on, pure water, clean air, healthy ecosystems and livable communities. Each generation should pass on these things the way they found them, or better.

Andrew: You mean like if we dam our rivers for hydro-electric power in 1995 or 1998 or in the year 2000, future generations will have to live with dammed rivers?

Lisa: Like in the United States. In the 1930s and 1940s huge dams were built all along the Columbia River. Everyone back then thought it was great. All of a sudden there was lots of electric power.

Adam: Yeah, lots of electricity for the cities, but dams sure were harmful to the wild animals. Their habitat was flooded so they either died or were pushed out.

Andrew: Pretty harsh on the salmon, too. They got caught in the turbines on their way down the river and they couldn't leap over the huge dams on their way back up.

Lisa: Hey guys, we don't have to use an American example. The same thing happened in the 1970s and 1980s in the Kootenays in southwestern B.C.

Brady: There are some people who want to sell water to the States. These people say that the water in our rivers is just being "wasted" because all it does is flow into the ocean. They say why not either bottle it and sell it or divert it to the American side of the border. Don't they understand that water is our most precious resource?

Mark: Take it easy on hydro. You guys all want electricity. Couldn't have had this great pot-luck dinner without it, right?
Andrew: I didn't mean to get off on finger-pointing. Mark, what I really wanted was some kind of definition of sustainable development that I can understand.

Mark: Well, Andrew, I think you get the idea about what sustainable means, but if you want a definition (looking at a dictionary and clearing his throat), here is what the dictionary says. It is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs.

Adam: In other words, sustainable development means that before we develop we should think ahead. Before we make decisions about what to build, or cut down, or put on the land or take out of the ground, we should figure out exactly what it means for the future.

Andrew: Like managing our rivers, forests minerals, wildlife and farmland so we can use and enjoy them now without using everything up. We want our kids and their kids to also be able to use and enjoy them.

Adam: You've got it. It's like not being greedy and not destroying our soil, air and water. Right now it doesn't look too good for the next generation. We have paved over a lot of our farmland. Many of our watersheds are eroded because of poor logging practices. Pulp mills spew out millions of tonnes of effluent into waterways. This poisons our salmon and shellfish. Overfishing. Well, don't even get me started! Our wild salmon are going to be an endangered species soon. They already are in the U.S.

Brady: But sustainability doesn't mean we have to just stop and not ever cut down a tree or catch a fish or build an apartment building or a shopping mall, does it?

Lisa: What about jobs? Sustainable development also means economic sustainability. It means we have to think about how best to get and keep the jobs in mining, forestry, fishing and farming. We have to think of jobs for future generations too, don't we? If we don't have jobs for people now, the future will be pretty bleak for our kids.

Brady: My Dad was out of work for over 4 years. I'll tell you, jobs are important too! I mean, I care about the environment, but we can't all just be park rangers.

Adam: Brady and Lisa are right. We have to somehow fit it all together. We need to have a balance. We can't have healthy communities for our families without a healthy economy. We won't have a healthy economy for long if we destroy our environment. Everything is connected.

Mark: The key is in planning. Communities must plan for the future. They must listen to everyone in the community. That's why groups that work together to try to combine the needs of all interests are so important.

Andrew: Like our Round Table.

Mark: Yes, like our Round Table. All of us have very different interests. The people at our Round Table who represent large corporations need to remind us that these businesses need to make a profit. The social sustainability of a local community is not necessarily their first concern. Economic sustainability is more important to them. Others put environmental sustainability as their top priority. For these people, making a living or making a profit doesn't rank as high on their list as preserving a tree or a moose.
Naomi comes out of the kitchen for some coffee.

Naomi: Anyone want some coffee? I'm making a fresh pot.

Mark: Is it decaf?

Naomi: I guess it better be for this group! Seems like a heated debate. Can anyone join in?

Andrew: Well, anyone who cooks great Greek food and is a journalist, who will be writing an article about the game and the party for the newspaper, can certainly join. Just make sure you don't misquote anyone.

Naomi: I heard you talking about sustainability. You know, the reason everyone is concerned about whether there will be enough jobs or a healthy environment for future generations, is because of scarcity.

Andrew: Come again?

Mark: Naomi is right. Scarce means not enough. If we had an unlimited supply of water, trees, fish, soil and minerals we wouldn't be so concerned about how we used them. If we hadn't harvested our fish and our trees at such a rapid rate, there would be more than enough for everyone and every use.

Brady: We would have lots more trees, fish, minerals, farmland and clean rivers if we could turn back the clock.

Andrew: Like "Back to the Future."

Naomi: Right. If our great-grandparents and even our parents had thought more, or knew more, about how closely related everything was in nature, we might not be having a discussion about scarce resources.

Nicole, overhearing the conversation about sustainability and scarcity, joins Andrew's group.

Nicole: I couldn't help overhearing you guys. Do you really think our grandparents would have done things differently if they had known about the future? Do you think that when old Henry Ford invented the automobile, and it was so much quicker than the horse and buggy, that anyone then would have listened to people talk about problems down the road? All everyone wanted to do was hit that road in a Ford.

Mark: What do you think would have happened if someone had piped up back in 1914 and said, "Gee, I don't think we ought to make any more of these automobiles. They might cause air pollution in the future."

Nicole: Now people have become so dependent on their cars, we have major problems with air pollution. You guys knew I'd get in my pitch for car pooling, didn't you?

Lisa: Nicole, you've worked wonders on our Round Table members! They are all car pooling now. And the people I work with are slowly coming around after you convinced me to put the pressure on them. I think they'd rather be car pooling, even though they don't like some inconveniences, than have me on their case. I'm not very tall but I sure have a big voice.
Nicole: Thanks, guys. You've all been great about the car pooling. Can I ask you about another word we're always using? It's stewardship. I'm like Andrew. I know it's a positive thing and we should all be doing it but I'm not exactly sure what it means.

Mark: (Calling across the room) Hey, Eileen, we need you over here for a minute. Heather, you should come, too. These guys want to find out more about stewardship.
ACT I

Scene II

Heather and Eileen join the group in the kitchen.

Nicole: Now I feel really dumb.

Mark: I'm not trying to embarrass you. I'm just trying to help. Eileen and other staff at the Department of Fisheries and Oceans are into stewardship in a big way. Heather has worked as a consultant with groups all around the province that are developing water stewardship programs.

Eileen: So what do you want to know about stewardship?

Nicole: Well, I know it means looking after stuff like streams and wildlife and parkland. But I don't know if it's just something you think about or something you do.

Andrew: Or something you have to join a group to do?

Eileen: Let me try to explain what stewardship is and why it is important. I'll let Heather tell you about how stewardship actually works.

Andrew: Before we start, is anyone else thirsty? It looks like we're settling in for the evening. I'm going to make a big pot of Chinese tea.

Lisa: I'm going to have a beer. Can I get anyone else one?

Mark: I'll stick with my cola. By the way, where's the phone Eileen? I want to check on Helen. The baby isn't due for another week, but you never know.

Clatter of dishes and background movement. In the kitchen, 5 - 10 minutes later.

Nicole: Go ahead, Eileen, everyone seems to have settled back in. By the way, Mark, everything OK with Helen?

Mark: Yes, thanks. She just came back from a long walk. She's going to go to bed early.

Andrew: OK Eileen, tell us all about stewardship.

Eileen: Stewardship means looking after things or taking care of things. A good steward is someone who acts responsibly. When we are talking about stewardship of the environment, we are talking about taking care of something that we may or may not own. We need to act responsibly on our own property and on property we don't own.

Naomi: Does stewardship also have to do with taking care of things that can't take care of themselves?

Brady: Such as the air and the water and the forests.

Andrew: And the soil.
Eileen: Yes. Acting responsibly towards the things we care about such as air and water and soil and wildlife is part of being good stewards.

Lisa: For example, a small number of people and not too much land can produce a lot of food. But the European people thought they could plow and plant and plow and plant forever. They ended up plowing and planting all right, but they also ended up destroying the native grasses. This took the nutrients out of the soil. This meant fewer plants would grow, which in turn caused erosion through wind and rain and further degradation of the soil.

Brady: They didn't think much about future generations, did they? Guess they didn't know about sustainable development or stewardship. In some ways, they were lucky. They didn't have so much to feel guilty about. We know more now, so if we screw up, we can't say we didn't know how to do it right.

Naomi: I guess they didn't think these resources might be scarce. But no one tried to destroy the soil on purpose.

Adam: You're right, Naomi. Most of the harm was done by people acting without knowing they were causing problems. The harm caused was just as great as if they did it on purpose. And nowadays, Brady's right, ignorance isn't an excuse.

Andrew: But can't the natural world take care of itself? It sure has been around a long time.

Adam: It's a double-edged sword. People usually care about what they own. No one owned the humpback whales, for example, and they were almost wiped out by whalers. The whales couldn't speak for themselves.

Nicolle: Like the cod and the salmon. The only people who felt like they owned them were the people making a living off them. Until recently, no one has spoken up for things that have no voice such as the air, the water, and the soil.

Eileen: Adam was on the right track when he said it was a two-fold thing. It is important to care for and stand up for the natural world because nature can't stand up for itself. But if we interfere too much in the way nature works, we end up with an environment that can't repair itself.

Brady: It's sort of like trying to decide whether to feed birds in the winter. You look outside and there's snow and ice everywhere so you feel sorry for the little birds because they might not be able to get enough food. But if you decide to feed them, then they become dependent on you. What if you go on a holiday or move away or forget to feed them? Or what if we feed them and we attract too many birds. Too many birds, like too many geese, for example, can cause problems, too.

Nicole: Good example, Brady. We want to care but we have to think it out first. We can't just run around being environmental do-gooders. We have to know more about the things we're trying to take care of.

Mark: Being good stewards of the environment means getting good information and making wise decisions about the future.
Naomi: Back to sustainability, right? We have to think long-term about our decisions and our actions. What we do in the name of stewardship today affects how future generations will live, work, and play in the environment.

Eileen: We also have to look at the big picture and not at special interests. We cannot just speak for critters that are cute and cuddly.

Adam: Or animals that the media decides to make into "pets of the day." Sometimes it's the ugly, slimy insect or reptile that is important to the food web. Sometimes it's a plant.

Andrew: We should see nature as all-related. We should live with a caring concern for people, and salamanders and bighorn sheep.

Mark: And if we are to be good stewards, we should have a healthy respect for the ability of the natural world to care for itself and us. If we are knowledgeable about nature, it will return this care by being there for us.

Naomi: Heather, what would someone who is a good environmental steward look like? I mean if someone was doing the right things for the environment in the short and long term, what kinds of qualities would that person have?

Heather: In my experience, a good steward of the environment would be positive about people changing their attitudes and their actions. This person would try and change how others behave toward the environment by being a model.

Naomi: In other words, this person would choose a life-style and behave in a positive way towards the environment and hope that others would learn by his or her example?

Heather: That's right. The environmental steward would have to make a long-term commitment to the environment and do plenty of hard work to convince others that it is worth it.

Andrew: How does this model environmental steward know what kinds of things to do? Some things people do for the environment are just fads, or like Adam said before, some things are just in fashion because a famous person or a movie star gets some attention. How do you separate getting on the bandwagon from actually doing something that matters?

Heather: The key things are to be knowledgeable and think critically. For example, before you jump in and decide you and your neighbours should clean up a stream, you should contact the fisheries department for advice. Some things in a stream that appear unsightly may actually be very beneficial to the stream.

Eileen: Also, beware of the person who wants to call a press conference and get his or her picture in the paper for an environmental cause. Instead, look around for people in the community who may not get any attention but who are acting in ways that make our communities better for all of us.

Naomi: Like the person who walks to the corner store to buy a few groceries rather than drive the car.

Andrew: Or the person who continues to push for car pooling even when her co-workers give her a hard time.
Naomi: Sounds like people like Nicole and Adam.

Heather: Yes, we have some people in this group who would serve as models for environmental stewardship. And some of us who are trying hard, but haven't quite made room in our lives for that kind of commitment. We all want it to be made easy for us to do the right thing.

Naomi: We wait until it's easy and popular but maybe it will be too late.

Eileen: If people think that way, they'll just give up and say it's too big a problem for one or two people to make a difference.

Andrew: I'm beginning to think that being an environmental steward really does mean changing our own personal life-styles. Thinking things out and making choices. Becoming more knowledgeable and then taking action. Even in small ways.

Brady: Heather, how do people learn more about whether or not they should feed the birds? Or whether all the things we do to conserve water really matter? I mean, how does an ordinary person become more knowledgeable and get involved?

Heather: Well, for instance, the Department of Fisheries and the Ministry of Environment have a water stewardship program. If anyone wants to find out more about it, I'll give you the phone number and the name of a person to contact.

*Jessica comes into the kitchen just as phone rings. She answers it.*

Jessica: Mark, telephone. It's Helen.

Mark: *(Answers phone).* Hi honey. Everything OK? *(Listens a minute.)* Oh my gosh! You bet, I'll be there in 5 minutes! Should I call the hospital? What about the doctor? *(Hangs up phone.)* Helen is in labour. I gotta go!

Jessica: Do you want us to call the hospital?

Mark: No, Helen says she will call her doctor, who will notify the hospital. She seems to be very calm.

Jessica: Is there anything we can do?

Mark: *(As he is leaving.)* No, can't think of anything. Keep talking positively about future generations and I'll go and help bring one member of that generation into the world.

*Everyone wishes Mark well.*

Jessica: By the sounds of your voices in this kitchen meeting, I'd say the pot-luck dinner was a success. Anyone want more food? How's the coffee, tea, pop, beer situation?

Adam: I'm going to have to head out now while it's still light. I promised my wife I wouldn't ride my bike after dusk. So long everyone. It was a terrific idea, Jessica. Thanks for organizing it and thanks, Eileen, for offering us The Barn for our party.
Potluck

Lisa: Naomi and I are going to catch a ride home with Andrew. The pot-luck dinner was a great idea.

Nicole: I'm going to have to head out, too. My kids were at their father's place this weekend. I like to be there when he brings them home. Thanks, Jessica. Thanks, Eileen.

Eileen: See you all at the meeting.

Lots of movement.
ACT I

Scene III

*There is lots of laughter and chatter as everyone moves around. Some people are reheating casseroles, others are nibbling on leftovers, getting beverages, cleaning up. Eileen puts some music on the CD player.*

**Vijay:** Well, well. You guys decided to join the party. Have you solved all the world's problems in Eileen's kitchen?

**Jackson:** We were just about to work on world peace when Mark got his phone call.

**Mary:** Was it Helen?

**Jessica:** Yes and she's in labour! Mark's on his way to pick her up. He said he'd call here if something happened in the next hour or so.

**Heather:** Guess my star short stop will be missing a few games. He'll want to be with Helen and the new baby.

**Jessica:** Speaking of missing something, do you know what I think has been missing from our Round Table discussions?

**Jackson:** Besides being paid a million dollars for each meeting?

**Jessica:** Yes, not counting the money, but related to money.

**Brady:** Jessica, is this a riddle? What is not about money but is about money?

**Jessica:** Sort of. I was thinking about the social part of our meetings. I was also thinking about the things Andrew and Nicole and the others were discussing in the kitchen. Things like sustainability and stewardship and how we all kind of know about them but we don't know exactly what they mean in our own lives.

**Jackson:** You mean those things that we think everyone else knows about but we don't? And when we are in a group we are afraid to admit we don't know?

**Jessica:** Yes.

**Ray:** Do you have anything specific in mind?

**Jessica:** As a matter of fact, I do. I think most of us have a pretty good idea about how the various sectors, like mining, fishing and forestry work.

**Ashley:** Don't forget agriculture.

**Jackson:** Don't forget tourism.

**Jessica:** I'm not forgetting any of you. I'm trying to say that we know about these sectors. We know what mining is. We know how important the forest industry is to all of us. We know the
difference between sport fishing and commercial fishing. We know about the impacts that agriculture has on the land and the water. What I don't know, and I suspect many of you don't know, is what does a miner or a farmer or a travel agent actually do? Maybe more importantly, what would it mean to us and our families, to have our jobs threatened?

Vijay: Jessica, I think you're on to something pretty important. We've all sat around the Round Table for 4 or 5 meetings and if someone asked me what Jackson or Ray or Ashley actually did for a living, I wouldn't know. And we all talk about how many jobs are created by each sector, but we shy away from discussing how we'd feel if one of us actually lost our job.

Ray: Or how we feel about the job future of our own children. We talk about the future of the environment or the future of our communities but not about our own future.

Ashley: Or our children's futures. It is a very personal thing but every company or industry or sector is made up of individuals and those individuals all care about their jobs and their families. Most of us don't see too rosy a future. Maybe it would be good for each of us to know how the rest of the group feels. You know, common interests. We probably share a lot of the same feelings - and fears.

Mary: Even those of us who aren't actually working in the sectors such as forestry or mining or fisheries can relate to how it would feel to lose our jobs. People like Naomi, in the newspaper business, could lose their jobs if the local paper decides to merge with a larger paper. Newspaper jobs could go if the mill or mine shuts down and people have to cancel their subscriptions because there just isn't enough money to pay for food and a newspaper.

Heather: Or my uncle, with his clothing store. People who lose their jobs do not go out and buy a new suit. Their kids end up wearing the same pair of jeans or hand-me-downs. Uncle Fred's business is affected and he stops going out for lunch everyday. The local cafe loses a customer and in turn the cafe owner has to lay off a waitress.

Jackson: Who in turn can't take that holiday she's been saving for, which in turn affects the tourism business.

Heather: Which affects the consulting business because consultants design promotion brochures for travel agents.

Mary: Whoa. Hey, hold that thought Eileen, I think your phone is ringing.

Eileen: Normally, I wouldn't answer since I have company, but it may be Mark. Mary can you grab it? Take a message unless it's Mark.

Mary: *(Picking up the phone)* Hello. *(pause)* Yeah Mark, it's Mary *(listening but calling to the rest of the group)*. Everything is going well. No baby yet. *(Speaking to Mark on the phone.)* Keep us posted. It looks like we'll be here for quite a while.

Heather: Speaking of lost jobs, if I don't get back to my office and finish a report I'm working on, there will be one less environmental consultant in this town. It's such an interesting topic, but I really have to go. Thanks, Eileen, for letting us all get together here.

*Everyone chatters.*
ACT II

Scene I

*Eileen, Vijay and Ray have joined Brady, Mary, Jessica, Jackson, Ashley and Ken.*

**Vijay:** I think Jessica's idea about all of us telling each other what we do in our jobs is great.

**Ray:** Yeah, and I like the idea of sharing our thoughts about what it would mean to us and our families if we lost that job.

**Jessica:** Who wants to go first? Do we have a volunteer? Jackson, how about you?

**Jackson:** Jessica, you know no one can refuse you. You’re like our mom. So sure, I’ll go first.

**Jessica:** Brady can you take some notes so the people who couldn’t make it can find out what we talked about?

**Brady:** Sure Jessica. Glad to have something to do.

**Jackson:** I'm a travel agent. This means I help people plan their holidays or even their business trips. When a client comes in to see me I ask him or her several questions such as: Do you know where you want to go? How long do you have for your trip? Are there any things or places in particular that you want to see and do? What time of the year are you going? Then the BIG question: How much can you spend on your trip?

**Mary:** After they've answered these questions what do you do?

**Jackson:** Sometimes it's pretty clear that all they need is for me to book a flight and the hotel. Other times its up to me to suggest a package tour on a bus or a cruise. Usually, I tell them I'll get a few ideas together, you know, brochures or videos and get back to them.

**Eileen:** Do you have link-ups with airlines, hotels and cruise lines?

**Jackson:** Yup - worldwide. Our computer system is set up to book anything from 2 days at a dude ranch in the Cariboo to 3 weeks in a resort on the Cayman Islands to an Eco-Tour for 20 people. I can plan someone's mountain bike ride down the Oregon Coast or their white-water raft trip on the Chilco River. I can get someone to Disneyland, Alaska, West Edmonton Mall, London, Mt. Everest or a rock concert. If a tourist wants to go there, I'll get them there.

**Jessica:** Sounds pretty interesting. How do you get paid? I don't mean what do you get paid.

**Jackson:** There is an agent's fee that is paid by the airline or hotel or cruise ship. Everytime I make a booking, I give my travel agent's number. Then the resort or bus company or whatever pays our travel agency the fee.

**Ashley:** Is business booming?
Jackson: Pretty steady for a town this size. A lot depends in any year on stuff like what the Canadian dollar is worth and where the Olympics are held. An earthquake, forest fire or a flood somewhere can really affect how many people travel to an area.

Brady: Are eco-tours or tours to see how an industry operates becoming popular?

Jackson: You mean like going somewhere to see an endangered species or walk through an old-growth forest or go down into a working gold mine?

Brady: Yah. Those kinds of things.

Jackson: They are beginning to catch on. Mostly, people still want sun, fun and high adventure.

Jessica: So Jackson, have you ever been out of work?

Jackson: Only when I wanted to be. I took a year off when I was 25 and travelled in Asia. But that was kind of for my career.

Mary: Do you think about what it would be like to be unemployed?

Jackson: Probably not as much as most people. That's because the tourism business is growing so fast. It's #2 in B.C. next to forestry. And unlike forestry or fishing or mining, we don't depend on one resource. Secondly, I am single and mobile. I could pick up and go where there was work. Thirdly, I haven't spent years and years going to university or technical school getting specialized training. Fourthly, I haven't put any of my own money into a business. I haven't bought a farm or a fish boat or put a lot of cash into mining exploration.

Jessica: Sounds like you're in pretty good shape.

Mary: Sure does. Jackson, is tourism really B.C.'s #2 industry?

Jackson: Yup, sure is. It's really becoming a very big business.

Jessica: Thanks, Jackson. You're off the hot seat. Since I'm so good at getting volunteers, I'll try again. Eileen, how would you like to go next. I'll get some tea and coffee and some of those cookies Frank's wife made. Anyone else want anything?

Ken: I'm going to call home and see if Hannah is waiting up. I told her I'd probably be home by 8:00 and it's 7:30 already. This discussion about jobs is really important and it looks like we are only just getting started. I want to hear what everyone has to say.

Ashley: Think I'll call home, too, and check on the kids. Trevor's 15 now and pretty good at the babysitting thing, but sometimes Karen and Alex give him a rough time when it's bedtime. They push for an extra half hour of TV. I'll just make sure everyone has their homework done.

Mary: Let's all take a 7th-inning stretch and when we get back, Eileen can spill her guts. We'll adjourn for 10-15 minutes.

Jessica: Bring your tea, coffee or whatever you want to eat or drink back with you.
ACT II

Scene II

Vijay: I talked to Mark. He says Helen is trying to be cheerful. The doctor thinks it won't be more than another hour or so. Helen's Mom and Dad are there, too. Mark promised to call us as soon as the baby is born.

Brady: Do you think we should all kick in a couple of bucks and buy something for the baby?

Jessica: What a good idea, Brady. How about you collect the money and then you and I can go shopping sometime next week?

Brady: You're on. Anyone who wants to contribute can give me the money. I'll get a card and we can all sign it. I'll make sure I tell the others who couldn't be here tonight.

Jessica: Good, now that we're settled again, I'm going to find another volunteer for the hot seat. Let's see (looking around the room) who will be the next victim, I mean, volunteer? Umm, I spy with my almost blind eye: Ken.

Ken: Yes, mom. I mean, yes, ma'am. (Sarcastically) Sure, I'd love to go next.

Jessica: I thought you might be willing.

Ken: The settlement sector is really huge. It involves all of us. It is about how we change the land when we decide to settle somewhere. Cities and farms and factories are all part of settlement.

Brady: Does settlement including people who buy the land and people who build something on the land?

Ken: Yes Brady, you’ve got the right idea. People in the settlement sector are folks like town planners, architects, contractors, engineers, carpenters. electricians and plumbers.

Jessica: But you don’t build things like those people.

Ken: No, I’m more at the beginning end of the settlement process. Some people like me buy the land. Then other people build houses or offices or churches or schools on the land.

Mary: Then there are the people like all of us who buy the buildings and live or work in them.

Jackson: Settlement sounds like tourism. It is hard to define who exactly is part of the sector. You know when someone is visiting in your town he or she may be a tourist but when that person is back home he or she is part of the settlement sector.

Vijay: Yeah. A logger can be part of the forest sector and the tourist sector and the settlement sector.

Eileen: Then when he goes sport fishing he’s part of the fishing sector. Wow, we’d better stop or we’ll get off track. Ken maybe you’d better tell us what it is that you do.
Ken: I'll make it short and simple. I guess I'm someone who a lot of people point the finger at when they're discussing settlement. Worse still, I'm the target of those people who complain about foreign investment. I work with foreign investors who all have deep pockets.

Mary: What does that expression mean, Ken? I've never heard of "deep pockets."

Ken: It means they have big bucks, lots of money. The investors I work with think of British Columbia as a good place to make money. They don't live here but they see many opportunities here to make their money work. They aren't part of our community except they are part of it - the hidden part.

Mary: I'm not sure I understand what it is you do, Ken.

Ken: I put people who have money, and who want to make more money, together with people who need money for their land development projects.

Jessica: Sounds complicated.

Vijay: Can you give us an example?

Ken: Sure, for example, I might know that a large piece of property is going to be for sale. I check to see if the land is zoned for a housing project. Then I would talk to a company that builds houses. They might want to build houses but not have enough money to build them. Say 200 houses could be built on the property. My foreign investors would then buy the property and advance the builders the money to put in roads and sewers and build the 200 houses.

Brady: You're really wheeling and dealing. Is it just about building houses?

Ken: No, it could be any development. The same deal would work with some other property in the area. Maybe the investors decide a shopping mall would be used by the people in the new subdivision. They would buy the land and pay to have the mall built. Then they would rent space in the mall to businesses.

Jackson: This is how towns and cities are built right? And some people have problems with this happening?

Ken: Some people do have problems with this foreign investment. And rightly so. Remember when we were talking about people caring about things they own.

Ray: You mean stewardship?

Ashley: And sustainable development?

Ken: Yes. It is tricky business to convince people who don't live here and who only want to make money to do things the right way.

Brady: Can you give us an example of the different ways developers can build a subdivision or something?

Ken: Sure, Brady, for example, say my investor group buys property that has lots of birds and other animals living on it. And say there are two ways to prepare the land for the building of the
houses. One way is to cut down all the trees and build 200 houses really close together. The other way is to only remove a few trees and build 100 houses farther apart. The first way the investors and builders make more money but the soil gets eroded because there are no trees. The wildlife dies because there is no space.

Brady: Let me guess with the second way, the investors make less money but some habitat is saved. If you don't live here and if you only want to make money, which would you do?

Ashley: But wouldn't the second way mean that the houses would cost way more?

Ken: Bingo, you win the prize. Of course, if it costs more to leave the trees and you can only build half as many houses in the area, then you would sell them for twice as much.

Ray: Doing it the first way, cutting down all the trees is good for the person buying the house. They get a house they can afford but it's bad because the environment suffers. But doing it the second way, leaving the trees and building fewer houses, makes the houses expensive.

Ken: That is where I hope I am helpful to the investors and the community. I try to make the investors see that if they build healthy, sustainable communities, more people will want to live here. If more people want to live here, there will be more need for shopping malls and museums and universities and hospitals.

Jackson: Also, if the investors think long-term, they know that if the environment is healthy, more tourists will come. In turn, the investors can invest in tourist attractions such as golf courses and ski resorts.

Jessica: Sometimes the reason developers build high-density housing is because the local government says they have to. The land the developer buys may already be zoned for high-density housing. When lots of houses are built on a small amount of land the government gets more money from taxes because each house that is built is taxed.

Ray: Also in this high-density type of settlement the local government doesn't have to build as many sewers and roads and other services. So it's not always the developer's fault.

Brady: Hey, and I thought land development was pretty simple. Buy some land. Build some houses. Sell some houses. There are a lot of things to think about. Do you ever think about what job loss means to you, Ken?

Ken: I don't worry so much about me personally because I am pretty well established. I work very hard and I try to keep a lot of different projects going in B.C. and other countries.

Eileen: What about all the new parks that are being created? This could put you out of business. No development is allowed in a park.

Ken: I do worry about how the community can juggle all the concerns of all the people. How can we have lots of jobs for contractors, carpenters, plumbers, electricians - and have parks too.

Ray: We're back to trying to balance the economy and the environment. How can we keep growing and keep people working and have a healthy environment?
Ken: The real issue in development is that communities should be planned. They shouldn't just grow or sprawl. People need to find out about how to get involved so everyone can have a say. Communities can have rules that investors and developers must follow. Well, I'm done. Jessica, do you want to choose the next guy or girl? I'm going to have to leave.

Mary: Jessica, I hadn't realized how late it is getting. Paul is out of town and I have a new babysitter looking after Fawn, my little girl. I'm going to have to go. Thanks to all of you. It was really interesting to find out what you all do.

Everyone: Bye, Mary! Bye Ken! See you at the meeting next week.
ACT II

Scene III

Vijay: Well, don't forget thousands of people in the forest industry have already lost their jobs and thousands more are worried about losing theirs. Better technology and fewer trees are two of the causes of these lost jobs.

Jackson: Lots of people think the government is causing job loss by creating too much parkland.

Vijay: I personally don't think that's the case. And I know some other members of our Round Table agree with me. The parkland issue is very big. Some jobs may be lost if more areas are closed to loggers. Other jobs may be created by having more parkland. It's a bit too early to tell.

Jessica: Can't people who lose their jobs as loggers or mill workers get other jobs?

Vijay: Sure, but some of them can't or don't want to. If you've been driving a logging truck or working in a mill for 20 years, you might not want to be retrained as a tree planter. Tree planting really is a young person's job. On the other hand, if you have been driving a logging truck for 20 years, maybe you could be part of the road crew that is fixing up the old logging roads.

Eileen: What kinds of jobs can people do?

Vijay: There are all kinds of interesting jobs for foresters, geologists, habitat technicians, road crews, soil scientists, engineers, large and small-equipment operators and surveyors. The government is trying to retrain people who have lost their jobs in the forestry sector.

Eileen: It sounds like losing your job as a logger or mill worker isn't so scary if you can get another job.

Vijay: It's not that simple. Say a guy is 38 years old. He has been a logger for 18 years. He lives in a small community where his wife is a nurse. His kids are in school, they have friends, they play on the hockey team. The guy's mom and dad live in the town. They are in their sixties. The guy has friends. He belongs to a few community groups. He feels tied to his community. If he retracts and gets a new job helping to restore a watershed he probably has to move to another place. He has to uproot his family. Maybe his wife won't be able to get a job in the new community. His oldest boy is in Grade 12 and wants to graduate with the kids he has gone to school with all his life.

Jessica: Sounds like you know people like this.

Vijay: Hey, I have 4 brothers and 3 cousins in almost this exact situation. They all have friends experiencing these same fears. It's really ugly in a lot of communities. It ends up with the loggers mad at the people who want more parkland. A lot of the loggers work for small companies that have deep roots in the community.

Jessica: Name calling and finger pointing and blaming the other guy, right?
Potluck

**Jackson:** Sometimes, there's a lot more to losing your job than just moving to another place. Marriages sometimes break up over it.

**Ray:** Some guys I know who have lost their jobs start to drink way more than they should. They hang around the pub all day with other guys who have lost their jobs. They spend the day feeling sorry for themselves. And we all do feel sorry for them. But alcohol isn't going to solve their problems.

**Eileen:** Two women I used to work with, really first-rate scientists, both lost their jobs. One of them is working as a waitress. The other one became so depressed she's being treated for headaches, weight loss, rashes and stomach problems. She spends as much time in the doctor's office as Ray's guys do in the pub.

**Brady:** My cousin lost his job and he just sits and watches TV all day. He watches soap operas and talk shows and sports. I don't think he even knows which is which. Just stares at the set and once in a while makes himself a sandwich. He never cooks a meal. He doesn't go outside. His lawn is overgrown and his trailer is filthy.

**Jessica:** A friend of mine said her daughter and son-in-law were splitting up because after her son-in-law lost his job he started yelling at his wife. Even started hitting her, I think. He's mad at the world so he takes it out on his wife. They have three young kids. Now, she'll be looking for work, too. It's so sad to see how losing your job can affect your whole life.

**Eileen:** The whole community ends up being affected.

**Jackson:** This is getting very depressing. How about we break for a few minutes. Can I get anyone some dessert or a cup of coffee?

**Jessica:** I'm going to call the hospital and check on Helen. Maybe Mark would like some company. It may be a long night for them.

**Vijay:** I think I'll make another pot of tea. Anyone else interested?

*Everyone moves around chattering.*
ACT II

Scene IV

Jessica: Helen is doing fine. Mark doesn’t think it will be much longer.

Eileen: Maybe we could wrap up here soon and take some of these goodies over to the hospital.

Brady: Good idea. Now where were we in our job loss discussion?

Jackson: We were saying that the whole community is affected when large numbers of jobs are lost or threatened. The health of a community is affected both by the health of the economy and the health of the environment.

Vijay: It's back to sustainability again. We need jobs for economic sustainability. We need to protect the environment for environmental sustainability and we need to recognize the importance of families, culture and lifestyles so we can have sustainable communities. I think I’ve talked enough. Let's wrap this session up with Ray. It's getting late. I know we're all really interested in this job thing but we could talk all night, right?

Jessica: Over to you, Ray? What does it mean to work in the mining business?

Ray: I think instead of telling you about the difference between an open-pit mine and a shaft mine, or what a droller or a blaster does, or what kind of minerals there are in a pen or a lawnmower or a skateboard, I will tell you there are about 9,000 people employed in the mining industry in B.C. and every one of them is worried about losing his or her job. The owners are worried, too. Nothing is secure. Nothing is for sure.

Jackson: I'm beginning to feel lucky to be part of the tourism sector. It may not pay as well as the forest or mining sectors but, for now, at least, it is booming. Around our office, everyone is talking about how busy they are. We don't talk much about job loss. Maybe our turn will come?


Ray: It sure was. Most of us thought our jobs were secure forever. I really feel sorry for you young people. I'm 63 now and ready to retire. In my day, in the good old days, a young person never had to think about being out of work. We all grew up knowing that if we got an education, we'd get a good job. Even if we didn't get through school we'd get a pretty good job. We also knew we'd probably be better off than our parents. It's not that we had it real easy. We had the war, but mostly we enjoyed a booming economy, except for a few bad years here and there. Friends of mine who are in fishing, forestry or farming all are pretty well off. They all worked hard but hard work was rewarded with promotions and more money. Just because people my age are at the end of our work years, doesn’t mean most of us aren't feeling pretty bad about the situation now.

Jessica: Most of us have kids and grandkids. We are ready to retire but we still feel for young workers and their families. Have any of your kids lost their jobs, Ray?

Ray: No, not yet.
Vijay: Are they in the mining business, too?

Ray: Four of my boys are miners and 2 are in the fishing business. When they all get together the conversation always gets around to the job scene pretty quickly. Two of my grandchildren have university degrees and can't find jobs in their field. So when you look at old Ray, don't think just because it's almost pension time for me that I don't understand your fears. Being on unemployment insurance isn't all it's cracked up to be - not if you'd rather be working. Relocating is hard on families. As mines shut down and jobs disappear and communities that once were alive and thriving slip into ghost towns, it's not only miners who suffer.

Vijay: Mining and forestry have a lot in common. Lots of jobs are being lost and it's not clear exactly why this is happening.

Ray: I'm not saying that everything in the mining industry is 100% right. We've made mistakes. We've had negative impacts on the environment. We polluted our share of rivers and streams but the mine workers are not the ones to blame. People want products made from minerals. Just like people want products made from trees.

Eileen: We all have to try to put ourselves in the other person's shoes. No matter if we are old or young or loggers or fishers, whether we live in cities or on farms.

Ray: We all need to try to come up with workable solutions. We have to try and listen to all sides. The future looks pretty gloomy for many people in the resource industries. But with programs like water stewardship and watershed restoration and with groups like our Round Table just talking and trying to understand one another, we may just come through all this with a healthy economy, a healthy environment and a healthy future.

As I listened to you all tonight I kept thinking of a song my youngest grandchild sings, "It's a small world, after all."

Jessica: Wow, Ray, you're pretty quiet most of the time, but when you do say something it's sure worth listening to. And thinking about. I don't think anyone could add much to what you so eloquently said. Thank you everyone, and I think we're adjourned.
ACT II

Scene V

Jessica, Jackson, Brady, Ray and Vijay are helping Eileen clean up.

Vijay: You know, as everyone was talking about their jobs and their fears about job loss, I was thinking how much we all have in common. I don't mean in what we do for our jobs, but in how we are all pretty much concerned about the same things. No matter what sector we represent at the Round Table, we all are trying to find ways to work out solutions that will be best for the people who work in our sector.

Ray: I think we are also concerned about trying to find solutions that will work for all sectors. That would be ideal. Our common goal is to come up with ways to share the resources and make sure that future generations will also be able to share these same resources.

Brady: Maybe we learn a lot about sharing and cooperating and pulling together for the good of the future when we don't even realize it. Even when we're not at the Round Table.

Jessica: What do you mean, Brady?

Brady: Well, it may sound cheesy or corny but I think we learn a lot about how to work as a group by playing baseball. You know, when I hit a home-run I feel good when everyone cheers for me. I feel like everyone is running those bases with me. When I strike out, I feel everyone is feeling badly too.

Vijay: I think I know what Brady means. I felt the same way when I was making the food for the potluck dinner. We all contributed. We all brought something. It was a team effort, too.

Brady: Well, my empty pot didn't taste too great.

Jackson: Hey, in a way you contributed too, Brady. At least we didn't have to scrub your pot. It was a cinch to clean up.

Eileen: Enough of this, you guys. It's almost midnight. I'm kicking you out so I can get some sleep. I have an early morning meeting with some salmon.

Jessica: Please remember to get your recipes to me so I can photocopy them for everyone. I've never eaten such a wide variety of great food. There are a few leftovers if anyone wants to take them home. Otherwise Eileen says she's getting house guests for the weekend so the food won't go to waste.

Jackson: Jessica, are you and Allan going fishing tomorrow?

Jessica: Yes, bright and early!

Jackson: Mind if I come along?

Jessica: Not at all. We'd love to have some young company. We'll pick you up at 5:30. I'll pack a lunch. In fact, I think I'll take some of this chapati and nan. Anyone else care to come fishing?
Brady: Sure I’d love to tag along. Don’t forget Jessica, you and I are going to go shopping for a gift for Mark and Helen’s baby.

Vijay: By the way, Jessica, what do you have planned for the party after our next ball game, which, by the way, we expect to win.

Jessica: I thought maybe we’d have a games night. You know, everyone brings a game. We’ll order pizza or Chinese food and play board games. Eileen has said we can have the get-together in The Barn again.

Ray: Sounds like fun. Do cards count as a game? There are several bridge and poker players in our group.

Jessica: I don’t see why not.

Brady: Does solitaire count as a game?

Jessica: (drawing out name) Oh, B - R - A - D - Y.

Brady: Just kidding. You know me, the guy who thought you bring a pot to a pot-luck dinner.

Eileen: I have the perfect game for you, Brady - Pin the Tail on the Donkey.

Phone Rings.

Eileen: (Answering phone) Hi Mark (pauses and then to everyone) Mark, I mean, Helen had a baby girl and they are both healthy. (To Mark) Take care. Thanks for calling. Yes, we are finished here, too. Good night. See you at next week’s meeting.
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Should We Sell The Farm?

Characters
Peter Silverberg (Committee Chairperson)
Sam Fugeta (Golf Course Promoter)
Grace MacIntosh (Jersey College Teacher)
Ken Lambert (Race Track Owner)
Raj Chouhan (Senior Citizen's Home Owner)

Peter: Pinewood Farm is a 240-hectare piece of land, just south of Tumbleweed. It may be up for sale. The government bought the farm in 1910 as part of the Scenic View Mental Hospital grounds. The patients worked the farm. They grew vegetables and canned them. They raised cattle and pigs and sold the milk, beef and pork.

By the 1950s fewer and fewer patients were put in mental hospitals. Machines had replaced workers on the farm. By 1980, the government had decided to close the hospital and the farm. They auctioned off the farm equipment and sold the animals.

Now, the government has asked for proposals from people interested in buying Pinewood Farm. Each proposal must explain what will be done with the farm, buildings and land. A committee was formed to listen to all the proposals. Here are the minutes of the meeting:

Peter: First we will hear from Sam Fugeta of BIG TEE Golf Company.

Sam: I feel the Pinewood Farm site would make an excellent golf course. My company has put together a plan to show how much money would come back to the community from an 18-hole golf course. The land is perfect. It's flat. It's near the highway and it's only a half hour from the city.

Peter: Wouldn't building a golf course mean that you would have to tear down all the farm buildings? Wouldn't it also mean cutting down all the trees? There are quite a few species of rare wildlife that live there.

Sam: Well, we could turn the farmhouse into the clubhouse. It would be very unique. We could even keep the farm theme in our restaurant. But, golf courses and big trees all over the place just don't go together.

Peter: What about the tree issue?

Sam: Well, we could keep some of the trees but most of them would have to go. We'd plant grass where all the weeds are. It would sure look better.

Peter: Thank you, Mr. Fugeta. I'm sure there will be plenty of interest in your project. Next, could we hear from the group wanting to turn Pinewood Farm into an agricultural college and research farm.
Grace: My name is Grace MacIntosh and I am from Jersey College. We feel that Pinewood Farms has a rich agricultural heritage. We would like to see young people learn all about farming. If they attend our agricultural college they would learn how to farm in an environmentally friendly way. Pinewood Farm would make a wonderful out-of-doors classroom.

Peter: What kinds of things would they learn about?

Grace: Our students would learn how to farm organically. The students would actually plant crops and raise animals. They would not be able to use pesticides and herbicides. No chemicals would be used. Even the fertilizer would be natural. The crops would be fertilized with manure from the cows.

Peter: Would you teach your students about the economics of farming?

Grace: We wouldn’t just teach them. Once again, our students would learn by doing. We would have a farmers’ market. The students would have to treat the market as a business. They’d get into advertising, marketing and the whole profit-and-loss thing of the real world.

Peter: This sounds like an interesting project.

Grace: Thank you for letting me present our idea to the committee. I have some pamphlets here if you want to read more about this idea.

Peter: Thanks, Ms. MacIntosh. Next, we’d like to hear from the group wanting to turn the farm into a race track. Mr. Lambert, do you propose to build a horse race track or a car race track?

Ken: Horse racing. We’d like to see Pinewood Farms become the biggest race track in the country. We feel it would attract locals and tourists. People love to go to the races.

Peter: Wouldn’t a race track destroy the natural vegetation on the farm site? I mean, you would need a pretty big space for the track and the parking lot, too, wouldn’t you?

Ken: Yes. We’d have to level the land so we could build the track. We’d need to tear down the buildings because we’d need to rewire everything. You know we’d be running a lot of races at night, too, so we’d need lots of lights. This project would mean spending some very serious dollars. People spend a lot of money at the races. They expect all the comforts and all the latest in high-tech equipment for watching and betting.

Peter: Have you people considered the noise from loudspeakers? Or cars coming and going at all hours of the day and night? This site is right in the middle of a very quiet farming community.

Ken: I think folks would get used to the sound of the track. It’s an exciting place. Just get a few of the local farmers hooked on watching those horses and I think they’d come on-side. The economic spinoffs are really BIG.

Peter: Thanks, Mr. Lambert. You certainly are enthusiastic. Could we please hear now from the man who wants to turn the farm into a senior citizens home?
Raj: Yes, that’s me. My name is Raj Chouhan. My family has four senior citizens homes in the area. All our senior’s homes are very full. We have long waiting lists. We would like to have this farm so that old people could spend their last days in a quiet place. They could see trees and wild animals nearby.

Peter: Would you have to change the farm site very much to turn it into a home for seniors?

Raj: Hardly at all. We would try and leave it as it is. After all, it was used as a hospital once. It really is quite perfect the way it is. We’d need to repaint and maybe make some changes for wheelchairs. But as far as the grounds around the farm, we’d like to leave them as they are.

Peter: I guess the community wouldn’t get any economic benefit from an old folks home would it?

Raj: Well, not much. Of course, the seniors would have visitors, their children and friends. Maybe some of them would stay overnight in the local hotel or motel. I’m sure some people would eat at the local restaurants. On the other hand, there wouldn’t be any noise or bright lights.

Peter: Thank you, Mr. Chouhan. Again, I’d like to thank all of you for taking the time to make a proposal to our committee. We will weight all the pros and cons of each of your proposals and let you know what we decide. We are meeting next week and we should know after that meeting which proposal we favour. We will inform all of you of our decision. Thank you all again. It has been very interesting.
Parkland 1990

Characters
Jane Quiring (Eco Times Reporter)  Jean Cutswell (Hairdresser)
Jeff Martinoff (Logger)          Mike Scott (Wildlife Biologist)
Rita Arvinder (Homemaker)       Wyng Chang (Lawyer)
Maria Angelo (Clothing Store Owner) Jaswinder Girn (Electrician)
Terry Dunbar (Gillnet Fisher)    Dennis Fung (Scientist)
Paula George (Writer)

Thursday, June 6, 1990

Jane: I went to a meeting in Timbertown on Thursday, June 6, 1990. More than 50 people showed up. They wanted to discuss the government’s proposal to set aside 860 hectares of land in the Timber River Basin for wilderness parkland. Some people at the meeting spoke out. Here are a few of them:

Jeff: If you Greenniks make parks out of this land, you’d put us loggers out of jobs. If you put us out of jobs then you’d put yourselves out of jobs. Don’t ever forget that when the forest sector loses jobs so does everyone else. Almost everyone in this valley depends on the forest industry.

Mike: I know the forest sector is important to all of us. But the area we are talking about is so small. We just want to have 3 little parks. One of them is just 13 hectares and it’s a marsh. You aren’t logging in the marsh are you?

Jeff: Sure, the park space is small right now. But I know how this green stuff works. First you’ll want 10 hectares of marsh, then you’ll want 1,000 hectares of prime timber. Or even more. Once we give in you’ll take over the whole valley. Nothing but parks.

Jean: We’ve already got Otter Creek Park. There are swings and slides for the kids and plenty of picnic tables. I don’t think we need to have a marsh as a park. Who’d want to go there with the kids? Probably get eaten alive by mosquitoes.

Mike: There are all kinds of parks. Some are for people to enjoy, others are just areas for wildlife. Did you ever think that maybe the animals that live in the marsh might want to keep their homes? This particular area is unique. It’s a calving ground for woodland caribou and a white pelican nesting site. So when we call it a park, it really is just an area that should be left as it is.

Rita: Mike’s right. Not every parkland is meant for the same thing. Some parks are for baseball games and picnics. Some are for hikers and bird-watchers. Other parkland is more like a wilderness area. It’s just a place that is there. The reason we call it a park is really just so it can be protected. No one can build houses or condos in a park. I have some photographs you might like to see. You’d be surprised, I think, at how much wildlife can live in just 10 hectares.
Jeff: You environmentalists and your green spaces. Give me green all right. The green stuff I spend to feed my family and pay the rent.

Wyng: I agree with Mr. Martinoff. We need progress. We need to move ahead. All this talk of walking around being careful not to disturb the bugs or the birds. It makes me think that our economy is going to suffer. How will we attract investors to this valley if all we have are parks?

Mike: Excuse me, but I think people would want to move here and invest their money if we do create a healthy community. We should also remember that scientists are always discovering new species of plants and animals. Some of them turn out to have huge commercial value. If we destroy their habitat now, we may lose money in the long-run. I’m thinking of some plants that have been found to be useful in medicines. They can be worth a lot of money.

Rita: Remember tourists come to our area because of all the outdoor recreation activities. And the smog-free air.

Jean: That’s fine for tourists. But when people come here to live they need to work. They need houses to live in, they need offices and hospitals and schools. People may need parkland but they can’t buy groceries, or furniture or clothes in a park. Stores and hockey rinks are all part of the quality of our lives, too.

Jeff: I hate to keep reminding you folks that these buildings and products are made from wood and minerals. If we can’t log or mine or farm, our lives are going to be pretty empty.

Rita: I don’t think anyone is suggesting that we don’t log or mine. We aren’t asking for all the land to be parkland. When it comes down to it, the 800 hectares is a pretty small amount of land. It isn’t even 1% of our land area. Don’t forget Canada has signed an international agreement. All the countries that signed said they would preserve 12% of their land for parkland. We, in the Pangea Valley, still have a long way to go. Look we’re only talking about putting aside 1% for parkland and even then people are trying to weasel out.

Wyng: But next year, you park types will want 5%. Then it will be 10% of the land for parks. I don’t think some of you will be happy until every chainsaw and bulldozer is stopped. If people want to enjoy nature, why don’t they go up to Knoxville? It’s only about 200 kilometres away. There’s a national park there. Lots of hiking trails. Lots of canoeing. They can wander around with the bears and the birds.

Rita: Parks aren’t about economics. They are about preserving our environment and making sure people who want to experience the outdoors will have places to go.

Jeff: If I could interject again, I’d like to tell you what it will mean in dollars and cents if we go ahead with this 12% solution. In 1994 the forest industry harvested about 40,000 hectares of trees. This is equal to half of one percent of the land base in B.C. This logging generated $13 billion in economic activity.
Mike: Parks generate economic activity too. There are almost 10,000 people employed in jobs that are spin off business around parks.

Jeff: Sure. But parks with 9% of the land base in B.C. generated only $400 million for the economy in 1994. If the same amount of land was logged, it would create $234 billion for the economy. That’s a big chunk of change, especially in some small communities.

Mike: Don’t you think it’s important for people in the city to have a chance, after a hard day at work, to just go for a walk and feel something under their feet besides pavement?

Jean: I’m glad you said after a hard day’s work.

Jane: The proposal for the parkland was voted down by city council after it held six more meetings. At every meeting, there were only one or two people supporting the parkland.

Thursday, June 6, 1996

Jane: I went to a meeting in Timbertown. More than 300 people showed up. They wanted to discuss the government’s proposal to set aside 80,000 hectares of land in the Timber River Basin for parkland. The 11 parks range in size from 10 hectares to 500 hectares. It should be noted that a petition in favour of the proposal had 3,000 names.

Some people spoke at the meeting. Here are comments from some of them.

Terry: This is a great idea. This area we live in is pretty crowded with people and buildings so we need our green spaces. Many of these parklands are important habitat for birds and salmon.

Paula: One of the new parks will be in a place where I backpack and cycle. Now I can be sure it won’t become a housing development before my kids are old enough to come with me.

Maria: We’ve been fighting for these parks since the late 1960s. I used to feel like the only person in the group who believed we should preserve some land for parks. I have seen a big change at the grassroots level. People talk about quality of life now, not just about what the land can be used for.

Dennis: I know what Maria is saying. We have 3,000 names on the petition for the new parkland. No one is speaking out against it. Except maybe the forest companies. And even some of them are donating land that they could have logged.

Jas: The Timber River that runs through this basin is a working river. There are tugs and log booms and factories along its shores. There are over 65,000 people living and working here. But people now know they need a balance between jobs and the environment. A healthy environment and a healthy economy can and must go together.
Urban Streams: Worth Saving?

Characters
Jane Quiring (Eco Times Reporter/Mother)
Peter Quiring (Age 16)
Anna Quiring (Age 15)
Josh Quiring (Age 9)
Erin Quiring (Age 8)

Jane: I have four children, ages 8, 9, 15 and 16. They all belong to a club called Junior Anglers. After Tuesday night’s club meeting they all came home full of excitement. They were anxious to talk about their club meeting. I had just baked their favourite muffins, so while the kids munched on the muffins, I got my tape recorder going.

Jane: You guys seem more excited than usual. Did you learn about some new fishing method or how to tie a fly that will attract that really big trout in Summerlake?

Peter: Mom, you know there’s more to the club than fly-tying and learning how to catch fish. We learn all about fish habitat and the whole ecosystem of an area.

Josh: We even learn about which authors write about fishing. We each have to give at least one book review a month to the rest of the club members.

Jane: I know that much. I was on a fund-raising committee that bought a lot of those books for you kids to read. Don’t you remember me reading Roderick Haig Brown’s books to you a few years ago? Peter, you and Anna will remember. Maybe Josh and Erin were a little young. Anyway, tell me about the meeting.

Anna: We had a guest speaker. He was a commercial fisher and he told us all about urban streams. You know, streams that run through urban areas like towns and cities.

Josh: And lots of schoolyards. Mom, do you know that almost every school in Trail Dust City has a small stream or creek running nearby?

Jane: As a matter of fact, I do know that. I did an article about the importance of urban streams for Eco Times last March.

Erin: Mom, you’ve done an article on almost everything about the environment, haven’t you?

Jane: I try to keep up. But enough about me. What did you learn from your guest speaker?

Peter: Lots of interesting things. These small creeks and streams are valuable fish habitat. Sometimes more fish can live in small creeks than in large streams. It all depends on what the streambed and streambanks are like.
Anna: Yeah. Mr. Gilbert, that’s the commercial fisher’s name, told us that salmon start their lives in these little creeks and streams. It’s really important that the water in them is clear and cold. Salmon need oxygen. And bubbling cold water has lots of oxygen.

Josh: But, Mom, did you know that over half of the little urban streams have been paved over? Either for roads or houses. Our sports centre is sitting on top of what used to be a really neat little creek. It had lots of salmon in it 50 years ago. Now the stream is gone. It was put in a culvert and covered with dirt when they built the arena.

Erin: I couldn’t believe it when Mr. Gilbert told us that there are plans to develop five other places in town with creeks running through them. We were all pretty upset, but then guess what?

Jane: You kids decided that maybe you could do something about this situation.

Anna: How did you know?

Jane: Just a mother’s sixth sense.

Peter: The club members decided to brainstorm for ways to make people more aware of how important these small urban streams are to fish, especially salmon.

Jane: What ideas did you come up with?

Josh: Well, first we thought it would be a good idea to find out exactly where all these streams are. We are going to try to map them. You know, find out where they start and where they flow. We could make a huge map and put it in the mall so people could see it.

Erin: Then we’d like to make up some flyers or brochures about what kinds of plants and wildlife depend on these streams. We’d like to give these to people in the neighbourhoods where the creeks are.

Anna: We thought we’d have car-washes and yard cleanups and do odd jobs to raise money. Then we’d hire a company to make signs that we could put up along the creeks to let people know there are salmon and other living things in the water. Some people don’t mean to do things to harm these streams, they just don’t know any better.

Peter: Mom, will you help us? We all had so many ideas but some of them involve more than just making people aware of the importance of these streams.

Jane: What do you mean?

Peter: Well, we’d really like to find ways to stop developers from destroying these creeks and streams when they are building offices and houses and shopping malls. We need to know how to prevent any more urban streams from becoming pavement.

Anna: Mom, do you think kids like us can stop adults and companies from making environmental mistakes?
Jane: Well, it won't be easy. But yes, I do think the public, and you and your club members are the public, can change how our community goes about its business.

Erin: Even little kids.

Jane: Anybody who cares enough to make a long-term commitment can make a difference. Did Mr. Gilbert think it was possible to do something meaningful?

Josh: He was great. He said a lot of commercial fishers, sport fishers and Native fishers are concerned about fish stocks. They all know that we have to have good spawning and rearing habitat in order to have adult fish to catch.

Peter: He said lots of anglers and other fishers belong to groups that work as volunteers to restore lost habitat. So he thought a lot of these people would rather work with us to prevent habitat from being lost in the first place.

Jane: Well, all these fishers are voters. They can write to the politicians. Politicians want to get elected, so if enough people start to take a look at other ways of developing these areas, it just may work.

Anna: I think there are ways that we can have the malls and offices and houses and save these urban streams, too. Surely if we can put people in outer space and on the moon, we can come up with ways to have development and habitat for salmon, too.

Jane: It's bedtime now, but first thing in the morning, I'll call my editor and see if we can get the Junior Anglers some media coverage. Now off to bed.
Old Growth to be Logged

Characters
Ben Stark (Mayor of Tumbleweed)
John La Bounty (Owner of Bountiful Logging Company)
Gloria Bird (Sport Fisher)
Brenda Chan (Wildlife Biologist)
Lars Nordquist (Logger)
Len Wilkie Wilkinson (Logger)

Ben: Welcome to the Tumbleweed Town Meeting. It is nice to see so many of you here. The City Council has called this meeting to discuss a proposal by the Bountiful Logging Company. This logging company wants to log an old growth forest south of Bootjack Lake. We, in City Council, would like to hear what the townspeople think about this proposal. The City Council will listen to all sides of the issue then we will make a decision. Before we begin, I would like to give you some background information about old growth forests and clear-cut logging. It may help some of you understand the proposal better.

Making Choices
There are many issues that face the people who make decisions to protect our forest resources. Some of the issues that concern our trees and plants include old growth forests and clear-cut logging.

1. Old Growth Forests
There are fewer and fewer areas of the province that have not been logged at one time or another. Forests in areas that have been logged are called second growth forests. Forests that have never been logged are called old growth forests. People have differing views on what should happen to our old growth forests. The trees in old growth forests are very large, slow growing and valuable. Some people believe that logging these forests would bring great economic benefits to people in the province. They also think that logging the areas would open them up to the planting of young seedlings. Other people believe that, since old growth forests are habitats for very unique species of wildlife such as spotted owls, they should be protected. They also believe that these forests should be preserved for the enjoyment of future generations.

Some Questions to Think About:
• Should old growth forests be logged?
• Should old growth forests be preserved for future generations?
• Should old growth forests be maintained to protect habitats of certain species of wildlife?
• Should preservation of wildlife come before economic benefits to people?

2. Clear-cutting
Some methods of logging have a greater impact on the environment than others. Many people are concerned about the impact of clear-cut logging. They do not like the way the forest looks after an area is clear-cut. They also worry about the effect that clear-cutting has on wildlife habitats and soil stability.
Other people are in favour of clear-cutting. They argue that clear-cutting is better than all other methods of logging. It is the safest, most economical, and least damaging to the environment. They also argue that some tree species, such as Douglas fir, cannot be replanted successfully unless the area is clear-cut.

Some Questions to Think About:
• Should clear-cutting be permitted?
• Should the areas where clear-cutting is allowed be restricted?
• Should loggers or environmentalists determine the best logging methods to use?
Ben: Thank you for your patience. Now I will turn the meeting over to you people. Step right up to the microphone if you wish to speak. Looks like John LaBounty will get the first word in.

John: Before anyone gets the red flag out, we won’t be clear-cutting in huge blocks. We will only be cutting smaller sections of trees at any one time. Before we even begin, we have to make a logging plan that has to be approved. We will be paying special attention to how we build logging roads. And, of course, we will have a replanting plan as well. It’s going to cost us a lot of money to log those trees. We may have to use helicopters to get them out in over half the area. This will reduce our profits.

Gloria: Does that mean you’ll only make $4 million profit this year instead of $5 million?

John: I wish. In the old days, the profits were there for sure. But now with high union wages and having to do everything in such environmentally friendly ways, the profits are shrinking.

Brenda: Just like the trees and the animal habitat. They’re shrinking faster than your profits.

Lars: Here we go. Let’s hear it for all the environmentalists. All the tree huggers will be squawking about save the owls or save the something. Remember, spotted owls, or any owls for that matter, don’t pay mortgages, light, heat, rent or taxes. We need to keep our jobs. And our jobs are to cut down trees so people can have timber and paper products.

Brenda: Doesn’t anyone listen when we try to tell them about biodiversity? Doesn’t anyone understand that logging isn’t just about cutting trees? Once those old growth trees are cut down and an irreplaceable ecosystem is destroyed, we have all lost.

Len: I know after 47 years as a logger that we can’t continue logging the way we used to. I’ve seen a lot of changes. I think the industry is learning to be more careful and do less damage to the environment. Loggers aren’t criminals. A lot of us really care about the forests. We want things in the woods to be done right.

John: Bountiful Logging will follow the Forest Practices Code. This will make sure that logging is done properly. And we have the Fisheries Act to protect streams, fish and habitat. If the companies do it the right way, there won’t be any problem with fish populations.

Gloria: What a joke! The logging companies never have to stick to their logging plans. These huge companies make the rules so they can break them, too. Sure, they’ll get a fine for not sticking to the environmentally friendly logging practices. They’ll clear-cut and laugh all the way to the bank or the next stand of old growth trees.

Brenda: There are so many other living things in the area because of the old growth forest. When the trees go, so does the wildlife that depends on the old growth for their homes. You may as well just kill the birds and wildlife. If you destroy their homes, you kill them anyway. Don’t people understand that you can’t warn animals that you’re coming in with chainsaws? Say a bird, a rare one, is living in the tree. Say it has a nest. Once the tree is cut down, where does that particular bird go? Maybe that bird can’t just move to any old other tree.
John: We’ll be keeping a sharp eye on this area. We want to make sure no logging takes place within 30 metres of the streams. That way some trees will be left to shade and protect the habitat and prevent the stream banks from eroding. We also want culverts every 50 metres along the logging roads. This will prevent mudslides.

Len: I hope what you say is true. My brothers and I have been hunting in that area for the past 10 years. I wanted to take my son on these trips now that he’s 18. I hunt deer but I also am the first to protect their habitat. Most hunters care very strongly about the environment.

John: I’m a hunter, too, for that matter. I do a lot of fly-fishing.

Len: I just hope the companies understand that if they use 50 loggers and selective logging methods rather than 5 loggers and clear-cut, they could have a win-win situation. For my money, I want a job, but I also want the logging companies to stick to their logging plans and do the right thing.

Gloria: You people should also know that the public is watching what you do. I read the other day that Eco Tourism is the fastest growing industry in our area. People want to come here and see our forests. They want to fish in our watersheds. You guys will end up with 30 extra jobs. But the area will lose money because we lose tourists who come to spend time and money in the wilderness. We get $6 million a year from hikers, sport fishers, hunters, and eco tourists, who won’t come when the old growth is logged. If you get your calculators out the numbers don’t add up.

Lars: Sure. All these Americans and Japanese and Germans who have cut down all their forests want to tell us how to manage ours. These are the types that encourage all the protesters. I expect the tree spikers and road blockers to be out when we start to cut. And of course, the media will be there stirring things up.

Len: It’s hard on us ordinary guys when everyone is protesting and yelling at us loggers. It’s not our fault if the companies just want to do it the cheapest way. We lose in the long run cause the hit-and-run type operations mean less trees in the long term. That means no jobs in the woods for our kids.

Brenda: This isn’t just a fight between the loggers and the environmentalists. A lot of people are caught in between. They see that people need jobs in the woods. They know we depend on products made from wood. But they also know a lot about habitat. People realize that everything in a watershed is connected. The trees, the soil, the plants, the water, the wildlife. They are linked together. Logging can take place, but it has to be done right.

John: I agree. Loggers like Wilkie here are the best watchdogs. They are right there in the woods. They also have to live in the small towns. This makes them and our company accountable.

Gloria: Well, it all sounds like a fairy tale. My husband and I have been fly-fishing in the creeks in that area for 20 years. Guess we’ll have to find another fishing hole. We feel part of that forest. You should see the pictures we have. I hope you really do give the story a happy ending for everyone.

776 Table Talk
The Windy O'Daly Show

Characters:

Windy O’Daly (Host)
Sharon White (Owner Big Rock Mining Company)
Hank Foster (Sport Fisher)
Susan Ng (Wildlife Biologist)
Greg Borg (Store Owner)

Windy: Good evening everyone. I’m Windy O’Daly and we’ve got an interesting show lined up for you. I have invited Sharon White to be my guest on the show tonight. The topic is: “To mine or not to mine in the Knox River Watershed”. Ms. White will explain a little about herself and mining to the audience and then take their questions.

Sharon: I am president of Big Rock Mining. I didn’t inherit the mine. I worked very hard in the mining industry to get to where I am today. I feel that mining, especially in this area, is part of our heritage. After all, the Gold Rush was all about mining. People, since early times, have wanted and needed products made from minerals. Just think about where this country, or any country, would be today without coal? Before you criticize the building of a mine, think about how many products you use in your daily life that come from minerals. Things like toothpaste and computers all come from minerals. Think about where we get gravel, clay, copper, aluminum and iron.

Hank: The rivers in that watershed are unpolluted right now. What will happen to the sockeye salmon in those rivers when your mine starts dumping toxic tailings into the water?

Sharon: We will not be dumping toxic tailings into the waterways. We will build a tailings pond. This pond will hold all the toxic materials.

Hank: Yeah, I’ve heard about your plan to build a 30-hectare tailings pond. I’ve also heard how it couldn’t possibly leak. But I’m still not convinced. If it does leak, it would kill every fish in the Antler River. Then I guess we’d see a letter of apology in the newspaper. Wouldn’t do the salmon much good though.

Susan: I am concerned about your plan to dig out about 22 hectares of wetlands to control the poisonous acidic drainage from the waste rock. These wetlands are valuable habitat to two species of songbirds.

Sharon: I understand your concern. But I ask you, do you want your community to have a strong economy? If the answer is yes, then give mining a chance.

Susan: I also read that your mine would destroy a moose breeding ground.

Sharon: Yes, it’s too bad, but it’s true.

Greg: Maybe Ms. White should tell us a little about the economics of this mine.
For example, how many people would it employ.

Sharon: Two hundred full-time employees would be needed. A lot of the money made by the mine would go back into the community. Towns like Lustreville and Big Rock could use a boost to their economies. It has cost us over $30 million dollars just to do the exploration. We have spent 10 years trying to get this mine up and running.

Greg: I understand that mining methods have improved. Does mining do less harm to the environment than it used to?

Sharon: Yes, you are right. Mining, like other industries, has cleaned up its act. There are much stricter environmental guidelines that we must follow. An environmental impact study is done before any mine gets the go-ahead. Biologists study the area that we want to mine and try to find out how our mine would affect the wildlife, the plants, the water and the soil.

Greg: I read that most exploration is done nowadays without disturbing the earth’s surface. How do they do this?

Sharon: Modern exploration tools include satellite photos and computer images. Did you know that 99.9% of the earth’s surface has never been touched by mining? When you think of all the minerals and mineral products used by billions of people, it seems incredible that we have disturbed the earth so little.

Hank: Yeah, but what happens when you have spent millions of dollars exploring the area and the environmental study shows the mine would have a poor effect on the wildlife and the water? The government then has to choose. Does it give you your money back, or does it you go ahead and to heck with the harm it may do the environment?

Sharon: Well, it can go many ways. Sometimes the mine goes ahead and we have to change things so we do as little harm to the area as possible. Sometimes, like a few years ago in the Klimox Valley, the government decided to declare the whole area a wilderness park. We are still trying to get our money back from our efforts there. We spent over $20 million on exploration there.

Greg: What happens when the minerals are all mined? I mean once you’ve got all the minerals out, what happens to the mine and the ponds?

Sharon: We reclaim the land as soon as possible. Before we begin mining, as part of our mining plan, we must show how we will get the land back to the way it was before we began mining. The area is replanted and within a few years it looks like it did before. We treat the water in the tailings pond so that it isn’t toxic anymore.

Susan: You may reclaim the land by planting a few trees so it will look good. But once you’ve got toxic wastes in the tailings ponds, you’ve got wastes in the groundwater, too.

Hank: It isn’t as simple as that. Don’t forget that you push out the animals that lived there. You can’t think they just wander around for 10-15 years while you are mining, and when you are through they’ll just wander back as if nothing had happened. Animals can’t read your mining plan. They don’t know you will be reclaiming! Can you imagine a mommy grizzly bear or moose saying to her babies, “Hey, don’t worry that we can’t live here anymore. When these nice
people finish mining they are going to reclaim this land. We’ll just have to leave this perfect habitat and wander around for 15 years and then we’ll come back.”

**Sharon:** I can’t argue with that. Yes, we will push a lot of animals out of their habitat. But I ask you, what does a miner say to his or her children” “Hey kids, I’m out of a job. We’ll have to wander around for 10 years until I find somewhere to work. But don’t worry, kids, we may not have enough money for a house or new clothes, but we won’t mind because six grizzly bears are happy.”

**Hank:** One of the biggest problems with mining is that it can’t share the land with other sectors. I mean who else can use the land? Can cattle graze around the mine site? Can people swim or boat in the tailings pond?

**Greg:** Maybe Ms. White can give us some examples of how mining can share the land with other users.

**Sharon:** Well, many mines are very deep in the ground. You could farm the land around an oil-drilling operation.

**Susan:** I’m not sure I’d want to build my house anywhere near a mine. For one thing, what about all the noise once the miners are working at ground level? I mean trucks and machines coming and going. My sister lives close to a gravel pit near Princeton in southern B.C. When I visit her, I take my earplugs.

**Hank:** I’d worry about using the water anywhere near a mine. I don’t care how deep the mine is. I guess you are trying to do things better but there are still some things that concern me.

**Sharon:** Maybe the best thing is for you people to actually visit a few mines. You’d see that we’ve come a long way from the old days. We’ve been forced, in most cases, to do things cleaner. And it’s people like you who have made us pay more attention to the environment. In the long run, we’re all better off. After all, I’m part of the community, too.

**Windy:** Thank you, Ms. White, for being on the hot seat tonight.
Schoolyard For Sale

Characters
Leslie Van Tine (Grade 5 student)
Todd Martin (Grade 3 student)
Michelle Chung (Grade 2 student)
Janet Turner (Grade 7 student)
Neil Rikhi (Grade 6 student)

Narrator: The children at J.R. Byron elementary school look at the 100-year-old trees on their playground and see a place rich with hiding places and adventure. The Homestake School District looks at the same trees and sees dollar signs. They would like to sell the land behind the school to a builder who could turn the playground woods into a housing subdivision. If the school district sold the land, the building company would pay $2.5 million. This would be enough money to build one or two new schools.

Mary Sommers is the school board chairperson. She says that selling some land around the school is a way to get money to build another two schools. Ms. Sommers pointed out to Eco Times reporter, Jane Quiring, that the 11 schools in the district are already overcrowded. Kids are in portables. More people are moving to the area. The school board doesn’t want to have to raise taxes. But two new schools are needed. If the school district doesn’t sell the land, it will have to ask everyone in the district to pay more taxes.

Although the students at J.R. Byron are only in Grades 1 to 7, they decided to write letters to the school board to try to save their forest. Here is a sampling of their letters.
Leslie Van Tine's letter, Grade 5:

Please don’t cut down our woods. We play there all the time. My friends like the trees. We like to play games in the forest near our school. We can also learn lots about nature from this forest. We don’t have to go on a field trip to see insects and birds and leaves and soil and stuff. When we are in the classroom it is nice to think about our trees. Why can’t you leave the trees alone? The forest around our school makes us feel good.

Todd Martin, Grade 3:

I don’t want our trees to be cut down with a bulldozer. I do want other kids in our neighbourhood to have a new school. My friend, Jason, has to go to a portable. He says it’s too hot. If you have to sell some of our forest so Jason has a school I guess that’s okay. Maybe you could ask the person who will build the houses on our playground to not cut down all the trees. Maybe the company could leave some of the trees when it builds the houses.

Michelle Chung, Grade 2:

I would really, really like it if you didn’t cut down our trees. I like our playground to be big and green. It is so nice for us to play in the woods. Please do not cut down the trees. My dad says they are 100 years old.
Janet Turner, Grade 7:

I know this is a hard choice for the school district. There are so many students in our school district now. How can you build schools for everyone? If we keep our forest playground, other students may not get a school. If you don’t sell our playground, then you would have to raise taxes for everyone. My mom says that taxes are already too high. If you make everyone pay more taxes, some people couldn’t afford a house. I hope you can make a good decision. If you do sell the land to some people to build houses, please tell them to leave some trees. Why do people who build houses or condos or apartments always cut down all the trees? Then they end up planting grass and trees anyway.

Neil Rikhi, Grade 6:

I feel very badly about having such a great forest to play in when some other kids don’t even have a school. Trees are very important, but so are kids. Please do the right thing, but remember two things:

1. If you sell the land, do not let the builders cover all the ground with concrete. The rain water cannot soak into concrete. It just runs off.

2. If you do not sell the land, let people know why they have to pay more taxes. It is because the kids at J.R. Byron need a big playground.

P.S. I just thought of a third thing.

3. If you do sell the land, make sure the money does go to build the new schools. We will be mad if we give up our forest and the school district just buys some new equipment for a gym or computer lab.

Here are the names of some of the kids in my school that are for or against selling the land:

<table>
<thead>
<tr>
<th>For selling the land:</th>
<th>Against selling the land:</th>
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<tbody>
<tr>
<td>Erin Thompson</td>
<td>Jack Owens</td>
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<td>Warren Goldberg</td>
<td>Ken Wi</td>
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<td>Stacy Hunt</td>
<td>Shelley Parker</td>
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<td>Gwen Chang</td>
<td>Colleen Vilhunder</td>
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<td>Robin Melnyk</td>
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<td>Jeff Kim</td>
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<td>Karen Ng</td>
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<td>Eurinice Nabuko</td>
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<tr>
<td>Mark Argus</td>
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Wild West Theme Park

Characters
Jane Quiring (Eco Times Reporter)  Nahar Sidhu (Pharmacist)
Bob Gunn (Biologist with Parks Branch)  Beth Tait (Retired Teacher)
Joy Dickson (Nurse)  Dave Sawchuk (Carpenter)

Jane: Last Thursday evening, the Knoxville City Council heard a proposal from The Wonderworld Theme Park Company. The famous Wonderworld Inc. has theme parks all over the world. It would like to build another theme park just south of Knoxville. The new theme park would be called Wild West Wonderworld and it would have a Gold Rush theme.

Wild West Wonderworld is expected to bring in hundreds of thousands of tourists a year. There would be two world-class hotels built on site. As well as rides and other attractions, people would be able to get the “feel” of the Wild West. Both young and old alike could experience bronco busting and cattle branding with the magic of virtual reality. Three casinos would operate 24 hours a day so people could relive the gambling days during the Gold Rush.

Mayor Tom Whitney said the theme park would cover 375 hectares. It would be built on the Knox River Valley Wetlands. The Knoxville City Council has not made a decision on whether or not to allow the theme park to be built. All citizens and interested groups were invited to a meeting last Monday night to discuss the theme park proposal. I was at the meeting with my tape recorder. Here are the highlights:

Bob: I can’t believe the city would even think of letting Wonderworld or anyone else build anything on the Knox River Wetlands. Don’t these people know what this type of marsh area means to our environment?

Joy: The Knox River Wetlands is a bog. It’s about time someone paved it over. Every spring it’s full of mosquitoes. It’s a real eyesore. A theme park is just what we need to bring some money into this town. I’m all for it.

Bob: Everywhere around us we see buildings and roads. But the wetlands, only a few kilometres from town, is a perfect piece of wilderness. It’s a valuable green space. These marshes create homes for wildlife. There are six different types of ecosystems in this one area!

Joy: What’s an ecosystem? I bet it doesn’t involve dollars and cents.

Bob: An ecosystem is a community of living things and the environment they live in. These living things all interact with each other. An ecosystem can be a forest, a pond or a whole planet. Ecosystems can be large or small. It isn’t about dollars and cents, but it makes sense.

Nahar: My friends and I go duck-hunting in that area. We also like to just look at all the waterfowl that use the marsh as nesting grounds. We even see coho salmon in the water. The place is just teeming with wildlife. The time we spend in the marsh is worth a million dollars in relaxation.
Bob: I am also a member of the Knoxville Naturalists and I can’t imagine who would sell out the Knox River Wetlands. Our group has spent thousands of hours volunteering in this area. We care about it. It’s too bad you think it’s just a bog. Have you ever spent any time there?

Joy: Who wants to spend time in a stinky old bog or wetlands or marsh? Call it whatever you like, but when all is said and done it’s still just a smelly swamp.

Bob: The wetlands may not look pretty or smell sweet, but if you’d been there last year when we cleaned it up you’d know what kinds of plants and animals actually live there. Our group, made up of seniors and school kids, put on our gumboots and cleared out the garbage. What a wonderful world of natural wonders we discovered. Real wonders of the real world. Not fake Wonderworld Theme Park stuff.

Beth: The Wild West Theme Park would be great for my grandchildren. They would love it. When I show them pictures of my great-grandfather during the Gold Rush, they just don’t connect him with what was happening. This theme park would bring the old days to life. After all, the Gold Rush was part of our heritage.

Bob: If your grandchildren or tourists want to learn more about the Wild West, they could read about it in books or watch documentaries or visit museums. Going on a Wild West amusement ride will not give them the flavour of what this land was like 200 years ago. If they really want to “feel” the flavour of what it was like in the old days, they should spend a day in the Knox River Wetlands.

Nahar: Our heritage is not only about what humans did. Our environmental heritage is important, too. Have you folks ever heard of another kind of theme park? They’re popping up all over the place. They’re called Virtual Ecosystems Theme Parks. When the species and habitats are destroyed, companies like Wonderworld build theme parks that copy nature.

Dave: I’ve heard of those ecosystem theme parks. Kids can take eco rides. They can swim with a school of simulated salmon. They can travel in a canoe pulled along a cable to see mechanized birds and caribou. Imagine just adjusting your headset to hear frogs croaking or wolves howling. Maybe that’s what Wonderworld should be building.

Bob: It doesn’t surprise me. Experience nature without getting wet or bitten by a mosquito. People will pay big bucks to “experience” what was once free. It may be fine for some people, but the wildlife would be destroyed. How can you put a dollar figure on that?

Beth: Oh, that’s going too far. I don’t want to destroy any habitat. Couldn’t we have the Wild West Theme Park so our businesses would make money and keep our wetlands so the animals would have their homes?

Dave: Well, I don’t know much about the Wild West 200 years ago, or the bog a thousand years ago. But I do know the building trades could sure use the work. It’s been slow around here for the last 3 years. I’m working pretty steady but a lot of my friends are on Unemployment Insurance. From a job point of view, it would be good for us.

Bob: My son is a carpenter and my nephew is an electrician and both of them are on Unemployment Insurance. So I do know how bad the job situation is.
Dave: But if we say no to Wonderworld, they’ll take their theme park and the jobs it would bring over to Timbertown. We need the jobs here.

Joy: Yeah, my parents run the pizzaria in town. They sure could use the extra business from those hungry tourists.

Beth: Do you think the local businesses really would do better? Won’t most people stay in the big Theme Park Hotel rather than the little motels in town? I’d bet most of the tourists would eat at the McTheme fast food restaurant. They won’t want to come into town for a pizza when they can get one at the theme park.

Bob: I also wonder if the local construction workers would get the building jobs. Some big American company will probably be hired.

Dave: Maybe we should check this out. I thought they’d hire local people to build the theme park.

Joy: Well, even if locals didn’t get all the jobs, a theme park would be better for business than a bog. What jobs or business do the wetlands provide? I still say build something on that stinky old marsh.

Beth: My husband is an RCMP Officer and he is concerned about people problems. Can you imagine what kind of problems an extra 5,000 or 10,000 people could cause? More vandalism. More traffic. And with the casino at the theme park, who knows what problems it might bring? Maybe I should just take my grandchildren gold panning or horseback riding if I want to teach them about the Wild West.

Dave: Don’t forget we have our own local stampede every year. The kids love it. I’d hate to lose that.

Nahar: On the one hand, I can see what a wonderful thing it would be for our town to have a world-famous theme park. It would create thousands of jobs. Not only would there be lots of full-time work for many people, but there would be part-time work for students in the summer time. Think of how many people the hotels alone would employ.

Joy: All of the rides and attractions need people to run and maintain them. The grounds would need to be kept up. It’s really mind boggling when you think of it.

Nahar: Economically, everyone would benefit. And the theme park isn’t a polluting type of business. It’s clean. The only bad part is the location. Couldn’t these developers find some other place to build it? I think we should try and preserve the Knox River Wetlands and build the Wild West Theme Park and protect our small town business and our way of life.

Beth: I guess I’d rather have my grandchildren experience the marsh first-hand. I don’t want them only to know about nature through pictures, stories or theme parks. I do want them to have jobs, too. With all of our fancy technology, why can’t we figure out how to build the theme park and keep the marsh?

Bob: That’s a tall order. I guess we can let city council know our concerns. Maybe we could get the mayor to form a citizens’ committee to check this proposal out further.
ARTICLE
Backcountry Not Backwards
The fastest growing area of the tourist industry is adventure eco-tourism. These businesses organize tours for people who want to have an outdoor wilderness holiday. Tourists share the backcountry with the plants and animals that live there.
"The people who want an eco holiday do not travel in anything with a motor", said Lily Winters, manager of Eco Holidays. "They walk, run, cycle, row or paddle. They do not want to disturb the land. They come to the wilderness to be part of nature."
"Only groups of 10 people or less are allowed in the wilderness parks at any one time," said Ms. Winters.

Quote of the Day
It seems that some eco-tourists are not so eco-minded after all. A group of kayakers on an eco-holiday were reported to have disturbed seals, and left garbage in the area where they had camped overnight."
(Bonnie Millhouse, park ranger)

ARTICLE
Big Sky Gets Go Ahead
Big Sky Ski Resort is going ahead. The resort will attract tourists from all over the world. The town of Pelican Pass expects to benefit as thousands of tourists spend money on the slopes and in the town. The tourism industry thinks the resort will bring in $3 million a year.
A recent study showed the Big Sky Resort would:
- disrupt Grizzly bear habitat
- disrupt migration routes for Rocky Mountain elk
- cause runoff and leaching problems
- discharge wastes from the hotel into Blue Lake.

Inside This Issue
1 Knox River Watershed Protected
2 Mine Wins Award
3 Toxins Blamed for Fish Kill
4 Students Propose Park
5 Protesters Paddle
EDITORIAL

EcoTimes is a newsletter about the environment. We try to cover stories of interest to everyone. We also try and cover stories from all points of view. Because we are an environmental newspaper, most of our stories are about how people and their activities impact on the environment.

We believe the environment is harmed for three main reasons:

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<tr>
<td>1. People may not know the proper way to do things. They may not have the right equipment, tools or methods.</td>
<td>When film is developed, the liquid waste that is left over is harmful to rivers. But a new method to make this waste less harmful was found in 1994. Not everyone is aware of this new method.</td>
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<td>2. People choose not to follow the laws that protect the environment. It takes more time, money and effort to do things the proper way.</td>
<td>People choose to put used car oil into storm drains. The oil runs straight into the river and pollutes it. The oil should be taken to a recycling plant, but this takes more time. And many people cannot be bothered.</td>
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<tr>
<td>3. People do not know enough about the natural world. The best scientists may think that something is safe today. But 20 years from now, we may discover that it is very harmful.</td>
<td>Years ago, people believed that asbestos was safe. Asbestos was mined and then used for fireproofing because it did not burn. But many miners died from asbestosis, a lung disease. No one realized that asbestos was so dangerous.</td>
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MODERN MINING
It Benefits All of Us

Paid for by Pangea Mines Association

LETTERS TO THE EDITOR

Dear Editor:
I read an article last month in your paper about how building more houses in our town is harming small streams and creeks. The writer said these city or urban streams, are in danger of being paved over. She also said they are threatened by toxins. I would like to know what someone like me can do to help fix these streams? Or better still, how can people like me help stop the harm done to the water in the first place?
Your paper said that it's not only big housing projects that cause problems. Folks living along these streams in homes can cause problems as well.
A friend of urban streams,
Cheryl Stanton

Editor's Note: Here are some ways to help the streams.
1. Leave trees along the banks. Do not cut them down.
2. Make sure no toxins are put in streams. (Toxins are things like bleach, paint, oil, and antifreeze.)
3. If you are building in the area, do not allow dirt or silt to get into the stream.
4. Keep machines and equipment out of the stream.
Contact Streamkeepers if you want to join a volunteer group to "adopt" a stream.
COUNCIL MEETING
Students Want New Park

A plan for a new park was put forward last night at the Sagebrush city council meeting.

Students at R.J. Hunter Secondary school have proposed the park be built along Hunter Creek. It is the only site the students think has the amount of space they need for a large playing field. A cycling, walking and running path would be built along the creek as well. The students feel this path would promote a healthy lifestyle for them and other users. Some picnic sites are planned for the area.

The students showed the council a plan and a 3-D model of their park.

John Waynewright, one of the council members, spoke against the park. “Many of the trees along the creek would have to be cut down. The loss of shade trees would mean the water would warm up. That creek is full of trout and they like the water cold.”

Mayor Mary Winter agreed, “The lack of trees might also let the soil on the banks erode and slide into the creek’s clear water. Trout need lots of oxygen in the water and the dirt from the banks could smother the fish.” She added she was in favor of the park if some trees near the water could be saved as stream cover.

Larry Knight was also in favor of the park. But he warned the students about the need to control the garbage and litter. He reminded the council and the students of what happened at Deer Ridge Park on Deer Creek. “Shopping carts, beer and pop cans, plastic containers and things you wouldn’t believe were thrown into the creek by those using Deer Ridge Park,” he said.

The mayor invited the students to come to the next council meeting. “Do some more homework. Come up with ways to solve the problems raised by council members”, she said.

Bucking Bronco Dude Ranch

Calling All City Slickers:

Learn to rope and ride like real cowpokes.

Spend one week with us. We guarantee to turn you into a cowboy within 7 days or you get your money back.
ARTICLE

Hotel Faces Dumping Charges

Charges have been laid against one of the Trail Dust City’s best known hotels. The Hilltop Hotel is charged with dumping toxic wastes into Blue Lake.

“The toxic wastes came from the hotel’s swimming pool,” said Jim Cram. “Our tests show the chlorine that was dumped was very toxic to the fish. Five kinds of salmon live in Blue Lake.”

Hilltop Hotel manager Bob Hopeful said, “We were shocked to find out our wastes were toxic. We want to do what we can to fix the problem.”

“The hotel faces a fine of $300,000,” said Cram. “We think that toxic water has been dumped into Blue Lake for some time.”

ARTICLE

Laying Down the Law

Chief forester Jack Duncan said he was shocked when he flew over the Timber River Valley last week. “The whole 8,000 hectares had been clear-cut by Blomont Timber,” he said. “Sixty rules in the Forest Code had been broken.

Streams were choked with logging debris. There was poor road drainage. Not enough trees were left beside the streams. It was a real mess.

The fish were the big losers here,” said Duncan. “When logging is carried out like this and every tree cut down, the fish haven’t got a chance.”

Mr. Duncan, trying to control himself asked, “Does Blomont really need to have it all? Can’t they try to share the valley?”

“There are ways that logging can be done so the loggers can still make money and the streams can be saved. It is clear Blomont never thought about the fish and other wildlife,” Duncan said.

Blomont Timber was found guilty of all charges. The judge ordered it to pay $250,000 in fines.
PUBLIC MEETING

Research Improves Logging

Ms. Kathy Sullivan was the guest speaker at a public meeting put on by the Green Spaces Environmental Club.

She explained to the 60 people in the audience that researchers are making many interesting discoveries. For example, she said that clear-cut logging was not as bad as many environmentalists claim. She said the size of the area that was clear-cut was important. If small areas were clear-cut and then replanted, it did not harm the forest. If large areas were clear-cut, then a lot of damage could occur.

She stressed it was important that the public and environmental groups like Green Spaces put pressure on logging companies to do things the right way. She listed four things she would like to see loggers do: Build proper logging roads and maintain them; Only clear-cut in small blocks; Leave buffer zones (where trees are not cut down) near water bodies (streams, lakes, rivers, wetlands, oceans); Replant when logging is done.

Ms. Sullivan also told the audience that the forest sector was active in research. “We are always trying to learn from our mistakes so we don’t make as many as we once did.”

ARTICLE

No Scarecrows On This Farm

Don Wise is doing something for the birds. Mr. Wise is a farmer from Pleasant Valley. He is planting winter cover crops that improve the soil and provide food for birds.

He’s not going to make any money from these crops. But he will keep the birds from eating other more valuable crops on his farm. At the same time, he will help

the thousands of birds. The birds use his fields for rest and food during the winter. Birds such as widgeons, swans and geese use the farmlands for winter habitat.

Mr. Wise and 10 of his fellow farmers have planted 1,200 hectares as part of the Greenfields project. This is a joint stewardship project between Ducks Unlimited, the farmers and the government. They share the costs of the planting.
Environmentalists Strike Gold

The whole Knox River Watershed will become a park this week.

This decision kills a proposed copper mine in the area. The mining sector is outraged.

Glitter Mines has been exploring in the Knox River Watershed for three years. It claims it has spent over $30 million.

"We had planned to create 50 jobs in the area," said Tim Smith, a spokesperson from Glitter Mines. "Our mine would have shipped a tandem trailer's worth of minerals every hour, 24 hours a day, 365 days a year for 10 years."

Irene Black, spoke for Eco Trust, an environmental group. She said, "It was our turn to strike it rich today. The Knox Valley Watershed is home to a number of rare species of animals. Maybe we can still save the grizzly bears," she said.

"The new park will be a wilderness paradise. The lands and rivers will sparkle with clean water. This sparkle is worth more than the glitter of a diamond."

Mine Wins Award

Homestake Mines Ltd. has received an award for reclaiming its land.

The open-pit gold mine opened 10 years ago. The mine disturbed 340 hectares of land. Now 10 years later, 121 hectares have already been reclaimed. The mine is set to close in 2 years and 100% of the land will be reclaimed.

The reclamation includes:
- planting trees and other plants on the old mine site,
- resloping rock dumpsites, and
- treating the water from the tailings pond.

Mary Price, the mine's president, says she is "very proud of the way Homestake Mines Ltd. has reclaimed the land."

Five years ago, the owners of the mine were fined $15,000 for a bathtub-sized spill of wastes from a leaking pipe.
SPORT FISH REPORT

Anglers on the Line
Fishery Officer Donna Reed gives a weekly report to our newspaper. She tells about the laws that have been broken by local sport fishers. Ms. Reed lists the warnings and fines. Those warned or fined are not named.

Warnings
Five sport fishers were warned for fishing for adult salmon off the Cougar Creek bridge during October. (You are not allowed to catch salmon in the Cougar River when they are swimming up the Cougar River to spawn.)

Fines
One fisher was fined $50 for using more than one fishing line at a time.

COMMERCIAL FISH REPORT

Obey the Law - or Pay Up
Fishery Officer Brian Lord gives a weekly report to our newspaper. He tells about the laws that are broken by commercial fishers.

Two men will appear in court charged with fishing without proper licences. Licencing is needed to make sure people fish in an orderly manner and that the number of fish they catch are reported correctly. The average fine is $300.

The owner of the troller, Gone Fishing, has been charged with having 8 guides (fishing lines) in the water. (Trollers are allowed to have 6 guides in the water at a time.) If convicted, the vessel owner could be ordered to pay a fine of $500.

Fishing Adventures

Experience the Thrill of ACTION FISHING in the Pangea River Valley!

Fly-In Adventures
2 Days/2 Nights
From $389.00
(Per person)
Includes Round Trip Airfare to Resort.

Enjoy Deluxe Shoreside accommodation or a comfortable stateroom aboard ship. Seven hour Fishing trip daily with professional skippers and guides.

For Reservations and Information Call 1-800-BIG-FISH
ARTICLE

The Bear Facts
After studying grizzly bears for three years, a team of biologists has learned these facts:
Grizzlies prefer the lower slopes and valley bottoms where the biggest trees grow.
Grizzlies have a very low reproductive rate. (A female grizzly may have only 2-3 cubs during her life.)
In the 1700s there were about 200,000 grizzlies in North America. In the late 1900s there are about 25,000.
Grizzlies travel over large areas of land (300-400 square kilometres).
Biologist Kim Taylor explains, “It isn’t enough to set aside a wilderness area for the grizzly bears and then log right beside this area. The grizzlies need to roam over 300-400 square kilometres of land. They need safe travel routes from one protected area to the next.”

ARTICLE

Toxins Blamed for Massive Fish Kill
Government biologists are investigating a fish kill in the upper parts of Crystal Creek. The fish kill was discovered by two people hiking in the area.
Dave Evans, president of the Save the Fish Society, was upset. “Most of the 300,000 salmon fry released in the area by the society earlier this year were killed by toxins,” he said.
Investigators believe they have found where the toxins entered the stream, he added. But they haven’t yet found the source of these poisons. One biologist believes that human waste from a sewage treatment plant is the source of the pollution.
Evans called the fish kill a disaster for the society. His members have put in thousands of hours to restore Crystal Creek.
“The fish that were killed were hand-raised in our small hatchery. They were released by children from Highlands Elementary School” he said.
“This loss will mean a big set-back, for the Crystal Creek repopulation program,” he said.
HABITAT REPORT

Fisheries Act Violations
The Fisheries Act protects fish and fish habitat. It sets out the rules that all people must obey when they are in or near the water. People cannot destroy fish or fish habitat. If they break the Fisheries Act they can be fined or even put in jail.

A chlorine storage tank leaked on the grounds of the B & B Pulp Mill. The mill was charged and fined $10,000 because the chlorine spilled into the storm drain and into the Timber River. Chlorine is a toxic material. The chlorine leak killed 50 fish.

Carla’s Candy Factory was fined $15,000 after a worker drained 500 litres of chlorinated water onto the parking lot. The water then ran into Criss-Cross Creek. The employee thought “it was only water” and didn’t know that it could kill fish. About 50 salmon fry in Criss-Cross Creek were killed.

Rainbow Paint Company was found guilty of dumping paint and oil into storm drains near 2nd Avenue in Trail Dust City. Both paint and oil are toxic materials harmful to fish. Since this was the company’s third offence, it was fined $15,000.00.

ARTICLE

Paddle to Protest
Over 50 outdoor enthusiasts from all over the world came together to paddle five huge canoes up Silver Lake to the mouth of the Little Timber River. This five-day event was organized to put pressure on the government. The group wants to protest plans to clear-cut in the Little Timber watershed.

Last spring, the government gave a permit to the Tall Timbers Logging Company to log the area.

Outdoor recreation groups, tourism groups and conservationists want the public to know how important the Little Timber River watershed is. They want the area protected for fish and wildlife and wilderness recreation.

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BACKTALK

This column is about great ideas that “backfire”. People who do research, like doctors and scientists, find good ways to solve a problem. Then, they find out that the solution has not helped at all. In fact, sometimes the solution makes things worse. Their great idea has “backfired”.

Hormones are chemicals found in small amounts in all animals. Hormones help keep the animal's body working properly. Several years ago, farmers decided to give cattle extra hormones to make them grow faster. This meant that farmers would make more money. But, when people eat this meat, the hormones get into their bodies. Now scientists are worried that these extra hormones may cause birth defects or cancers.

In the 1970s Kootenay Lake had huge rainbow trout. The trout were big because they ate the kokanee salmon in the lake. The government and the tourism industry made lots of money from the sports fishers who fished in the lake. At the same time, a smelter was dumping pollution into the lake. Then in the late 1970s, people protested about the pollution so much that the lake was cleaned up. But, scientists soon found there were fewer rainbow trout. It turned out that the pollution had been helping to grow food for the kokanee salmon. And the kokanee were the food for the trout. The government is now spending money to fertilize the lake so the number of rainbow trout will increase.

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Save our Streams. Urban streams in Pangea are threatened by development. Attend a lecture Monday, September 10 and find out what you can do to help SAVE OUR STREAMS. For information call 1-800-STREAMS.
LECTURE SERIES

Plants for Streams

Plants needed on streams was the topic last night at the “Habitat ABC’s Lecture Series. Linda Green and Gary McPhee, habitat biologists spoke to a group of about 20 people at Harry Prince High School. They told the group about “Streamkeepers”, a volunteer group that grows trees and shrubs in nurseries and plants them along stream banks.

“Plants are important to streams,” said Ms. Green.
The reasons include:

- Plants along a stream help to keep streambanks stable. The roots hold the soil together to the banks don’t erode.

- Plants provide cover for wildlife and fish.

- Trees and shrubs, like the ones grown in the nurseries, help keep the streams shady. This helps keep the water cool, just the way salmon and trout like it.

- Leaves from the plants fall into the stream and make good food for tiny critters that live in the water.

- Plants trap sediments (small dirt particles). And their roots filter out pollutants. This keeps many toxins from reaching the stream.

- Plants help keep the water flow even by helping the soil absorb rain water and snow. Then this stored water flows back into the stream during dry spells.

- Shrubs and plants along a stream provide habitat for birds and wildlife.

- Plants provide food for many creatures.

In closing, McPhee told the group, “If you know of any treed areas that are going to be developed for houses or other buildings, let Streamkeepers know. They will come and remove the plants and take them to the nurseries. If you want to donate plants or shrubs, give Streamkeepers a call. Or, if you want to donate some of your time, Streamkeepers is always looking for volunteers with a green thumb.” For more information, call Gary McPhee or Linda Green.

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EcoTimes

Issue 2

ARTICLE

New Plans for Open-Pit Mine

Myland Mines should become a land fill after it shuts down, says its president, Bill Peters. Myland Mines near Knoxville runs the world’s largest open-pit copper mine. The mine is supposed to shut down in 1996 when the copper runs out. By law, the mine site has to be reclaimed (put back to its natural state). Myland Mines said it would use class C soils to compact the trash. Class C soils are those that have been contaminated with toxic chemicals. People who live in Knoxville are worried that toxins from the landfill will leak into the rivers and lakes. They are especially concerned because Strike Lake, just south of the mine, attracts lots of tourists.

ARTICLE

Tribal Council Helps Stream

The Pangea Nation Tribal Council has planted trees and shrubs along the banks of Wagon Wheel Creek. They hope this will stop the soil from sliding into the water. Ranchers had let their cattle trample the banks. The cows had also overgrazed so there were few plants left. Loggers had not left any trees near the creek. Trees and plants help keep stream banks strong because their roots hold the soil together.

Quote of the Day

“Every day about 2 million cubic metres of wastes are discharged into the Pangea River. This could fill 1,500 swimming pools. People are always trying to blame the farmers, loggers or miners. But about half of all this liquid waste (750 swimming pools) comes from people like you and me. It comes from the stuff that people pour down sinks, flush down toilets and pour down storm drains. Maybe people should stop pointing fingers at others and start taking a little more of the blame for the polluted rivers.”

(Indira Singh, retired nurse)

Inside This Issue

1 Wilderness Park in Timbertown?
2 Gold Mine Update
3 Tourists Flock to Pangea
4 Billion Dollar Deal Lost
5 School in the Woods
EDITORIAL
If you cut down a tree where a bird (such as the northern spotted owl) lives and that bird can only live in that tree, does this mean you have, in fact, killed the bird? If you destroy a streambed with your bulldozer in the spring and the salmon return to the stream in the fall and find there is no gravel for them to spawn in, have you killed the next generation of salmon? Is forcing an animal out of its habitat the same as killing the animal?

These are important questions that we all must ask ourselves. Why is it illegal to kill endangered or threatened species, but not illegal to destroy or harm their habitat?

EcoTimes would like to see an animal’s habitat protected if the animal that lives there is protected. The Fisheries Act is a model. It makes it illegal to kill salmon eggs, salmon fry and spawning salmon. It is also illegal to destroy the streambed or pollute the waters that salmon live in. This means the salmon are protected and the salmon habitat is protected. It should be the same for other fish and wildlife.

LETTERS TO THE EDITOR
Dear Editor:

If you think all trees are cut down by loggers, you are mistaken. Here is a true story.

Last year the Sisters at St. Mary’s Convent sold part of their land to a builder. The builder wanted to build 70 large houses. The Sisters agreed that the builder could cut down and take away any dead trees on the site. But the 300 live trees were to be left standing.

The builder knew that once he asked the city for a permit to build the houses, the permit would say he couldn’t cut down the trees. But he also knew that it would cost him a lot more money to build the houses around the trees. A piece of land with all the trees cut down is much easier to build on. The builder hired a crew and in the dead of night they took their chainsaws and cut down the 300 live trees.

The sad part about the cutting down of the trees is that they weren’t in anybody’s way. What a shame. A smart builder would have left the trees and sold the houses for more money. People would rather live in a house with trees around it. Wouldn’t they?

Yours truly,

Sister Mary-Margaret
COUNCIL MEETING

Out of Bounds

The pros and cons of creating a new park were discussed last night at a meeting of the Timbertown city council.

A local conservation group has proposed that 100 square kilometres of land just east of Timbertown be set aside as a wilderness park. The group says the area has several rare species of plants. They would like the area to be “out of bounds” to people. “We want the area to be preserved. No fishing, no camping, not even any hiking,” said Joe Boggs.

Some people in the town are against the wilderness park because they use the area for hunting, fishing and camping. Said one old-timer: “I’ve been fishing in Sparkling Lake for 50 years. I hike in and I spend the day on the lake. I catch a few fish and I hike back out. Everytime I spend a day there I feel as if I were reborn. I am inspired. I see the plants and animals and I would fight to protect them. But if I can’t enjoy the place from time to time, maybe I won’t care if someone in the future decides to build a golf course in the area.”

The Timbertown city council will hold a public meeting to get more viewpoints about the park.

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ARTICLE

Taking School to the Woods

At 6:30 a.m. on a chilly November day, the first sounds of a field trip begin in the parking lot of Rocky Creek School. Sleepy students, carrying sleeping bags, check in with the teacher and claim a space on the bus.

The students have been looking forward to this 2-day, 2-night trip since school opened in September. They are going exploring in the forests. And they want to learn all about how the trees are logged.

Buses are paid for by the Blomont Forest Company. The Ministry of Forests is paying for the meals. The kids will stay in the Forestry Camp bunkhouse.

Some of the things students will see and do on their trip:
- hike through an old-growth forest,
- watch logs being cut and sorted,
- tour a pulp and paper mill,
- plant seedlings, and
- see both large and small-scale logging.

ARTICLE

Lost a Billion

The Tall Timbers Logging Co. has just lost a $1 billion pulp and paper deal with Germany.

"As long as there is clear-cutting in the Timber River Valley we will not buy forest products from Tall Timbers", said Hans Klein. Mr. Klein was speaking for a large German company.

EcoTimes spoke to Mark Fletcher, owner of Tall Timbers. "We stopped clear-cutting in the Timber Valley 6 months ago. We have tried to make the Germans aware of this fact. They seem to want to believe the 'green niks' instead of the data we sent them. What more can we do?"

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PUBLIC MEETING

Sharing Water

Problems on the Pangea River were discussed at a recent public meeting. “There are low water levels every summer,” said Joseph Schmitz. He explained that during the hot, dry summers, the streams of the Pangea River watershed are a source of water for many farms and ranches. But when water is taken from streams for irrigation, it often leaves little water in the streams for fish.

Most of the farmers in the area use an open-ditch irrigation system. This means large amounts of water seep into the ground and evaporate. This water is “lost” because it cannot be used for irrigation.

“Because of it the huge losses, extra water must be taken out of the streams to get enough to irrigate the farms. And the crops need the most water in the driest months of August and September. This is when river water levels are already low,” said Joseph.

Sometimes the low water levels make it impossible for adult salmon to get up the small streams to spawn in late August. To combat this problem, Mr. Schmitz and his team are asking farmers to replace their open irrigation ditches with a pipeline. That way water wouldn’t evaporate or seep into the ground and farmers and ranchers wouldn’t have to take as much water from the river. That would leave more water for the fish.

ARTICLE

Tim-ber

Japan’s demand for B.C. lumber is going down. The logging industry could be losing a big part of its $2 billion Japanese market.

Peter Nakamoto, spokesperson for a large importing company in Japan said, “There are three basic reasons why Japan is not buying as much B.C. lumber. First, fewer houses are being built because the Japanese economy is down. Second, more and more Japanese builders want to use cheaper new products such as engineered and laminated wood made from wood fibre. Other countries such as Chile and Germany are making these new products from wood fibre. The third reason is high labour costs in B.C. When the B.C. companies have to pay high wages to their workers they have to charge more for the lumber so they can make a profit. We, in Japan, cannot afford to buy B.C. lumber.”
ARTICLE
Loggers Block Road

About 40 loggers who work for the T.S. Brown Timber Co. blocked Newton Road near Blue Lake for 8 hours. The loggers are mad because the T.S. Brown Timber Co. had been told that it could log the 2,000 hectares.

EcoTimes spoke to Al Folk, one of the loggers blocking the road. "This new decision to make a park is unfair. The government made a promise. Even if that promise meant old growth would be cut, they should honor their word."

The T.S. Brown Timber Co. is a family-owned business. This flip-flop by the government will cost 80 loggers their jobs. Some of these loggers have lost jobs in other places when parkland has been created. "Our families have had to be uprooted time after time," said Mr. Folk. "Our government can't keep changing its mind just because a poll shows more people want parks. We loggers like the idea of adding more parkland. But we do not support going back on a promise. This blockade is a good way to let the people in power know they have to make tough choices and stick to them."

ARTICLE
German Tourists Flock to Pangea Valley

Every year 4,000 German tourists flock to Pangea Valley. They want to enjoy the forest wilderness. Said tour guide Mike Van Horne: "The Germans ruined their own forests by over-logging. Having lost much of their forests they want to save ours."

"We don't have wilderness places in Germany, so we go looking for them," said one of the tourists, Hans Wolff. "Your valley is viewed as a wilderness with huge trees and lots of wildlife."

It is thought that German tourists spent $400,000 in the Pangea Valley last year.

Gang up on Air Pollution Support Bike Lanes.
SPORT FISH REPORT

Anglers on the Line

Fishery Officer Donna Reed gives her weekly report to our newspaper. She tells about the laws that have been broken by local sport fishers. Ms. Reed lists the warnings and fines. Those warned or fined are not named.

Warnings

Four anglers were warned for fishing using a treble hook, on Peaceful Lake. All the fishing in Peaceful Lake is catch & release. (Catch & release means you catch the fish then let it go. This means you must use a barbless hook so the hook won’t harm the fish when you take it out.) Treble hooks seriously hurt the fish so if the fish are released they could die.

Fines

Three fishers were fined $75 each for using a fishing line attached to a weight heavier than 1 kg.

COMMERCIAL FISH REPORT

Obey the Law - or Pay Up

Fishery Officer Brian Lord gives his weekly report to our newspaper. He tells about the laws that have been broken by commercial fishers.

Glenn & Jackie O’Connor, owners of the Lucky W, were charged with catching sockeye salmon during a fishing closure. (Certain areas are closed to fishers at certain times. This allows salmon to pass through the area so enough fish will make it to the spawning grounds.)

Jim Jones, skipper of the fishing vessel, Gilly II was charged and later plead guilty to having 2 gillnets in the water at one time. (Gillnet fishers are only allowed to have 1 gillnet in the water at a time.) He was fined $550. The extra gillnet was seized. The judge suggested Mr. Jones change the name of his boat to the Gilly I.

Catch & Release

Catch & release lecture to be held at the Pleasant Valley Rod & Gun Club at 7:00 p.m. Monday, March 15. Everyone welcome to attend. Videos and a guest speaker will show all anglers how to enjoy catching fish and then releasing them. The idea is to catch the fish but not kill them. The fish that are “put back in the water” (released) will have a chance to spawn.
ARTICLE

Gold Mine Update

The Crosskin Gold Company has applied for a permit to dump mining and milling wastes (tailings) into the Knox River near Knoxville. The tailings would contain cyanide, a poison used to separate the gold from the rock. The Crosskin Gold Company is set to begin construction of an open-pit gold mine next year.

The Knox River provides habitat for 3 million spawning sockeye salmon a year. The river is used by boaters and swimmers. Its water is also used for agriculture and drinking. Some residents of Knoxville have decided to try to stop the permit from being issued. A hearing will be held in February to decide if the Crosskin Gold Company can dump the toxic tailings into the Knox River.

ARTICLE

Cleaning Up Pollution

Scientists have discovered a simple way to treat pollution. Robert Gillham, a hydrogeologist, found that iron filings could be used to take toxic chemicals out of polluted water. He explained how the process works to EcoTimes reporter, Jane Quiring. “First you find the direction in which the polluted water is seeping. The water could be polluted with cleaning solvents such as those used in dry cleaning. After you find out where the water is flowing, you dig a trench in the ground in front of where the water is flowing. You throw a little sand and a few hundred tonnes of iron filings into the trench. (The iron filings are found in many places such as machine shops.) Then you seal up the trench and presto-chango, when the water flows through the filings, it is purified.”

Gillman went on to say how this process works. “It is quite simple. The toxic solvent reacts with the iron filings and the solvents break down into harmless gases. There are huge cost savings if the trench method is used and there doesn’t seem to be any harm done to the environment.”


There were three questions that Gillham did not yet have answers for. How long will the trench filled with iron filings work? Are there places that are too polluted for it to be used? Are the by-products produced as harmless as they seem?
HABITAT REPORT

Fisheries Act Violations
The Fisheries Act protects fish and fish habitat. It sets out the rules that all people must obey when they are in or near the water. People cannot destroy fish or fish habitat. If they break the Fisheries Act they can be fined or even put in jail.

Hawkins Brothers Excavating was fined $5,000 for disturbing fish habitat. The company was bulldozing an area for a condo development when some bulldozers ran through a nearby stream. There were no fish in the stream at the time but the stream is a spawning stream for coho salmon.

Milkwood Farms was fined $500 for letting their cows trample a stream bank near Stoney Creek. Milkwood Farms has been asked several times to repair the fence near the creek.

The Risky Logging Company was found guilty for not leaving a zone of trees along the Little Timber River. Photos taken by fisheries officers showed that the logging company had only left three spindly trees along the river. Two weeks after the company finished logging the 3 spindly trees blew into the river. The company was ordered to pay a fine of $10,000.

ARTICLE

Footprint Too Big
The average Canadian household’s footprint is over 4.3 hectares. (A footprint is the amount of space a person or family takes up.) Smaller, poorer households in this country live on three hectares. More wealthy households need over 13 hectares.

Each family takes up so much land because of all the resources that we use. For example, each time a bath or shower are taken, the water is heated with gas. A piece of land had to be drilled to get the gas. Each time a new car is manufactured, metals are used. A piece of land had to be mined to supply the minerals. Each time a new house is built, lumber is used. The trees from a piece of land had to be harvested. Each time a meal is prepared, food is eaten. A piece of land had to be used to grow the crops. When all of these pieces of land are added together, scientists have discovered that each Canadian family needs 4.3 hectares of land. This is about the size of eight football fields.

Each Canadian uses 16-20 times more of the earth’s resources than each person in India or China.

If all the people on the planet lived our lifestyle, we’d need three earth’s to support them. The planet could not take 5.7 billion people living as we do.

If we don’t cut back on consuming goods and polluting the planet, poorer nations may follow our example as they become more developed.
BACKTALK

This column is about great ideas that “backfire”. People who do research, like doctors and scientists, find good ways to solve a problem. Then, they find out that the solution has not helped at all. In fact, sometimes the solution makes things worse. Their great idea has “backfired”.

For many years, people tried to prevent all forest fires. We also paid people to fight all forest fires. But now, scientists have found that some of British Columbia’s forests are unhealthy. It turns out that fires are part of the natural ecosystem in some forests. These fires help keep the habitat healthy for the plants and wildlife. So now, people in the Forest Service start controlled fires in certain places.

Milfoil is a plant that grows well in lakes. It will choke out all the other plant life. Milfoil has damaged the habitat of some lakes in British Columbia. Then scientists thought of a way to stop the milfoil. They put grass carp, a fish from China that eats milfoil, into the lake. Now there are large numbers of grass carp in these lakes and our native British Columbia fish are dying out. They cannot compete with the grass carp for food and space.

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LECTURE SERIES

What’s a Slough Mean to You?

Dr. Pat Brownlife spoke about the importance of sloughs as the second speaker in the “Habitat ABCs” lecture series. Our reporter, Jane Quiring covered Dr. Brownlife’s speech.

The dictionary says a slough is a swamp, a muddy place. This doesn’t sound too inviting. But to a young salmon on its way to the ocean, a slough is a great place to rest and feed.

A slough is often found at the mouth of a river where freshwater meets and mixes with saltwater. Sloughs contain all kinds of plants, insects and wildlife. Unfortunately, sloughs are also places that are likely to get paved over for roads or bulldozed for housing developments.

Some towns understand the value of sloughs to salmon and other fish. The Antler River town council is helping to protect the Antler River Slough by replanting an area that was once a factory site. The city plans to make a natural park along the slough, with trails, bird watching areas and picnic sites.

Of course, people will not be the only ones to benefit. The salmon migrating upstream or downstream will be able to rest and feed in one of their favorite places, the Antler River Slough. Maybe they can “people watch” while they are passing through.

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Issue 3

ARTICLE

Poll Finds People Pro Parks

A majority of people are in favour of protecting land for parks, a recent poll found. The poll asked whether the government should continue trying to protect 12% of B.C.'s land by the year 2000. According to the poll:

• 48% said yes, protect certain areas
• 21% said protect even more areas, and
• 28% said slow down in protecting areas

Other poll results:
• Canadians spent over $5.6 billion a year on wildlife related activities.
• Over 60% said they would be willing to pay more taxes to protect wetlands, forests and other wildlife habitat.

Quote of the Day

"The government can't win. The president of the Glitter Mining Company says 200 jobs will be cut if the company has to meet a new law to protect the environment. And the 200 people who might lose their jobs begin writing letters saying they cannot feed their families if they are out of work. So then the government has to decide what to do. The workers are angry if the government lets the company get away with not following the law." (Adolf Brun, multwright)

ARTICLE

Mining Products

Mining products touch many parts of our daily life. It has been estimated that the average person in North America will need the following during his or her lifetime:

• 472.5 kilograms of lead,
• 472.5 kilograms of zinc,
• 787.5 kilograms of copper,
• 2,047.5 kilograms of aluminum,
• 40,950 kilograms of iron and steel,
• 162,225 kilograms of coal,
• 450,000 kilograms of stone, sand, gravel, cement and clay.

Inside This Issue

1  Millions of Fish Missing
2  No Go On Dam
3  Power of Plants
4  Water for Everyone
5  Park Fees
EDITORIAL
We all owe much to environmental groups. They have worked hard to make changes in the way we all (individuals and companies) go about our business. These groups have made us aware of things such as recycling, reusing and reducing. Most of us learned about air and water pollution from articles written by environmentalists.

But are these groups only good at telling us what’s wrong? Are they only good at scolding us? Pointing fingers at those who are polluting or wasting?

Many writers and scientists say we are, in fact, winning some environmental battles. Smog is down in many cities. Some toxic wastes from industry are lower. The forest industry is making huge changes in the way it logs. Pulp mills have spent billions of dollars cleaning up pollution from rivers. Not everything is sweet and rosy but there are many good signs.

Do these environmental groups see the positive? Do they give pats on the back to those that clean up their acts? Environmentalists have had lots of attention by wagging their fingers and scolding those who were harming the environment. We at EcoTimes, would like to see them give the thumbs up when it is deserved. Otherwise they will lose our trust and that would be a loss for all of us.

LETTERS TO THE EDITOR
Dear Editor,

In this province, we have some of the world’s best fish. Our salmon, herring, halibut and groundfish are world famous. Are we making sure this will always be the case?

Each year we catch more and more fish. The fishing fleets can find and catch fish at a fast rate. Their fishing power keeps growing. The demands of tourists and anglers for sport fishing are growing as well. The millions, or rather billions, of dollars that anglers spend give them a big piece of the fishing action. Native Indians want a piece of the pie as well. They feel that not only should they fish for their own food, but they should be allowed to sell the fish they catch.

We have to let more fish pass by the nets and hooks and other gear of these three groups of fishers. If we don’t change our ways there won’t be any fish in future seasons to squabble about. Maybe all the fishers better think first and fish second.

A fed-up fisher,

Vnikita Asimov

812 Table Talk
COUNCIL MEETING

Go Ahead

Last night, the Sagebrush city council held its meeting later than usual. Members took 30 minutes to celebrate the mayor's 42nd birthday. Happy Birthday, Mary Winter!

After it got down to business, council said it will consider the Southwinds Development Company’s proposed Newtown Community after an environmental impact study is done.

The Newtown Community would house 12,000 residents in 4,900 homes. It would be an old-fashioned town with no strip malls, no clear-cutting, no main highways. The developers claim that, "every tree 30 cm in diameter or more will need a permit to cut down."

The Newtown Community also would have a park, a marina, a resort hotel, a golf course and lots of space for office buildings and stores. "No one will have to leave the town. They can work and play in the Newtown Community," say the developers. The total cost of the project is estimated to be $1.2 billion. It would create 500 jobs.

The environmental impact study will cost the developers $1.5 million. It will be done during the next 6 months. As one member of the company put it, "We should be calling this community Eden. It's perfect."

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ARTICLE

Park Fees

The price of using all parks in Pangea will be raised next month. A poll showed that people are willing to pay more to use the parks. Those polled also said they wanted the extra fees to go back into the running of the parks.

In the past, parks haven’t even begun to pay their own way. Now those that use them most will pay more.

In High Peaks Park the entrance fee will rise to $7 from $5. Some things in the park that used to be free will now charge $2-$5. The mayor thinks the city could save money by cutting down on the number of police officers that patrol the parks. He thinks that fewer people will use the parks because of higher user fees.

---

SUNSHINE CAR WASH

NO PHOSPHATES.
NO RUN-OFF WATER.

DON’T TAKE A CHANCE THAT YOUR SOAPY WATER ENDS UP IN A STORM DRAIN.

---

ARTICLE

More than ABC’s

Some students at Buckskin School wanted to give their school yard a “face lift”. They wanted their school to be more “alive”. They felt Buckskin School had lots of concrete but not enough grass and trees. After meeting with a group of teachers, to find out just what could be done they came up with a plan.

The students formed 3 groups. The first group polled the rest of the students in the school to find out what things they liked to do in the school yard.

The second group found out as much as they could about native plants. They needed to know which ones might grow in their school yard.

The third group contacted people outside the school who might help their projects.

Then all three groups put their data together. The result was the Buckskin Outdoor Classroom Project. Some of the things they did were:

1. Remove two sections of asphalt in the school yard.
2. Replace the asphalt with native plants
3. Build a rock garden pond.
4. Plant a butterfly garden.

The students wanted people to know the project was a real Team effort. They wanted EcoTimes to thank the following people:

• Darren Miller, Miller’s Nursery
• Karen McTavish, Otter Valley Native Plants
• John Thomas, Ace Concrete
• Mel & Jane Chang, Buckskin Landscapers
• Mrs. Field, Librarian
PUBLIC MEETING

To Mine or Not to Mine

EcoTimes has learned that a public meeting about a proposed mine will be held next Tuesday at 7:30 p.m. at R.J. Hunter School. The public will learn more about a proposed mine.

Hard Rock Mines wants to build a huge mine in the Pangea Valley.

“If this project goes ahead 300 new jobs will be created. Revenues from the mine will be in the millions,” said John McAdam, owner of the mine.

Jane McWaters, a member of a local environmental group said, “This mine will have huge amounts of chemical waste. By law the mine should not go ahead. One of the mine’s biggest problems is acid mine drainage. (Acid mine drainage is a toxic liquid that comes from rainwater dripping over the waste rock.) They plan to control the acid mine drainage by digging out 22 hectares of wetlands and a moose breeding ground high on the mountain. And, if that isn’t bad enough, the company would then build a 30-hectare lake to hold toxic mine wastes (called tailings).”

When asked about the chance of a leak from the tailings pond, Ms. McWaters said, “Well, let’s put it this way. Any leak would send poisons directly into Fisher Creek. Fisher Creek runs into the Antler River. The Antler River is one of the only wild and scenic rivers left in this area. Of course, there may never be a leak, but if there was one, it would be devastating.”

If the mine doesn’t go ahead, EcoTimes has learned that the Hard Rock Mining Company wants to be compensated. They want the government to pay the $35 million that the company spent on exploration. They also want to be paid for part of the value of the gold, silver and copper that must be left in the ground. This could be as much as $200 million.

Mining in the Pangea Valley.
Find out the facts before you decide.
ARTICLE

No Go on Dam

Work has stopped on a new $1.3 billion hydro dam. The dam was to be built on the Knox River. It was to be built over the next 5 years. The dam would have supplied power for the new condos that were planned for Knoxville. It would also have supplied power for three new factories in Knoxville.

Those who wanted the dam claim 2,000 jobs will be lost. They say Knoxville should think of the future. “Power will be needed as we grow,” said Don Ross, hotel owner.

People who don’t want the dam say it isn’t needed. “There is plenty of power from the Dirks Dam. If folks would plan better there would be lots of power. Using less power is the answer,” said Lynn Brown a local member of the Green Group. “Being Power smart should be everyone’s goal.”

“The dam project would have destroyed fish habitat. We have to look long-term at these mega-projects,” said Biologist Kendra Steele. “They may seem good for some people. In the short term they create jobs. But we have to think about the nightmares they cause for the environment. Huge areas of land are flooded. The wildlife have no homes. Most of the animals die. At the end of the day, we must have a balance. We need to think of the economy and the environment.

ARTICLE

Millions Missing

Three million salmon failed to show up in the Pangea River. This has some people puzzled. It has others angry.

“This is the third year in a row there were missing salmon,” said Dick Goff. “I am a fisher but I can’t fish if there are no salmon. I put my nets in the water and they come up empty. I think there’s a lot of illegal fishing going on. Natives are catching more fish than they are supposed to. Why don’t the fish cops put someone in jail?”

“The problem isn’t the Indians. We’re not breaking the law. We catch fish for our food needs. We are just as mad as the fishers when there are no fish,” said Band elder, Bob Clark. “Maybe it’s all the logging. Our streams are being ruined.”

EcoTimes asked scientist, Dawn Alt what she thought had happened to 3 million fish. “It could be a lot of things. The water might be too warm. Salmon can only survive in cold water. The fish could have been caught by fishers. Not all fishers report all the fish they catch. Maybe sport fishers are taking too many. Anglers are catching more and more fish every year.”

But Anglers are worried too. Mandeep Bal, an angler from Trail Dust said, “There are fewer and fewer fish every year. I sure as heck think we’d all better get off our duffs and do something. Or next year it will be 10 million missing. I want my kids and grandkids to be able to come fishing with me. By the looks of things all they’ll catch is a cold.”
SPORT FISH REPORT

Anglers on the Line

Fishery Officer Donna Reed gives her weekly report to our newspaper. She tells about the laws that have been broken by local sport fishers. Ms. Reed lists the warnings and fines. Those warned or fined are not named.

Warnings
An elderly angler was warned about catching undersized coho salmon in the Timber River. (Coho and chinook salmon smaller than 30 cm must be released.)

Fines
One fisher will appear in court charged with sport fishing for finfish in a sanctuary. (A sanctuary is a place where all wildlife are protected.) If convicted, she could be fined as much as $200.00.

COMMERCIAL FISH REPORT

Obey the Law - or Pay Up

Fishery Officer Brian Lord gives his weekly report to our newspaper. He tells about the laws that have been broken by commercial fishers.

The owner of the Open Seas, was fined $200.00 for not under-reporting to a fishery officer about how many chinook salmon he had on board. This was the third time this season the skipper of the open seas had been caught for under-reporting his catch.

A man and a woman will appear in court charged with using gear that is not permitted. (An example of illegal gear is a gillnet or purse seine net with too small mesh size. When the mesh is too small young fish get caught and cannot escape.) The average fine is $500.00 - $2,000.00. The fishers also lose their illegal nets.
Water for Everyone

The water in the Pangea River flows to the estuary and into the ocean. And the estuary is home to more than 200 species of fish.

But freshwater from the Pangea River is taken out to provide drinking water for the 200,000 people living in Sagebrush. Water is also used to irrigate 100 different farm crops in the area.

People using the Pangea River reached an agreement on sharing its water.

In interviews after the signing, these comments were made:

Sandy Gifford (farmer): “Well, we had to give up some water and it will cost more for the water we do get. But in the end, it was the right thing to do.”

David Wu (city planner): “In most years we don’t feel the hardship, but in dry years, people in the city are going to feel the crunch. Washing cars and watering lawns and filling swimming pools will all have to be restricted. It won’t affect the basics for drinking and household needs. But maybe when we do have to cut back it will remind us how the fish and wildlife must feel. They really depend on water - not just for the extras, but for life.”

Mohinder Dhaliwal (conservationist): “Many people now will think twice or even three times before they waste fresh water. It is so precious.”

Maria Duval (fisheries biologist): “What a great day for salmon and other fish.”

Power of Plants

Researchers are experimenting with using plants such as sunflowers, ragweed, corn, peas and poplar trees to clean up pollutants. The idea behind the research is that plants can absorb and break down toxic substances such as phosphates, nitrates, cleaning solvents and benzene. After the plants have absorbed the toxins they break down the contaminants and give off non-toxic by-products like carbon dioxide, hydrogen and oxygen. In other cases, the plants could be cut down after they had observed the toxins.

Jane Quiring, EcoTimes reporter, spoke to Steven Gray, an environmental engineer, and asked him to give an example where this process was working. “There’s a municipal landfill site that’s surrounded by poplar trees. After 3 years they have kept pollutants in the dump from leaching into underground water. Poplars can halve the amount of pollutants in the ground in 10 to 50 hours! And the price is right. It costs about $50,000 to plant 10,000 poplar trees on a hectare of land around the dump. It would have cost $150,000 to put a clay or plastic leach cap on the land! It’s simple, it works and it’s cheap. What more could you ask for?”
HABITAT REPORT

Fisheries Act Violations
The Fisheries Act protects fish and fish habitat. It sets out the rules that all people must obey when they are in or near the water. People cannot destroy fish or fish habitat. If they break the Fisheries Act they can be fined or even put in jail.

Green Timbers Forest Company was fined $5,000 for damaging a sensitive area of the estuary. Bark from its log booms was suffocating marsh habitat. Also, the log booms were scouring the river bottom. This killed the small animals that provide food for herring and salmon.

Joe’s Highway works was fined $1,000 after salmon fry in Deep Creek were killed. The problem was traced to a liquid suppressant sprayed on Deep Creek Road. The liquid helps keep the dust down as cars travel along the road. The liquid ran off the road into Deep Creek.

Ralph’s Road Repairs has been charged and fined $10,000 after about 400 salmon and trout died in Willow Creek. The fish kill happened after the creek dried up when a crew from Ralph’s was tunneling below the creek. A mistake caused all the water from the creek to drain into the tunnelled area.

ARTICLE

Ranch wins award
Eagle Valley Ranch near Big Creek was awarded the B.C. Cattlemen’s Association (BCCA) first annual Environmental Stewardship Award. The award was presented to owners, Ken & Irene Barnett.

The Barnett’s studied the effects their ranch had on the environment. They made a list of all the problems. Then they developed a plan to remove any negative impacts that the ranch activities had on environment.

In accepting the award Irene Barnett said, “Ken and I have now finished the major part of the plan. We have seeded the disturbed soil. We have also done a general clean-up of the ranch.”

The positive results are already clear to the Barnetts. As Ken put it, “Last year, in the spring, we would have looked out at the lake in front of the ranch and we’d have seen brown, cloudy lake water. All the run-off water in the river would have been brown too. This spring all water was crystal clear.”

Eagle Valley Ranch was chosen for the award by a panel of judges. The panel members were from several groups: Ducks Unlimited, the Ministry of Agriculture and the Ministry of Environment.

EcoTimes wishes to congratulate Ken and Irene and to encourage other ranchers in the Pangea Valley to follow their example.
BACKTALK

This column is about great ideas that “backfire”. People who do research, like doctors and scientists, find good ways to solve a problem. Then, they find out that the solution has not helped at all. In fact, sometimes the solution makes things worse. Their great idea has “backfired”.

Bacteria are small invisible “bugs” that live everywhere - on trees, in people and in the air. Some bacteria are good, but some are bad and can make people very sick. Years ago, doctors began using antibiotics to kill the bad bacteria. Many people were saved from dying because of the use of antibiotics. But, some people used the antibiotics the wrong way. This caused some bacteria to become so “strong” that they could not be killed by the antibiotics. Now these “super” bacteria can kill people very quickly.

Years ago, a chemical called rotenone was used to kill fish such as carp and suckers in some lakes in British Columbia. The government let these fish be killed because sport fishers like to catch trout, not carp or suckers. And the government and the tourism industry make money from sport fishers who fish for trout. But, some of the carp survived the rotenone. These carp then laid eggs at much higher rates than normal. Now there are so many carp that the number of trout has decreased.

Eco Build Construction

Eco Build homes are made from engineered wood products. This means we don’t use valuable B.C. Timber. It also means your house costs less.

Eco Build homes rely on solar energy for heating and cooling.

“Building Sustainable Communities”

Call Pat or Dale at 1-800-Sustain

I "DIG" PANGEA

JOHNSON & SONS BACKHOE.

NO JOB TOO SMALL.

Cut the Clog and the Smog. Car Pool or Take the Bus.
Spotlight on Logging

The focus was on logging when habitat biologist Bruce Kim, spoke last night at Clark Junior High School. His speech was part of the lecture series “Habitat ABCs”. He told his audience of about 60 people that there were 10 clear-cut logging operations in the Pangea River Valley. Using a large map and overheads, he pointed out that 9 of the 30 streams in the valley had suffered complete habitat loss. This was a result of poor logging practices, mainly clear-cuts.

Dr. Kim said some of the serious problems for streams and salmon caused by logging are:

1. Road wash-outs. Often there are not enough culverts built under the roads. When it rains the roads get washed away.
2. Soil erosion. When all the trees in an area are cut down, there is nothing to hold the soil. It washes away and runs into streams.
3. Siltation. Silt or fine gravel gets into streams. Building roads and bridges and operating equipment in rivers can cause siltation.
4. Gravel removal from streams. When gravel is taken from streambeds, fish cannot spawn in the stream.
5. Fuel spillage. Fuel leaks from equipment or storage tanks pollute the water.
6. Stream bank erosion. When logging is carried out too close to the water, it may cause streambanks to erode.
7. Blockages. Debris (small trees and branches) falling into the streams blocks fish passage.

Roots & Trunks

Take a Tour of the Pangea Valley’s First Tree Farm

- First seedling planted 1935
- Today 2 million seedlings a year shipped to B.C. Forests

For more information about Roots & Trunks or to book your Tour call 1-800-FORESTS
Visit the Buckskin Ranching Museum
Unlike other museums, the “Buckskin Ranching Museum” is a real live working ranch. Just like it would have been in 1895. You and your family get to live the life of real live ranchers for a day. Dress in the kind of clothes worn by the rancher and his wife and children. Roll up your sleeves and be prepared to do the chores.

Some of the chores:
- gather eggs from the henhouse
- milk cows
- churn butter
- carry water from the well
- light the oil lamps
- split wood
- wash clothes by hand
- learn to square dance
- ride in a buggy pulled by a horse

Experience life without electricity, indoor plumbing, telephones and modern conveniences.

Protect our Wetlands
Contact one of the following groups to find out what you can do:
- Federation of B.C. Naturalists
- Canadian Wildlife Service
- Western Canada Wilderness
- Sierra Club

The Pisces Pageturner
Mother’s Day Special!
May 1 - May 5
Why Not Buy Mom A Book You Can Read to Her?
Chose from these children’s books:
- The Salmon People by Hugh McKervill
- Mist on the River by Hubert Evans
- A River Never Sleeps by Roderick Haig-Brown
- A Salmon for Simon by Betty Waterton

We’re at 355 Brooklane Way.
Come see us today!
Decision-Making
Decision-making
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Student Activities

Teach the steps of the decision-making process. Then give opportunities for students to use these skills individually and in small and large groups.

Teach Decision-making

1. Students make a list of decisions (ie. what will I eat today, should I go to the dance, will I take swimming lessons). Classify these decisions according to:
   • Frequency: are decisions made every day, once a year, once or twice in a lifetime?
   • Importance: are decisions urgent, important, insignificant? are they habitual or do they require some thought?
   • Points of View: do the decisions involve financial, religious, moral, aesthetic or environmental points of view?
   • Involvement: do the decisions affect the individual, the family or the community?

2. Ask students how they make decisions. Ask how parents, politicians, doctors, etc. make decisions?

3. Print the dilemma on the blackboard. Students read it and identify the decision that needs to be made. Students then discuss the issue and try to think of solutions to the problem. Students analyze how they arrived at the decision.

4. Introduce and explain the steps in the decision-making process.
   • identify the issue (dilemma, problem)
   • think about your interests (needs, concerns, wants)
   • develop a list of criteria based on your interests
   • make a list of options or possible solutions
   • research each option
   • select the best option
   • evaluate the results

5. Now analyze the process students used to solve the dilemma using these decision-making steps. Which steps were used to solve the dilemma and which steps were not used to solve the dilemma? Would the solution have changed if all steps were used? Are all steps needed for every decision?

6. Read a different dilemma to the class. Distribute the Decision-making Chart. Students solve the dilemma by themselves using this chart. Discuss the process with the students. Did the chart make their decision better? Did the chart make their decision easier or harder to make?
## Decision-making Chart

<table>
<thead>
<tr>
<th>Step</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Issue</td>
</tr>
<tr>
<td>Your Interests</td>
</tr>
<tr>
<td>What are your criteria?</td>
</tr>
<tr>
<td>What are some options?</td>
</tr>
<tr>
<td>Research each option</td>
</tr>
<tr>
<td>Select the best option</td>
</tr>
<tr>
<td>Evaluate</td>
</tr>
</tbody>
</table>
7. Discuss how values influence decisions. For example, if you read to your children every day, and never allow other activities to interfere with this time, you value family time and education over house-cleaning or other chores.

- What were the values behind decisions made in the dilemmas?
- Ask students to give examples of some decisions that they have made or would like to make. Then talk about why those decisions are so important. For example, students might say that they want to be able to wear ‘name’ brand clothing. What is the value behind this decision? (Perhaps concerns over appearance and a desire to fit in with friends are motivating this decision.)

**Practice Decision-making**

Student activities to practice decision-making skills can be found in most elementary social studies textbook. As well, there are many teacher support materials with detailed instructions about how to introduce, encourage and promote decision-making in the classroom.

**Ranking Activities**

Many decision-making activities involve ranking items from a list of items. In these situations, the students are making decisions based on their personal experiences, values, commonsense and knowledge. They provide an opportunity to discuss the values behind the students’ decisions.

Ranking situations may be completed by individual students or small groups of students. To practice shared decision-making, student groups may be directed to reach consensus. Then the differences and similarities between individual and shared decision-making may be explored.

Try at least one ranking activity with your class. Here are some ideas:

1. Arctic Explorer, Astronaut on a Mission, Jungle Safari: shovel, rope, water, heat source, candy, tent, paper, radio, telephone, games, clock, compass, map, book, first aid kit, television, ax, oil, extra clothes, medicine, cutlery, boat, canned food, fresh fruit, vitamins, skateboard, insect repellent, matches, weapons, blanket, mattress, chainsaw, hammer, nails, juice, refrigerator, paper, seeds, pen, pencil, truck.

2. The Lifeboat. Which 6 people would you want in your boat? Why?

<table>
<thead>
<tr>
<th>Sex</th>
<th>Skill</th>
<th>Age</th>
<th>Family</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>Doctor</td>
<td>72</td>
<td>wife, 6 children</td>
<td>almost blind</td>
</tr>
<tr>
<td>Female</td>
<td>Hairdresser</td>
<td>21</td>
<td>has 2 children</td>
<td>cries all the time</td>
</tr>
<tr>
<td>Male</td>
<td>Computer Expert</td>
<td>35</td>
<td>married with 4 kids</td>
<td>badly injured</td>
</tr>
<tr>
<td>Male</td>
<td>Athlete</td>
<td>24</td>
<td>no family</td>
<td>has a negative attitude</td>
</tr>
<tr>
<td>Female</td>
<td>Crossing Guard</td>
<td>38</td>
<td>no family</td>
<td>cheerful and positive</td>
</tr>
<tr>
<td>Male</td>
<td>Mining Industry President</td>
<td>45</td>
<td>married, 3 kids</td>
<td>had a heart attack last year</td>
</tr>
<tr>
<td>Male</td>
<td>Crane Operator</td>
<td>32</td>
<td>divorced, no kids</td>
<td>doesn't speak</td>
</tr>
<tr>
<td>Male</td>
<td>Teacher</td>
<td>64</td>
<td>no family</td>
<td>enthusiastic and helpful</td>
</tr>
<tr>
<td>Female</td>
<td>No Job</td>
<td>28</td>
<td>2 children</td>
<td>hobby is sailing</td>
</tr>
<tr>
<td>Male</td>
<td>No Job</td>
<td>14</td>
<td>Dad</td>
<td>failed 3 grades in school</td>
</tr>
</tbody>
</table>
Simulation Activities

Simulation activities are another method for students to practice shared decision-making. The following simulation was taken from *Elementary Social Studies: A Practical Approach to Teaching and Learning* by Ian Wright. Mr. Wright teaches Social Studies methods courses in the Faculty of Education at the University of British Columbia. Permission to use this material was granted by the publisher.

Incinerator Simulation

Play this in your class. On the map on the following page, designate a town lot for each member of the class. If there are fewer than thirty-six students, spread ownership over the entire map.

**Background.** The town of Actum, a small tourist resort, has a garbage problem. All the landfill sites outside the town limits are full, and garbage must now be disposed of within the town limits. The town has been granted federal money to build a garbage incinerator. The incinerator will have a 20 m chimney and will take up space equivalent to one house lot. The problem is where, within the town limits, to locate the incinerator. As there is no alternative to garbage disposal, the incinerator must be built.

**Instructions.** Each individual should choose a site for the incinerator. Then hold a town meeting and decide where to locate the incinerator.

**Follow-up Discussion.** The following questions should be asked on completion of this simulation:

1. What influenced your choice for the site of the incinerator (wind direction, aesthetics, transport routes, proximity to houses, stores, parks, farmland)? What values did you appeal to? What point(s) of view did you adopt? Did prudential [financial] concerns outweigh concerns for the well-being of the community? What values are likely to be in conflict in this situation? Should what is best for the entire community override an individual’s prudential interests?

2. How did the town decide (voting, compromise, total agreement of all concerned, being ‘ordered’ by someone)? Would you want all similar decision to be made in the same way? [Did tiredness, hunger or lack of interest play a part in the decision?]

3. What is the best way to make such decisions? Is there any way such decisions can be made without disadvantaging someone? If we accept a democratic form of government, do we then have to accept the fact that we will not always have our wishes acted on?

4. If your choice was not accepted and the incinerator location is disadvantageous to you, how do you feel? As a member of a minority, could you do anything? Should you do anything?

5. Should people get involved in planning their communities, or should they leave it to elected (or un-elected) officials? [Should ‘experts’ be the people who make decisions?]

6. Do situations like this really occur? Where? How are they resolved?
Background Information

This brief discussion of decision-making is designed to help you implement the land-use simulation in your classroom.

What is Decision-Making?

“Decision-making can be defined as the making of reasoned choices from among several alternatives. Reasoned choices are choices based on judgments which are consistent with the decision-maker's values. They are also choices based on relevant, sound information . . . . The common characteristic of all instances of true decision-making . . . is the existence of alternative courses of action which require judgments in terms of one's values.” (Cassidy and Kurfman, 1977)

Why Decision-Making?

Everyone makes decisions every day. From the moment you wake (the decision as to the time was yours), until the moment you go to sleep, you are making decisions. Some are inconsequential: What color socks should I wear? Who should I play with today? Others are crucial: Will I get in the car with someone who has been drinking? Will I turn down this job offer and hope to receive a better one?

Students must practice making and evaluating many decisions. It is too risky to hope that children will learn decision-making by "osmosis". In too many cases, we allow time, or another person, to make our decisions. We cannot "hope" that people will learn decision-making by chance because it is too easy in a complex society to lose control over our lives through the inability to make good decisions.

Effective decision-making can be taught and learned. Think of the people you know who make good decisions. They have learned the skills and attitudes that increase their chances of making effective decisions. It is possible to teach all children a process for making decisions that can be applied throughout their lives.
A Decision-Making Model

The process of making decisions is basically the same for individuals, partners or groups. For many everyday decisions, this process is simple and may be done quickly and easily. However, decision-making becomes more complex and requires tremendous amounts of time and effort when:

- you perceive a high level of risk (physical, emotional, moral)
- you are unfamiliar with the subject area of the problem
- you must consider other people's ideas, biases, experiences and feelings
- the decision involves controversy

This decision-making model, based on a number of sources, provides an organized approach to aid the decision-making process. Please note that both knowledge and values play important roles in all steps in the decision-making process.

The Issue

Identify the issue to be addressed and ensure that everyone understands it. The definition of the issue is crucial because if it is wrong, then the options for dealing with the issue will be wrong.

Issue: Should we renovate or buy a new house?

A Word of Caution

Decision-making is seldom linear. It is a dynamic process within which the participants move back and forth between various steps. For example, while brainstorming options, you may decide to change your interests. Or, your research may cause you to invent new options. As the process evolves, perceptions change and/or obstacles are encountered. You may need to revisit some of the steps of the process that you had considered completed.

Interests

Decide on your interests. Interests reflect your expectations, needs, concerns, fears and desires. It is important to recognize that personal values and previous experiences play a critical role in this part of the decision-making process. Your values determine your interests and will therefore be reflected in the final solution to the issue.

Interests: I need more living space now that Grandma is coming to live with us.

I want to make sure everyone has enough privacy.

I don't want to have a mortgage.

Your interests often cause you to take a position, which is something that you have decided will satisfy your interests. Positions are actually solutions to the issue. In this example, the stated interests could result in two totally different positions.

Position 1: We'll buy a house. Position 2: We'll renovate.

Separating interests from positions is probably the most significant step in the decision-making process. People who make decisions based on interests give the process more flexibility because they remain open to the possibility that a number of different positions (solutions) might satisfy them. People who come to the process with positions have already made their decision before decision-making has even begun.
Criteria

Develop a list of measurable criteria based on your interests. These criteria are used to compare the various options that you create to address the issue.

Criteria: There must be 100 square meters of extra living space.
Each person must have his/her own bedroom with 12 square meters.
The cost must be less than our savings ($80,000).

Options

Options (or solutions) that will satisfy your interests are proposed. At this stage there is no judgment and all ideas are accepted. A non-judgmental attitude helps you to ‘build on’ the ideas to create new options.

Options: Renovate the current home.
Buy a new house and renovate.
Buy a new house that fits the criteria.
Buy a duplex.
Purchase a home for Grandma close to the current home.

Research

Gather information about each of the options so that valid comparisons may be made. Ensure that each option is fully understood.

Compare

Use a systematic and structured method to compare each option according to your criteria. Then list and weigh the possible short-term and long-term consequences of each option within the context of the value of human dignity.

Select

Choose the best option and put the plan into action. It may seem obvious that once you have decided to purchase a house, you would begin looking at houses and finally buy one. However, it is at this point that decision-making often breaks down because people select a plan, but do not follow through with its implementation.

Evaluate Results

Judge the success of your plan with respect to your goals. For example, the house purchase was a good idea because you achieved:
• more living space
• privacy for each member of the family
• a good investment

When you evaluate previous decisions with an objective and unemotional attitude, you improve your ability to make successful decisions.
Knowledge

Good decisions are based on information. As shown in the chart, knowledge is crucial at all stages of decision-making.

In the real world, information may be unavailable because of a lack of time, energy or money. However, a diligent effort must be made to obtain the necessary information.

- Brainstorm questions to be answered that will help in making the decision.

- Search for sources of information (books, magazines, newspapers, videos, advertising brochures, experts, scientists, government officials, etc.).

- Analyze and evaluate the information for relevance, fact, bias and opinion.

- Organize and structure the information in a meaningful way.

- Use the information as a supportive tool in making the decision.

Values

Values, whether acknowledged or hidden, are used throughout the decision-making process. Students need the opportunity to examine values because “without a guiding value, such as human dignity, the [decision-making] model is ethically neutral ... it is relativistic, and permits selfish and even destructive solutions”. (Ochoa, 1981)

Students need to recognize and understand that there are different types of values. For example, values could be categorized as follows: prudential (self-interest), aesthetic (beauty), moral (how people ought to be treated and how conflicts should be resolved), economic (money and wealth), etc.

Each person develops a hierarchical structure of values that guide his/her actions and behavior. Through observation, students can analyze the values of others and begin to recognize the strong influence values have. For example, if you read to your children every day, and never allow other activities to interfere with this time, you value family time and education over house-cleaning or other chores.

Decisions can be, and are, made whimsically, thoughtlessly, and selfishly ... For too long, many in the social studies have ... argued that it is not important what young people think; rather it is important that they think. Such a stance is ... not socially useful, nor is it responsible. As the world’s population increases, the amount of livable space and other resources decrease; and as we ... become increasingly
interdependent... the decisions we make must be guided by a concern for the welfare of others, not just ourselves. Ochoa (1991)

How Are Decisions Made?

There are a number of ways in which decisions are made, including: autocratic, expert, majority rule, minority rule and consensus. For example, if you decide that your family will go to the museum, you are making an autocratic decision because you make the decision for the other family members. However, if you and your daughter make the decision together, minority rule is in effect because a small subgroup of the family makes the decision.

The following chart compares and contrasts the various methods of decision-making. Note that there are positive and negative aspects to each method.

<table>
<thead>
<tr>
<th>Method</th>
<th>Benefits</th>
<th>Drawbacks</th>
</tr>
</thead>
</table>
| Autocratic - authority figure makes the decision. | • Takes less time.  
• Convenient.  
• Good for everyday problems. | • Quality of decision relies on knowledge, experience and values of one person.  
• Lack of commitment by others to decision. |
| Expert - expert makes the decision. | • Takes less time.  
• Experts seen to be ‘right’. | • Quality of decision relies on knowledge, experience and values of one person.  
• Experts can disagree.  
• Lack of commitment by others to decision. |
| Minority - a small subgroup makes the decision. | • Takes less time.  
• More input than in autocratic method. | • Quality of decision relies on knowledge, experience and values of a few people.  
• Lack of commitment by others to decision. |
| Majority - preset number of group members must agree. All members have equal power - one vote. | • Appears ‘fair’.  
• Traditional method understood by all.  
• Decisions based on knowledge, values and experience of many people. | • Takes more time.  
• Quality of decision depends on amount of time for discussion.  
• Lack of commitment by some to decision. |
| Consensus - everyone agrees. | • Appears ‘fair’.  
• Builds group unity.  
• Decisions based on knowledge, values and experience of many people. | • Takes more time.  
• Needs trust between group members.  
• Exhaustion leads to compromises.  
• Method not universally understood. |

Shared Decision-Making

The simulation is based on consensus, or shared decision-making, which means agreement by all members of the group. The emphasis in shared decision-making is on actively and empathetically listening to everyone’s ideas and taking all concerns into consideration. Although not all members may be completely satisfied, the decision meets most members’ needs to a degree that allows them to support the decision.

Shared decision-making is different from decision-making by individuals because it can involve a number of different interest groups or “sides”, all with different values, interests, positions and preconceived assumptions. To facilitate this group process, students must acquire skills that enhance group participation. Although some of these skills develop naturally with age, there is no guarantee that maturity will make every child competent and confident in self-control and group skills. Shared decision-making will be more successful if students are encouraged to practice and use these skills.
Group participation skills are those involving: the structure of the group, the interests of the group, communication, self-control and interpersonal or ‘people’ skills.

**Structure of the Group**

1. There must be positive interdependence. Each member must believe that success can be achieved only if they work together with the other members.
2. All members have equal authority. They contribute and participate equally and share leadership. Power and influence are based on expertise, ability and access to information, not on authority.
3. Good consensus decisions take time. Time is needed to develop relationships, consider all opinions, and evaluate information. The larger the group, the more time is involved because of the increased complexity of the number of relationships.
4. Members must be willing to learn about consensus because it is different from majority rule. Members must ensure that the “rules and procedures” for using consensus are followed. This often means spending time away from decision-making while the consensus process is discussed.

**Interests of the Group**

When many people share a decision, the process is complicated by the many different goals or interests that need to be satisfied. For shared decision-making to be successful, it is important to negotiate based on interests, rather than positions. This gives the process more flexibility because you are remaining open to the possibility that a number of different positions might satisfy you. As all parents know, it is easier to satisfy a child who eats many different foods than it is to satisfy a child who eats only crackers.

The following points may help students to focus on interests.

1. Understand what interests are. Most interests have to do with security, economic well-being, a sense of belonging, recognition, and control over one’s life. Each side has many interests.
2. Start by talking about interests. This makes the other side less defensive. If you start with solutions, the other side starts to tear it apart or justify their position.
3. Explain your interests to the other side. Be specific. Convince them they might feel the same if they were in your shoes. Get them to understand how important and legitimate your interests are. But remember that a number of different positions could satisfy your interests.
4. Try to define their interests. Ask the other side about their concerns. (As I understand it, your interests are . . . Do you have other important interests?) If you know their interests, you might create solutions that meet some of those interests. These solutions will likely be more acceptable to the other side.
5. There are usually some shared interests behind differing positions. Recognize that different positions do not always mean totally different interests.
6. Ask yourself why they do not like your solution? Look at the consequences for them if they agree to your solution.
Communication

1. Listen carefully and accurately. You need to pay attention by thinking about what the speaker is saying. Everyone must make an effort to understand the speaker. You should not be thinking about what you want to say or what you just had for lunch.

2. Speak clearly so that members understand what you are saying. Are members interested? Are they falling asleep? Are they attentive? You must make an effort to ensure that members hear you.

3. Learn to give and/or receive criticism. Criticism is necessary when another person’s behavior has caused a problem and you want it to change. Before you give criticism, think about the following:
   • Am I emotionally ready?
   • Is this a good time? place?
   • Is the person able to change? willing to change?
   • Can I help the person make the change?

   When you give criticism, follow these steps:
   • Use a calm, serious tone of voice. (Anger make people defensive.)
   • Ask if this is a good time.
   • Tell exactly what the person said or did. Be specific and accurate.
   • Tell how you feel about what the person did.
   • Tell what you would like the person to do differently. Make this a positive statement.
   • Tell why you want the person to change.

   When someone criticizes you:
   • Remain calm. Try not to get angry.
   • Listen quietly.
   • Summarize what the person has said.
   • Ask questions if you don’t understand. Make sure that you and the person agree completely on what the person has said.
   • Now respond to the criticism.

4. Learn how to mediate. In this process, you try to help two or more people resolve their differences. It is important to stay objective. You should not take sides, but you should give lots of positive feedback to everyone.

   • Get both sides to use 'I' statements (rather than 'You' statements).
   • Get the ideas out. Each side describes the problem from his/her own point of view.
   • Ask each side to expand on ideas or clarify points.
   • Summarize all points of view. Rephrase each side’s position to check accuracy.
   • Brainstorm and list all possible solutions to the problem. (No negative feedback until all solutions are written down.)
   • Find a solution that meets everyone’s interests.

Table Talk 837
Self Control

Self-control skills are commonly thought of as “manners”. The following list of skills can help remind students of how to conduct themselves during a group meeting.

<table>
<thead>
<tr>
<th>Physical</th>
<th>Emotional</th>
<th>Intellectual</th>
</tr>
</thead>
<tbody>
<tr>
<td>• keep hands and feet to themselves</td>
<td>• do not upset or provoke others</td>
<td>• concentrate</td>
</tr>
<tr>
<td>• use quiet voices</td>
<td>• stay calm when others are upset</td>
<td>• learn to search for information</td>
</tr>
<tr>
<td>• make space for other members</td>
<td>• calm down when upset</td>
<td></td>
</tr>
<tr>
<td>• take turns</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• allow one person to speak at a time</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

People or Interpersonal Skills

People have ideas, interests, viewpoints, values and feelings. When people trust, respect, admire and understand each other, shared decision-making is easy. But people can also be depressed, hostile, angry, fearful and offended. Misunderstandings (you interpret them incorrectly; they interpret you incorrectly) reinforce already-held negative beliefs and negotiation becomes a vicious circle.

Learn to separate the people from the problem. For example, when someone says, “The kitchen is a mess,” do not interpret that as a personal attack. It is only an observation and the point is to find a solution. Often we feel personally attacked because our self-esteem is caught up in the problem. Furthermore, we make assumptions about the intentions and attitudes of others based on which side of the issue they are on. These assumptions lead to further misunderstandings which make shared decision-making more difficult. It is important to try to see the problem from the other side’s point of view because, “as useful as looking for objective reality can be, it is ultimately the reality as each side sees it that constitutes the problem in a negotiation and opens the way to a solution.” (Fisher & Ury, 1983)

People skills help us work together in harmony. Group members need to foster the following attitudes.

1. Members cooperate to help each other reach the common goal by sharing ideas, information and resources.

2. To facilitate cooperation, members must trust each other. This ensures that members will not hide or distort information. Members can depend on each other to stick to agreements and to complete assigned tasks.

3. Ideas are the property of the group. Members then work together to refine and change ideas, without anyone feeling embarrassed or defensive.
4. Members must deal with feelings. Acknowledge and deal with emotions, misunderstandings, misperceptions, and personalities separately so the people problem does not interfere with the main issue. When feelings are brought into the open and discussed, it prevents decisions based on feelings. Make sure that you:
   • Do not make assumptions based on your fears.       • Allow the other side to let off steam.
   • Do not blame the other side for your problem.      • Do not react to emotional outbursts.
   • Involve people in a solution to the problem.       • Say how you feel.

5. Members must value conflict. Conflict is a positive element because it is a chance to look at all sides of an issue. It promotes involvement and creativity.

6. Members must value individuals. Members encourage each person to contribute to the group because each member has unique skills, talents, knowledge and experiences.

7. Members must be willing to analyze their attitudes and values and be open to change.

8. Be hard on the problem, but soft on the people. Attack the problem, but be supportive of the people. This attack and support confuses people and creates something called ‘cognitive dissonance’. Cognitive dissonance makes people feel uncomfortable. It may cause people to distance themselves from the problem and join you to resolve it.

Attitudes That Prevent Shared Decision-Making

1. Competition promotes an atmosphere of mistrust. An open and honest search for solutions is impossible when members criticize, argue with, sneer at, mock, or ridicule other group members in order to be “first or best”.

2. A me first attitude is when members put their own personal needs ahead of those of the group. This blocks the development of solutions.

3. A that’s mine attitude is when members feel they “own” the ideas they have brought to the group. This discourages an open exchange of ideas.

4. When members ignore feelings such as anger, hurt, embarrassment or fear, poor decisions might be made because of these feelings.
References


Watersheds
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TEACHING ACTIVITIES ................................................................. 844
THE WATER CYCLE .................................................................... 847
WATERSHEDS ........................................................................... 849
Teaching Activities

Students need to understand the following concepts about watersheds and the water cycle:

- water is continually being cycled from the sky to the earth to the sky to the earth to . . .
- water moves through the cycle in a number of different ways
- watersheds are drainage areas for the water that accumulates from rainfall, snowfall and melting snow
- all the land on the earth is within a watershed
- in a watershed, water is moved from the land to streams, rivers, lakes and finally to the ocean
- each watershed is defined by the mountains (hills) surrounding it
- there are small watersheds within bigger watersheds
- watersheds are drained above the ground by rivers, lakes, streams and creeks
- watersheds are drained underground by small underground creeks

Understanding Concepts

1. Students make a chart with two columns: ‘I Know’ and ‘New Information’.

2. As a class, brainstorm for information that students already know about watersheds and the water cycle. Print this information in the ‘I Know’ column.

3. Photocopy and distribute the student materials (The Water Cycle and Watersheds). Ask the students to read the information.

4. After reading, students use a highlighter pen to mark the information that is new and not included in the ‘I Know’ list.

5. Students list the highlighted information from The Water Cycle and Watersheds in the ‘New Information’ column.

6. Discuss each of the items in the ‘New Information’ column. Make sure students understand the vocabulary and concepts.

7. Students now check the information in the ‘I Know’ column for accuracy by searching through The Water Cycle and Watersheds for confirmation. Place checkmarks (✓) beside information that is confirmed. Place question marks (?) beside information that is not confirmed.

8. For homework, each student searches to try to confirm or disconfirm the items with a question mark (?).

Note: More information on watersheds is available from:

- your local Community Advisor through the Federal Department of Fisheries and Oceans
- Watershed Works (a teaching resource sold by the BCTF)
- Gently Down the Stream (a teaching resource sold by the BCTF)
Making Models

Model building helps give students a more realistic understanding of watersheds.

To prepare for this activity:
- Try making the model at home.
- Make sure the plant trays are waterproof. (If not, line each of the trays with plastic.)
- Ask each student to bring a triple batch of baker's clay to school.

Materials Needed
- Baker's clay (or plasticene)
- Rolling pins
- Large plastic plant trays (1 tray for 2 students)
- Roll of soft plastic (food wrap works well but may not be wide enough)
- Juice pitchers filled with water
- Coloured dye for the water

Directions to the students:
- Form groups of two or three students
- Use the baker's clay to make the mountains, hills and valleys. (This process works best if students build up 'layers' of bakers' clay. First, roll out a large flat piece for the bottom of the plant tray. Then add a smaller diameter layer on top. Then add another smaller layer on top. Then use 'snakes' to build up some areas.)
- Try to get different kinds of land formations: steep mountain, rolling hill, plateau easing into lower land, depression that will create a lake.
- Cover the model with the plastic. Do not stretch the plastic - try to mold it to the clay.
- Predict where the water will go when you pour it on top of the mountains.
- Put some dye in the water.
- Pour water slowly over the model. Watch were the water travels.

Questions to ask:
- Where did the water go? Did it go where you expected it to?
- Did anyone have more than one watershed? How do you know?
- Did the water travel quickly or slowly? Why? Is this the same or different than a 'real' watershed? (In the model watershed, water travelled quickly because there was no material that would allow it to be retained and then released slowly. The model watershed dramatically shows what happens when large areas of land are paved with impervious surfaces. In a real watershed, water can soak into the ground and be released slowly. But, water can also travel quickly, especially when it moves over saturated ground or paved surfaces.)
- Did the water 'pool' anywhere? Why? Is this the same or different than a 'real' watershed? (In a real watershed, water 'pools' in natural or man-made depressions. Some of this water moves out of the pool through underground spring, and some moves out through above ground creeks, rivers, etc.)
Watersheds

- Can you show the 'borders' of your watershed?  *(the line formed by connecting the peaks of the mountains)*

- What is different between our model and a 'real' watershed?  *(no trees, no paved areas, no animals, no underground drainage, no pollution)*

- How would trees change our watershed?  *(trees would help to soak up the water and make it move more slowly through the watershed)*  How could we make a model to show the effect of trees?  *(one idea: plant 'sponge' trees and use dirt instead of bakers' clay and plastic)*

- Is there any underground drainage?  Why or why not?

- How could we make a model to show underground drainage?  *(Place a layer or rocks in a clear plastic container. Then place a layer of dirt on top. Now pour water slowly into the container. Eventually, the water will work its way down to the layer of rocks.)*

- How does water get polluted?  *(by picking up pollutants from the land, by having pollutants added from factory discharge)*

- Could you form the Bakers' Clay differently to make it a better model?
The Water Cycle

Water moves in a cycle from the ocean to the sky (atmosphere) to the earth to the ocean to the sky ... and so on. A water cycle is like a circle: it has no beginning and no ending. But this explanation of the water cycle must start somewhere. So it will start with precipitation.

**Precipitation:** Rain or snow or hail falls to the earth from the sky. Then the water may take three main routes to get back to the sky: the short route, the underground route or the overland route.

![The Water Cycle Diagram](image-url)
The Short Route

*Interception:* Some of the water falls onto leaves and is intercepted (does not fall to the ground).

*Evaporation:* The water on the leaves evaporates and returns to the sky.

The Underground Route

*Infiltration:* Some water may seep down into the ground. Then the water can take two different pathways: root uptake or through flow.

- **Root Uptake:** The water may be stored as soil moisture. Plants use this water through their roots. This is called *root uptake.* The water returns to the sky when the plants `breathe' (*transpiration*).

- **Through Flow:** The water may trickle further down to the underground rivers, streams and lakes. This is called *through flow.*

- **Underground Storage:** Water may be stored in underground lakes called aquifers.
  - **Spring Flow:** Water may come out onto the land surface as a spring.
  - **Deep Outflow:** Water may flow unseen into the bottoms of lakes, streams or the ocean.

The Overland Route

*Overland Flow:* Sometimes there is too much water for the soil to absorb. Sometimes rain lands on a surface that cannot absorb water (clay, cement, rock). The water runs downhill over the surface of the land.

*Surface Storage:* This water may collect above the ground in lakes, ponds, rivers and the ocean. This is called surface storage. Now the water can take two different pathways: evaporation or animal storage.

- **Evaporation:** The sun’s heat evaporates some water and returns it to the sky.

- **Animal Storage:** Animals, even people, may use some of this water. It is returned to the sky through breathing (*respiration*) and sweating (*perspiration*).
Watersheds

When water falls to the ground, it moves downhill. Stand at the top of a small hill and watch the raindrops fall. Some of the drops will roll down one side of the hill. Other drops roll down the other side of the hill. The top of the hill is the dividing line between two watersheds.

The land area where all the water drains into one main river is called a watershed or a basin. This draining process moves water from the land into creeks, streams, rivers, lakes and ponds and finally to the ocean. Some of the water starts the journey at the top of mountains and travels downward to the valley and then to the ocean. Some of the water falls in the valley and has a shorter journey to the ocean.

Rivers, lakes and ponds that you can see are only one of the pathways the water can take on its journey to the ocean. Some rain will seep into the soil and trickle down to form underground streams, rivers and lakes.

Some watersheds are big, like the Fraser River Basin. Other watersheds are small, like the Seymour River Basin. There are even small watersheds inside bigger watersheds. But all watersheds or basins are the same. They are made up of:

- the land which drains into a valley bottom,
- the rivers or lakes that you see,
- the water that flows out of sight under the ground.
Watersheds
Errata for Table Talk
Please make the following changes in your copy of Table Talk:

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Worksheets</td>
<td>651</td>
<td>• Remove this worksheet. It is not needed for the program.</td>
</tr>
</tbody>
</table>

The following pages must be replaced.
These pages are included in this package.

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
<th>Correction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title Page</td>
<td>1/2</td>
<td>• The date of publication has been added.</td>
</tr>
<tr>
<td>Program Overview</td>
<td>9/10</td>
<td>• Some text has been altered.</td>
</tr>
<tr>
<td>Simulation Overview</td>
<td>21/22</td>
<td>• Some text has been deleted.</td>
</tr>
<tr>
<td>Facilitator Direction File</td>
<td>39/40</td>
<td>• Some text has been deleted.</td>
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<tr>
<td>Facilitator Direction File</td>
<td>43/44</td>
<td>• Some text has been deleted.</td>
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<td>Facilitator Direction File</td>
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<td>• Some information has been corrected.</td>
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<tr>
<td>Facilitator Direction File</td>
<td>47/48</td>
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<tr>
<td>Facilitator Direction File</td>
<td>51/52</td>
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<td>Facilitator Direction File</td>
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<td>Facilitator Role File</td>
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<tr>
<td>Facilitator Role File</td>
<td>99/100</td>
<td>• Some information has been corrected.</td>
</tr>
<tr>
<td>Facilitator Role File</td>
<td>115/116</td>
<td>• The Forestry Map has been corrected.</td>
</tr>
<tr>
<td>Conservation Role File</td>
<td>253/254</td>
<td>• Some information has been corrected.</td>
</tr>
<tr>
<td>Conservation Role File</td>
<td>269/270</td>
<td>• Some information has been corrected.</td>
</tr>
<tr>
<td>Conservation Role File</td>
<td>285/286</td>
<td>• Some information has been corrected.</td>
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<tr>
<td>Conservation Role File</td>
<td>301/302</td>
<td>• Some information has been corrected.</td>
</tr>
<tr>
<td>Student Worksheets</td>
<td>663/664</td>
<td>• The information for “Column 4” has been corrected.</td>
</tr>
<tr>
<td>Student Worksheets</td>
<td>671/672</td>
<td>• Some information has been altered.</td>
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<tr>
<td>Student Worksheets</td>
<td>675/676</td>
<td>• Some information has been altered.</td>
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<tr>
<td>Student Worksheets</td>
<td>677/678</td>
<td>• Some information has been altered.</td>
</tr>
<tr>
<td>Direction File: Sector</td>
<td>721/722</td>
<td>• Some directions have been re-ordered.</td>
</tr>
</tbody>
</table>
Table Talk

A simulation in which students use decision-making skills to work together to plan a sustainable future for the Pangea River Valley, a hypothetical area in British Columbia.

An integrated unit (social studies, science, language-arts) intended for use in Grade 7, 8 and 9.

Written by
Linda Bermbach, Mary Jo Melnyk and Pat White

Produced by
D. Lawseth and C. Mishima
Department of Fisheries and Oceans

Published: June 1996

For ordering and further information, contact:
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Lesson Aids Service
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Word Processing/Layout Maps & Cover  Mary Jo Melnyk and Michelle Surovy
              Jennifer Stone at Black Cat Graphics

2 Table Talk.
Organizing Table Talk

1. Please check that you have received all of the following materials:
   - shrink-wrapped package of print materials
   - a set of 22 tab inserts
   - a video cassette

2. Divide the print materials into the following units and place in a 3-ring binder.
   - Program Overview
   - Simulation Overview
   - Facilitator Direction File
   - Facilitator Role File
   - Organizer Role Files: Chair, Assistant, Secretary
   - Agriculture Role File
   - Conservation Role File
   - Fishing Role File
   - Forestry Role File
   - Mining Role File
   - Settlement Role File
   - Tourism & Rec Role File
   - Student Worksheets
   - Chair Direction File
   - Assistant Direction File
   - Secretary Direction File
   - Sector Direction File
   - Pot-Luck
   - EcoTimes
   - Skits
   - Decision-Making
   - Watersheds

3. Notice that the heading and page number at the bottom right or left corner of each page indicate the title of this program (Table Talk) and the total number of pages in the complete program. In some units, there is a heading and page number at the top right or left corner to indicate the title and the page number for that unit of the program.
What Is Table Talk?

Table Talk is a comprehensive learning resource designed to teach students in Grades 7, 8 and 9 to use decision-making skills to solve a land-use conflict. Teachers using the complete program will first teach students about decision-making and watersheds. Then students will use this background knowledge to participate in the third unit of Table Talk - a simulation! At this point, students take on the roles of people who represent different sectors or interest groups (forestry, settlement, tourism and recreation, fishing, agriculture, mining and conservation). They work together to plan the future land-use and water-use in the Pangea River Valley, a hypothetical area in British Columbia. Throughout the simulation, students will be exposed to a large quantity of informational material that will give them the knowledge needed to participate confidently.

As shown in the following diagrams, teachers may use the complete, short or quick versions of Table Talk. However, please be aware that students working through the short or quick versions may not achieve the same quality or quantity of learning.

<table>
<thead>
<tr>
<th>A. Complete Program</th>
<th>B. Short Program</th>
<th>C. Quick Program</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Teach the Decision-Making Unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials are at the end of the package.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time: From 10 - 20 hours.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Teach the Watershed Unit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials are at the end of the package.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time: From 3 - 15 hours.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Teach the Simulation Unit.</td>
<td>Teach the Simulation Unit.</td>
<td>Teach selected parts of the Simulation.</td>
</tr>
<tr>
<td>Teacher Directions are in the next two units (Simulation Overview &amp; Facilitator Direction File).</td>
<td>Teacher Directions are in the next two units (Simulation Overview &amp; Facilitator Direction File).</td>
<td>Teacher Directions are in the next two units (Simulation Overview &amp; Facilitator Direction File).</td>
</tr>
<tr>
<td>Time: From 75 - 90 hours.</td>
<td>Time: From 75 - 90 hours.</td>
<td>Time: From 55 - 65 hours.</td>
</tr>
</tbody>
</table>

This icon identifies the path to take for the quick program. If you are using the complete or short program, you may want to follow some of the suggestions given for the quick program.
Round Table meetings are formal meetings in which all students participate. Each Round Table meeting will require one to two hours of time.

For a brief and intense unit, hold one Round Table meeting each week. For a longer unit, hold one Round Table meeting every two or three weeks.

Roles

Everyone in the class has a role as either a Sector Representative or an Organizer. Sector roles represent the seven different sectors involved in planning the future land-use in Pangca. Organizer roles organize and run the Round Table meetings. Students need to know the words ‘Sector and Organizer’ because these words are used in the student materials.

Student-Teacher Conferences

In the Role Files, students are directed to attend conferences with the teacher, either individually, in small groups or large groups. At these times, the teacher may do any of the following:

- explain Student Worksheets
- ask questions to check student comprehension of material
- give advice on mini-presentations
- provide feedback on completed Student Worksheets
- help students succeed in completing tasks

As well as these formal conferences, teachers are encouraged to meet more informally with students. At this time, teachers can help students understand the directions or the background information in the Role Files.

Student Materials

The organization of the student materials in Table Talk may seem somewhat daunting at first. But if you take your time and read through this unit, the purpose and use of all the materials will be clear.

Role Files

Information needed for each role must be photocopied. This information becomes the Role File and may be placed in a duotang folder or a file folder. Role Files may be reused because students should not write in these booklets.
Direction Files

Directions tell students what to do at each Round Table meeting and what to do at Task Times. As this is a complex simulation, with many roles to coordinate, the directions are quite specific and may even seem rigid. The ‘recipe-like’ format of the directions has been done for a number of reasons:

• the process of working in a large group may be more successful when students have a framework
• shared-decision making is more difficult as the number of participants increases
• students cannot create from ‘nothingness’ - it is much easier to be creative and come up with ideas when you have something from which to work

The Video

There are two short programs on the video: Snapshots and Connections.

Snapshots is an overview of the physical geography, landscape, plant life, wildlife and people of the Pangea Valley.

Connections is a series of short animations that define the following words: habitat, land clearing, erosion, flooding, leaching, discharge, run-off, water use and loss of habitat. These definitions will help students understand some of the written information in Table Talk.

The Newspaper (EcoTimes)

EcoTimes is a newspaper with realistic information about the environmental and economic impacts of human activities. There are positive and negative statements made about each of the Sectors (ie. mining, forestry, agriculture, etc.). The news articles have been written to help the students decide how to divide up the land in the Pangea Valley. There are three separate issues of EcoTimes.

The Play (Pot-Luck)

Pot-Luck is a play with some of the characters from the Round Table meetings. The three main ideas in the play are: sustainable development, stewardship and the impact of job loss on an individual and a community. Pot-Luck is the only material in the package in which these ideas are presented. (Note: The play does not have to be done as a stage production.)

The Skits

The seven skits have been written to illustrate the pros and cons of various issues about land-use in British Columbia. By performing these skits, students should come to recognize that land-use issues are complex and many-sided.

Student Worksheets

There are 20 student worksheets in the program. Each Worksheet is referred to by its number and name. Worksheets are printed in italics: Worksheet 5 (Membership Agreement).
2. Remind students to read and follow the directions in the Directions Files exactly. If a direction says to read information in the Role File, then the students must read and understand it.

3. When you are ready to start the simulation, the Assistant distributes the Role Files to all students.

4. All students begin Task Time 1. The students will likely be noisy and unsettled because they will be reading about their characters and will want to tell their friends some of the more interesting details.

5. Students who change the name and sex of their character must give the new information to the Assistant. The Assistant makes corrections to Worksheet 2 (Role With It). Make copies of this corrected version and distribute to each student.

6. Optional: Use Worksheet 3 (Purpose of Meetings) to evaluate students’ understanding of how the Role Files, Direction Files and Round Table meetings will work. (The information for this worksheet is found in At A Glance and Memo. Students who cannot complete this worksheet need help.)

7. Discuss Worksheet 4 (Role Introduction). All students should:
   - read the **Role Information** in their Role File
   - complete basic information on the front side of the worksheet
   - write notes about what they will say to introduce their roles at Round Table 1 on the flip side of the worksheet
   - practice introducing their role to other members of their group
   - give the Role Introduction to the teacher for marking.

8. Conference with the Secretary:
   - How will the room be set up for meetings?
   - Will refreshments be served?
   - Who will move the desks or chairs?
   - When will the room be set up?

9. Make sure the Assistant completes Worksheet 2 (Role With It).

10. Conference with the Chair to solve any last minute concerns.

11. Optional: Have paper for Name Tags available. These Name Tags can be used at the Round Table meetings for easy identification of Sectors and Roles. (Each student makes a Name Tag. Then each Sector and the Organizers design a logo for each of the separate groups.)

12. Evaluate the material from Task Time 1.

| Organizer | Sector | Worksheet 4 (Role Introduction) | optional: Name Tag |

**Important Note**

*Table Talk can be managed more effectively if you keep to the conference schedule.*
Round Table 1

1. At this Round Table, the students:
   • learn how to vote
   • learn how the Speaker’s List works
   • discuss the purpose of the Round Table meetings
   • introduce their roles

   The first two Round Table meetings may seem uneventful. However, the purpose of these meetings is to let the students practice:
   • voting    • behaving appropriately
   • speaking loudly   • working together
   • speaking clearly   • staying on topic

2. Optional: Discuss how to complete Worksheet 6 (My Thoughts About The Meeting) with all students. (This is a learning log for the Round Table meetings. Students can express their ideas and feelings about the meeting process.)
   • Use specific rather than general statements (“The meeting went well because it was good” is too general. “The meeting went well because I spoke three times” is more specific.)
   • Make sure students know the learning logs will be evaluated. Look for an understanding of the group process and relationships. (Can students think of constructive suggestions to improve the process? Can students see what they are doing to affect the process?)

3. Optional: Students complete Worksheet 6 (My Thoughts About The Meeting).

4. Evaluate material from Round Table 1.

   Organiser  Sector
   □        □  presentation on Speaker’s List and how to vote
   □        □  role introduction
   □        □  optional: Worksheet 6 (My Thoughts About The Meeting)
   □        □  optional: Group Participation Checklist
4. Evaluate material from Round Table 2.

- Organizer
- Sector
- optional: Worksheet 6 (My Thoughts About The Meeting)
- optional: notes
- optional: Group Participation Checklist

Session 3

Teacher Time 3

During Task Time 3, review strategies for reading content material. Some ideas for teaching content reading are included at the end of this file in Directed Reading.

1. Optional, but strongly suggested: In Table Talk, there are many opportunities for students to read content material. In Task Time 3, the Sectors read About Your Sector. It is the first of these content materials.

To prepare students for Task Time 3, model how to read content material using 1 or 2 paragraphs from the Conservation About Your Sector and the Mining About Your Sector. (These materials are located in the Role Files.)

2. There is no material to evaluate from Teacher Time 3.

Photocopy 3

<table>
<thead>
<tr>
<th>Material</th>
<th>Distribution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worksheet 10 (Sector Secrets)</td>
<td>1 copy to each Sector member and 1 copy for each Organizer</td>
</tr>
<tr>
<td>About Your Sector (3 pages)</td>
<td>1 copy to each Sector member (i.e., the Mining About Your Sector goes to each student in the Mining Sector) and 1 copy for each Organizer.</td>
</tr>
<tr>
<td>Worksheet 9 (Room For All Views)</td>
<td>Optional: Give 1 copy to each student</td>
</tr>
<tr>
<td>Pot-Luck</td>
<td>Optional: 3 or 4 copies of each scene. These will be used in Teacher Time 4. (To decide if you need these copies, please read Direction # 6 in Task Time 3.)</td>
</tr>
</tbody>
</table>
Task Time 3

Sectors read About Your Sector. This is research to give the students enough background information to understand how each Sector operates. Both the Sectors and organizers read their Viewpoints to begin looking at their interests.

Do tasks #2 and #4 with the Sectors. (Organizers may read How To Run A Meeting in their Role File, or be included with the Sectors)

1. This is a quick summary of the tasks for each group of students.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>• list the strong and weak points of Round Table 2</td>
<td>• read the Viewpoint and About Your Sector</td>
</tr>
<tr>
<td>• read the Viewpoint</td>
<td>• do Worksheet 10 (Sector Secrets)</td>
</tr>
<tr>
<td>• sign the Round Table Rules of Order</td>
<td>• get ready to present information about the Sector at Round Table</td>
</tr>
<tr>
<td>• Assistant makes a good copy of Rules of Order</td>
<td>• sign the Round Table Rules of Order</td>
</tr>
<tr>
<td>• Optional: do Worksheet 9 (Room For All Views)</td>
<td>• Optional: do Worksheet 9 (Room For All Views)</td>
</tr>
<tr>
<td></td>
<td>• Optional: design poster to represent Sector</td>
</tr>
</tbody>
</table>

2. Conference with the Sectors to discuss Worksheet 10 (Sector Secrets). Students read About Your Sector in the Role File to get a basic understanding of how the Sectors operate. (Optional: include the Organizers by assigning them to a Sector for this task.)

To complete the worksheet, students pose six questions that can be answered by reading About Your Sector. Students then colour-code the questions and underline the answers in copies of About Your Sector with the same colours. On the back of the worksheet, students draw a picture to show how the Sector works.
• Make sure all students have the worksheet and a copy of About Your Sector from their Sector Role Files.
• Discuss the colour-coding of questions and answers.
• Remind students to use Worksheet 7 (For The Record A) and Worksheet 8 (For The Record B) while reading About Your Sector.

3. Discuss Round Table 2 with the Organizers:
• What worked well?
• What could be improved?
• What can be changed for Round Table 3?

4. Discuss presentations that Sectors will make at Round Table 3:
• What information are you presenting at the Round Table meeting? (How the Sector operates.)
• How will you present this information? (Speech? Chart? Web? Main idea organizer? Diagram with key words?)
• Who will present the information?
• Presentations should be 10 minutes or less.
• Will you be able to answer questions? (ie. Why do we need your Sector? How does your Sector

Presentations
In the Sector Direction Files, students have been directed to reread About Your Sector twice:
1. Students read silently and record the main ideas on a piece of paper.
2. Students read orally in their Sector groups. The 1st person reads a paragraph and asks a question about it. The 2nd person answers the question. The 3rd person summarizes the paragraph. The 4th person writes the main idea of the paragraph.
Purposeful rereading gives students more confidence in making presentations because they will have developed a better understanding of their topic.
5. Optional: Students design a poster to represent their Sector.

6. Optional: Discuss Worksheet 9 (Room For All Views). To complete this worksheet, students must have finished reading their Viewpoints. The purpose of Worksheet 9 is to help students get a more detailed understanding of their roles. Questions to ask:
   • How should the worksheet be completed?
   • Where will the information come from?
   • Will a draft copy be made first?
   • How will you present this information at the Round Table meeting?

7. Get organized for the Readers’ Theatre of Pot-Luck in Teacher Time 4. (Readers’ Theater is literature based oral reading which communicates a story through oral interpretation rather than through acting. The story is read by readers who stand or sit in fixed position and address their lines directly to a listening audience. Lines are not memorized.)
   • Explain Readers’ Theater to the students.
   • Divide the play into 8 parts: the three scenes from Act I and the five scenes from Act II. (Pot-luck, stewardship and sustainability are discussed in Act I. Job loss is discussed in Act II.)
   • Divide the class into 8 groups and assign one scene to each group. Distribute copies of the scenes so that all the students in a group have a copy of ‘their’ scene. (Note: Act II, Scene 5 is the easiest to read and understand. Act I is probably the most difficult to read and understand.)
   • Students practice reading their ‘parts’ out loud to parents at home and friends at school before Teacher Time 4.
   • If you decide to evaluate the students, demonstrate good speaking skills by reading a few lines from the play. Make sure students understand the criteria that will be used to evaluate their performance (i.e. what does enunciation mean? what does it sound like?). Choose a scale (1 - 5; High, Medium, Low; Yes, No) that is most appropriate for each criteria. Explain the levels of competence for each of the skills. (For example, does a perfect score for pronunciation mean no errors? one error? two errors? Does a perfect score for expression mean the teacher must be kept interested? the class must be kept interested?).
   Some speaking skills that can be evaluated are:
   ~ volume (loudness) ~ enunciation (clarity of sound)
   ~ expression ~ pronunciation (standard usage)
   ~ pacing (speed) ~ fluency (flow or smoothness)
   ~ use of gestures, facial expression
   • Remind students to use Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) while reading Pot-Luck.

8. Evaluate the material from Task Time 3:

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>list the strong and weak points of Round Table 2</td>
</tr>
<tr>
<td></td>
<td>Worksheet 10 (Sector Secrets)</td>
</tr>
<tr>
<td></td>
<td>optional: design a poster</td>
</tr>
<tr>
<td></td>
<td>optional: Worksheet 9 (Room For All Views)</td>
</tr>
</tbody>
</table>
Round Table 3

1. At this Round Table, the students give presentations about how each Sector works. (If you hear information that is wrong, please interrupt the meeting and give students the correct information.)
   • Students take notes on each Sector.
   • Students use Worksheet 7 and Worksheet 8 while listening to the presentations.

2. Optional: Discuss how the students completed Worksheet 6 (My Thoughts About The Meeting) for Round Table 2.

3. Optional: Students complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 3.

4. Evaluate material from Round Table 3.

   Organizer  Sector
   □  □  sector presentations (Presentation Checklist)
   □  □  notes made for the presentations by individual students
   □  □  optional: Worksheet 6 (My Thoughts About The Meeting)
   □  □  optional: student notes from presentations
   □  □  optional: Group Participation Checklist

Session 4

Teacher Time 4

During Teacher Time 4, students learn about human impacts on the ecosystem by watching the Connections video. They also learn about stewardship, sustainability and job loss in the play (Pot-Luck). These activities will likely take 5 - 10 hours to complete, depending on your teaching style. It is suggested that Teacher Time 4 and Task Time 4 be spaced out over a period of at least two weeks, even if you normally schedule one Round Table meeting per week.

1. Introduce Act I of Pot-Luck. Print the words ‘stewardship’ and ‘sustainability’ on the blackboard. Brainstorm for ideas about the meaning of these two words.
   • The groups of students responsible for the scenes in Act I read them aloud.
   • Remind students to use Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) while listening to Pot-Luck.
• Discuss Act I with reference to the students’ initial understanding of the words ‘stewardship’ and ‘sustainability’.

• Questions to ask about Act I:
  - What does pot-luck mean?
  - What does sustainability mean? (Students might answer with reference to economic, environmental, social and/or cultural sustainability.)
  - Is sustainability important? Why or why not? (Answers will vary. Is there evidence that students have given some thought to the answer?)
  - Is there a difference between economic and environmental sustainability? Which one is more important and why? (Students need to see the interdependence of economic and environmental sustainability. If the environment is harmed for the sake of the economy, many of our industries in British Columbia will fail. For example, the fishing industry relies on the rivers remaining relatively unpolluted and having good spawning and rearing areas for the young fish. But if the economy is weakened for the sake of the environment, there will be fewer jobs to keep people productive and communities stable.)
  - Can you think of events from the past that are affecting our sustainability now? (The car was promoted as a great way to commute to work. Yet it is now difficult to sustain economically because of the cost of gas and roadbuilding and difficult to sustain environmentally because of the effect of exhaust on the air and, through surface runoff, on the water.)
  - Can you think of things we are doing now that may affect your grandchildren’s sustainability?
  - Are there some things we should be doing now to ensure sustainability for future generations? (Planning how to use the resources in the best possible way.)
  - Do you think your grandparents worried about sustainability? Why or why not?
  - Why is sustainability such an important topic in our world today? (Resources becoming scarce, technology has increased the efficiency with which we can extract resources, technology has eliminated many jobs.)
  - What is stewardship? Is it important? Why or why not?
  - Can you think of any people who are good stewards of the environment?
  - Do you know of any local stewardship projects? (carpools, stream clean-up, hiking trails)

2. Introduce Act II of Pot-Luck. Draw the following pictures on the blackboard: $$$ signs, a person, a building (factory, office), a person near the building, some food items, some clothing items, a house and some recreation items. Label the pictures as follows: Money, Worker, Workplace, Employer, Food, Clothing, Shelter, Entertainment & Fun. Ask the students to connect the pictures with lines. Each line must have a sentence to explain the connection. Now draw the same picture, but eliminate the Employer, Factory and Money. Ask the students to draw the connections. Discuss the effect of eliminating the Employer, Factory and Money (the ‘job’ part of the picture).

• The groups of students responsible for the scenes in Act II read them aloud.

• Remind students to use Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) while listening to Pot-Luck.

• When all of Act II has been read, discuss the impact of job loss on individuals and the community.
• Questions to ask about Act II:
  ~ What kinds of things happen to a person and his/her family when he/she loses a job? (less money may mean changes in housing, clothing and diet; emotional difficulties such as anger and depression; etc.)
  ~ Is job loss something to be concerned about? Why or why not?
  ~ What happens to a community when many people are out of work? (people move away; economic drain on government; businesses close. Relate this question to the idea of social/cultural sustainability.)
  ~ Will job loss in the 1990’s affect future generations? Why or why not?
  ~ Are there any remedies to the problem of job loss?
  ~ In your opinion, who would be more affected by job loss:
    * a 23-year old single university graduate
    * a married 40 year old construction worker with 3 teenagers
    * a 60 year old biologist with 2 children in university and a disabled child

3. Optional: At the end of the play, students work on a presentation of the three main ideas of the play: stewardship, sustainability and job loss.
   • Divide students into eight groups. Distribute eight sections of the play: Scenes 1, 2 and 3 from Act I and Scenes 1 - 5 from Act II.
   • Students with the scenes from Act I find information on sustainability and stewardship. Students with the scenes from Act II find information on job loss.
   • Each group makes a presentation on their topic.

4. Show the video cassette (Connections: Humans & Habitats).
   • Remind students to use Worksheet 7 (For The Record A) & Worksheet 8 (For The Record B) while watching Connections.
   • Print the title of the video on the blackboard. Brainstorm for some connections between humans and habitats and record these on the blackboard under the heading “Student Predictions”.
   • During the video, each student watches for one of these connections.
   • After the video, circle the connections in the “Student Predictions” column that were illustrated in the video.
   Then, under the heading “Actual Video Connections”, list the connections that were illustrated on the video.
   • Discussion Questions
    ~ What was the main focus of the video? (How human activities affect habitat.)
    ~ What three human activities did the video present as harmful? (land clearing, pollution, water use)
    ~ How were those activities harmful? (land clearing causes soil erosion because there are no roots to protect the soil from the wind; land clearing causes flooding because there are no roots to soak up the excess water; pollution causes chemicals and poisons to enter into the waterways; water use causes stream levels to drop)
    ~ What industries, individuals, businesses or governments clear land? pollute? use water? (Land clearing: forestry, agriculture, mining, settlement, etc. Pollution: agriculture, mining, governments - sewage treatment, homeowners - cleaning products. Water use: agriculture, governments - swimming pools, homeowners - lawn sprinkling, mining, settlement.)
    ~ How is habitat lost through erosion? flooding? pollution? water use?
    ~ What harmful activities were not illustrated in the video?
• Suggest that students make a Criteria Chart (see sample) to help them choose the best squares. Each Sector’s criteria are different. For example, Agriculture needs to be near water, transportation and small towns or cities. Tourism needs a variety of activities, a variety of locations and a location that is valuable.

<table>
<thead>
<tr>
<th>Criteria Chart</th>
<th>Water</th>
<th>Transportation</th>
<th>Town/City</th>
<th>TOTAL</th>
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<tr>
<td>A1</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+2</td>
</tr>
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<tr>
<td>A3</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+1</td>
</tr>
</tbody>
</table>

4. Conference with the Assistant. Discuss how information from all seven of the Worksheet 12’s (Sector Map Grid) will be collated and shown on Worksheet 15 (Master Map Grid). You need to photocopy Worksheet 15 (Master Map Grid) before Round Table 4.

5. Check each Sector’s Worksheet 12 (Sector Map Grid) BEFORE the Assistant collates this information.
   • Check that each Sector has selected only the squares marked on their Sector Map Information. Sectors cannot choose squares that are blank on their Sector Map Information.
   • Each Sector must choose the correct number of squares:
     Agriculture 12  Forestry 15  Tourism 15  Settlement 8
     Conservation 20  Fishing 25  Mining 10

6. Conference with the Chair and Secretary. Their assignment is to make two large maps of the Pangea River Basin. Both maps should include the grid.
   • How will the students enlarge the map? (freehand? overhead projector?)
   • One map needs to be done quickly and given to the Assistant. This map should be in black and white and should not have a legend.
   • The second map can be used by all students when discussing land in the Pangea Valley during the Round Tables and Task Times. This map should have colours, symbols and a legend.

7. Discuss Round Table 3 with the Organizers:
   • What worked well?
   • What could be improved?
   • What can be changed for Round Table 2?

8. Evaluate the material from Task Time 4.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>list the strong and weak points of Round Table 3</td>
</tr>
<tr>
<td></td>
<td>2 large maps of Pangea Valley</td>
</tr>
<tr>
<td></td>
<td>Worksheet 15 (Master Map Grid)</td>
</tr>
<tr>
<td></td>
<td>Worksheet 12 (Sector Map Grid)</td>
</tr>
<tr>
<td></td>
<td>enlarge Sector Map Information</td>
</tr>
<tr>
<td></td>
<td>optional: criteria chart used to make decisions on Worksheet 12</td>
</tr>
</tbody>
</table>
Round Table 4

1. At this Round Table the students discuss the results of Worksheet 12 (Sector Map Grid). This discussion should focus on each Sectors’ INTERESTS.

2. Optional: Students complete Worksheet 6 (My Thoughts About The Meeting) for Round Table 4.

3. Evaluate material from Round Table 4.

   Organizer  Sector
   ☐         ☐  optional: Worksheet 6 (My Thoughts About The Meeting)
   ☐         ☐  optional: notes
   ☐         ☐  optional: Group Participation Checklist

Session 5

Teacher Time 5

During Teacher Time 5, students learn about the impacts of specific Sectors on the land and water by reading the E & E Report in their Role Files and by reading EcoTimes (the newspaper). Teacher Time 5 will likely require 5 - 8 hours, depending on your teaching style.

1. Students read EcoTimes (the newspaper). As there are 3 issues of EcoTimes, divide the class into three groups and assign each group a different issue. (Separate the students from each Sector so that each Sector is exposed to each issue of EcoTimes.)
   • To accommodate students with lower reading levels, there are some articles in each Issue that are at a Grade 4 reading level.
   • This is another opportunity to teach students how to read content material. For more information, please refer to Directed Reading at the end of this file.
   • Each group reads the articles in their issue of EcoTimes.
     (Reading can be done silently by individuals or orally in small groups.)

Grade 4 Reading Levels

<table>
<thead>
<tr>
<th>Issue 1</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Editorial</td>
<td>2</td>
</tr>
<tr>
<td>Hotel Faces Dumping Charges</td>
<td>4</td>
</tr>
<tr>
<td>Laying Down The Law</td>
<td>4</td>
</tr>
<tr>
<td>No Scarecrows On This Farm</td>
<td>5</td>
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<table>
<thead>
<tr>
<th>Issue 2</th>
<th>Page</th>
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<tr>
<td>Tribal Council Helps Stream</td>
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</tr>
<tr>
<td>Letter to the Editor</td>
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<tr>
<td>Lost A Billion</td>
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<tr>
<td>Loggers Block Road</td>
<td>6</td>
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<td>Sport Fish Report</td>
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<table>
<thead>
<tr>
<th>Issue 3</th>
<th>Page</th>
</tr>
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<tbody>
<tr>
<td>Letter To The Editor</td>
<td>2</td>
</tr>
<tr>
<td>Park Fees</td>
<td>4</td>
</tr>
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<td>More Than ABC’s</td>
<td>4</td>
</tr>
<tr>
<td>No Go On Dam</td>
<td>6</td>
</tr>
<tr>
<td>Millions Missing</td>
<td>6</td>
</tr>
</tbody>
</table>
Task Time 6

This is probably the most difficult Task Time for the students. They will be coordinating a great deal of information and may need teacher support.

There are three tasks for the Proposal Groups:

- to look at options (the Proposal) for dividing the land in the Pangea Valley - Worksheet 16 (Proposal Map Grid)
- to evaluate their Proposal - Worksheet 19 (Number Crunching) and Worksheet 20 (Data Sheet)
- to explain how some of the land areas can be shared without conflict - Worksheet 17 (Square Dancing). This is a difficult task because students are juggling information from a variety of sources. Remind students to use Worksheet 8 (For The Record) to help them coordinate all this information.

1. This is a quick summary of the tasks for each group of students.

<table>
<thead>
<tr>
<th>Organizer</th>
<th>Proposal Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>• make enlarged maps of the Pangea Valley for each Proposal Group</td>
<td>• reread The Nitty Gritty</td>
</tr>
<tr>
<td></td>
<td>• do Worksheet 16 (Proposal Map Grid)</td>
</tr>
<tr>
<td></td>
<td>• do Worksheet 17 (Square Dancing)</td>
</tr>
<tr>
<td></td>
<td>• do Worksheet 19 (Number Crunching)</td>
</tr>
<tr>
<td></td>
<td>• do Worksheet 20 (Data Sheet)</td>
</tr>
<tr>
<td></td>
<td>• prepare to present the Proposal at Round Table 6</td>
</tr>
<tr>
<td></td>
<td>• optional: minutes of meetings of Proposal Groups</td>
</tr>
</tbody>
</table>

**Important Note**

*Please read the following background information before beginning Task Time 6. Note: this information is included in the Sector Direction Files.*

- Students must follow the criteria for dividing the land:
  - A square may not have more than 4 Sectors
  - Agriculture, Settlement, Conservation and Forestry need large amounts of land. Only 2 of these Sectors may exist together in any one square.
  - The criteria made by the students at Round Table 5. (The Secretary will record all criteria onto Worksheet 14 (Clearing The Table). This can be photocopied and given to Proposal Groups.)

- The number of jobs protected depends on the ‘type’ of square that is given to a Sector. The 5 ‘types’ of squares are listed in this chart.

<table>
<thead>
<tr>
<th>Type of Square</th>
<th>Jobs Protected</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 1 Sector in a square</td>
<td>100% of the jobs</td>
</tr>
<tr>
<td>• 2 or 3 Sectors in a square</td>
<td>75% of the jobs</td>
</tr>
<tr>
<td>• 4 Sectors in a square (and a good reason for sharing)</td>
<td>60% of the jobs</td>
</tr>
<tr>
<td>• 4 Sectors in a square (and a poor reason for sharing)</td>
<td>20% of the jobs</td>
</tr>
<tr>
<td>• A Sector gets a square it did not want (shared or not shared)</td>
<td>20% of the jobs</td>
</tr>
</tbody>
</table>

Table Talk 59
2. Conference with the Proposal Groups. Please include the Organizers at this time so they understand the information that will be discussed at Round Table 6. (Note: Much of the following information is included in the Sector Direction Files.)

Using the overhead projector, demonstrate how to complete each worksheet according to the following instructions.

Worksheet 16 (Proposal Map Grid).

• Tell the students that each Proposal Group uses Worksheet 16 (Proposal Map Grid) to show how the land in the Pangea Valley should be divided.

• Demonstrate a system for allocating squares. Begin by looking at square A1 on Worksheet 15 (Master Map Grid).

  a. If there is no conflict (ie. 1, 2 or 3 Sectors in a square), allocate that square to those Sectors. Record this information on Worksheet 16 (Proposal Map Grid).

  b. If there is conflict, move to the next square (A2). Repeat steps a. and b. until all the ‘no conflict’ squares have been allocated.

  c. Go back to the ‘conflict’ squares (ie. 4 or more Sectors in a square). For each square, decide which Sectors ‘win’ the square and which Sectors ‘lose’ the square. Record this information on Worksheet 16 (Proposal Map Grid).

  d. Try to compensate ‘losing’ Sectors by giving them part or all of another square. Check the Sector Map Information pages to make sure that Sectors are given only those squares that are allowed.

• Questions to think about:
  – Is our plan meeting all of the criteria?
  – Is it better for Sectors that impact heavily on the land to be given squares in one area and concentrate the damage or to be given squares in many areas and dilute the damage?
  – Should some Sectors be given more of what they want than others? Why or why not?
  – What do we know about the way the Sectors work that will affect the way we allocate the land? (ie. Fishing only needs the river areas protected. As long as the other Sectors guarantee that they will not destroy all the riverbanks, Fishing will be satisfied. On the other hand, Settlement needs to build roads. It is less expensive to build roads in the ‘relatively flat’ valleys, right beside the river.)

• Students need encouragement to keep trying to work out a solution. It will not be easy.

• Give each Proposal Group multiple copies so they will try different ideas.

• Groups should begin working on Worksheet 16 (Proposal Map Grid). After 15 - 20 minutes, stop the groups and assess the progress. Re-explain if necessary.

• Explain Worksheet 19 (Number Crunching) when most groups are almost finished.
C. The Ministry of Agriculture has pointed out that:

1. People need and want farm products such as beef, poultry, eggs, vegetables and milk.

2. Everyone in the Pangea Basin and in British Columbia needs food. It is better if we grow at least some of our own food here in British Columbia. This creates jobs for people in our province. Also, food grown in other countries may be too expensive if that country has a bad growing year.

3. Farm and ranch land provide green spaces.

4. Agriculture is important to the economy of the Pangea Basin.
   - There are 12,000 people with direct jobs in agriculture.
   - There are 1,000 working farms and ranches in the Pangea Basin. There are 50 agriculture supply businesses and 30 food processing businesses.
   - Many other businesses make money because of agriculture. These are spin-off businesses. For example, farmers must buy work boots, gloves and other clothing to wear outdoors while they are farming, they buy gas to run the farm machines and pay mechanics to fix the machines. These spin-off businesses were not started just for farming, but they do make money from agriculture.
   - The money earned by workers in the agriculture sector is good for other parts of the economy. Farmers and ranchers use their money to buy clothes, cars, food and go on holidays.
   - Each year money goes to the government from agriculture. This money comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Rental fees: Farmers pay money to use government land.
     Water licenses: Farmers pay money to use water from the rivers.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B. C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
A. An environmental study has shown that some Conservation practices may not benefit or may even harm the environment.

1. People may not know enough about the natural world. What we think is a good thing to do today may be found to be harmful in 20 or 30 years. For example, in order to be environmentally-friendly, we have introduced a new bird or fish into an area as a way to control certain insects or plants. But sometimes, these new birds or fish can become a bigger problem than the original pest!

2. An area set aside for park or wilderness may be too small to make good habitat for the animals or plants within it. These species may suffer or may not survive.

3. People may focus on conserving one or two species, instead of a whole ecosystem. This can upset the balance of nature.

4. People may think they are being environmentally-friendly, but they may be harming the environment.
   - We think that recycling is environmentally-friendly. But paper recycling is done at factories that may use chemicals to turn the old paper into new paper.
   - We are careful with our garbage and we do not pick any plant life when we hike or camp. But in some ecosystems, just the act of walking from one area to another can upset the plant life or wildlife.

B. Conservationists who were interviewed said, “We work for the environment.”

1. We encourage governments to pass laws that will protect the environment.

2. We act as watchdogs for the environment. We report pollution and environmental harm to those who can do something about it.

3. We do research to increase our understanding about the environment and its ecosystems.

4. We try to convince governments to set aside enough land to preserve plant or wildlife habitat. (For example, we try to make sure that every grizzly bear in an area has enough habitat to survive.)

5. We try to conserve whole ecosystems to maintain a natural balance so that all of the species will survive.

6. We teach people about conservation and the environment. Everyone should learn about the natural world because it is our habitat.

**Do You Practice the Four R’s?**

Refuse  Reduce  Reuse  Recycle
C. The Ministry of the Environment has pointed out that:

1. Information about the environment is changing all the time. We do the best we can to keep up with and understand this information and to use it correctly.

2. We are learning more about how everything is connected in the natural world. We try to think globally, but act locally.

3. The more support we get from each person, the easier it is to protect the environment.

4. There are some economic benefits to conservation:
   - There are 2,000 direct conservation jobs (conservation officer, park ranger, wildlife manager, research scientist).
   - Some businesses benefit from conservation. For example, conservation helps to:
     - maintain a healthy fishing industry by protecting salmon habitat
     - promote tourism and settlement by protecting wildlife and their habitat. (Wildlife attracts more visitors, hunters and photographers.)
     - ensure a healthy forest industry by preserving some natural forests. In the future, the forest industry may study these natural forest areas to help them solve problems in reforested areas.
     - maintain human settlements by protecting watersheds so people who live in an area have access to clean water.
   - The government does not collect very much money from conservation. But the money it does collect comes from:
     Personal taxes: Workers pay some of the money they earn to the government each year.
     Business taxes: Businesses pay some of the money they earn to the government each year.
     Park fees: People who visit parks pay money to the government.
     Sales taxes: Tourists buy goods and services and the taxes collected go to the government.
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   - The government probably spends more money than it collects on Conservation. For example, the government may collect $2,000 from Conservation, but it may spend $35,000 to pay a park ranger to care for a wilderness area.
A. An environmental study has shown that Fishing may harm the environment.
   1. Too many fish may be caught. There will not be enough fish to spawn.
   2. Fishers may use gear to get an unbalanced catch. 
   3. Fishers try to catch certain kinds of fish. But they may also catch other kinds of fish by accident.
   4. Fish processing plants use a lot of water. They also discharge wastes into the water.
   5. People can harm plant wildlife habitat while they are fishing. They may disturb the streambed or the streambank.

B. People interviewed in the fishing sector said, “We do not harm the environment.”
   1. We do not overfish. We obey the catch limits.
   2. We use special fishing gear that makes sure we get a balanced catch. For example, we can use nets with large openings to catch one kind of fish or we can use nets with small openings to catch a different kind of fish.
   3. We fish in the right places and at the right time to reduce the number of wrong fish caught.
   4. The processing plants are inspected and follow environmental standards.
   5. We are members of a Fish and Game Club that teaches how to fish without harming the environment. We also belong to a volunteer group that repaired a damaged stream and built small hatcheries to raise fish.
Fishing Map Rap

Fishing wants to protect all 25 squares marked on the Fishing Map. This will make sure there are jobs for the 2,000 commercial fishers and enough salmon and fresh water fish for the 1,700 sport and 1,300 native fishers for the next five years.

But the other sectors may want these squares too, so you need to rank them in order of importance. This will help you identify the squares you might be willing to lose or share. To rank the squares, think about:

- Do you need all the land in a square? (Think about how the activities done by other sectors might affect the watershed.)
- How important is the square to the fishers? (This is the value in terms of money, enjoyment and culture.)
- Will fixing damaged habitat benefit your sector?
- Where are the greatest number of fish produced?
- Where do the fish live? (Some fish spawn and rear in Pangea and then migrate to the ocean. Other fish spend their whole lives in freshwater rivers and lakes in Pangea.)
- Read About Your Sector in your Role File. Is there information that would help you choose the squares?

This chart shows:
- the number of squares each Sector needs (# of Squares)
- the total number of people employed by each Sector (Total # of Jobs)
- the number of people employed in each square (# of Jobs/Square)
- the total amount of money each Sector gives to the government (Gov’t Revenue)
- the amount of money given to the government in each square (Gov’t Revenue/Square)

<table>
<thead>
<tr>
<th>Sector</th>
<th># of Squares</th>
<th>Total # of Jobs</th>
<th># of Jobs/Square</th>
<th>Gov’t Revenue</th>
<th>Gov’t Revenue/Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>12</td>
<td>12,000</td>
<td>1,000</td>
<td>$840,000</td>
<td>$70,000</td>
</tr>
<tr>
<td>Conservation</td>
<td>20</td>
<td>2,000</td>
<td>100</td>
<td>$200,000</td>
<td>$2,000</td>
</tr>
<tr>
<td>Fishing</td>
<td>25</td>
<td>5,000</td>
<td>200</td>
<td>$1,000,000</td>
<td>$40,000</td>
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<tr>
<td>Forestry</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td>Mining</td>
<td>10</td>
<td>20,000</td>
<td>2,000</td>
<td>$2,000,000</td>
<td>$200,000</td>
</tr>
<tr>
<td>Settlement</td>
<td>8</td>
<td>12,000</td>
<td>1,500</td>
<td>$2,800,000</td>
<td>$350,000</td>
</tr>
<tr>
<td>Tourism</td>
<td>15</td>
<td>22,500</td>
<td>1,500</td>
<td>$2,250,000</td>
<td>$150,000</td>
</tr>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
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<td>63%</td>
<td>93%</td>
<td>90%</td>
<td>35%</td>
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<td>3</td>
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<tr>
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<td>20%</td>
<td>75%</td>
<td>70%</td>
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</tr>
</tbody>
</table>

Percent (%) of Land Covered by Forest

Value of Wood $
A. An environmental study has shown that some Conservation practices may not benefit or may even harm the environment.

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1. People may not know enough about the natural world. What we think is a good thing to do today may be found to be harmful in 20 or 30 years. For example, in order to be environmentally-friendly, we have introduced a new bird or fish into an area as a way to control certain insects or plants. But sometimes, these new birds or fish can become a bigger problem than the original pest!

2. An area set aside for park or wilderness may be too small to make good habitat for the animals or plants within it. These species may suffer or may not survive.

3. People may focus on conserving one or two species, instead of a whole ecosystem. This can upset the balance of nature.

4. People may think they are being environmentally-friendly, but they may be harming the environment.
   - We think that recycling is environmentally-friendly. But paper recycling is done at factories that may use chemicals to turn the old paper into new paper.
   - We are careful with our garbage and we do not pick any plant life when we hike or camp. But in some ecosystems, just the act of walking from one area to another can upset the plant life or wildlife.

B. Conservationists who were interviewed said, “We work for the environment.”

1. We encourage governments to pass laws that will protect the environment.

2. We act as watchdogs for the environment. We report pollution and environmental harm to those who can do something about it.

3. We do research to increase our understanding about the environment and its ecosystems.

4. We try to convince governments to set aside enough land to preserve plant or wildlife habitat. (For example, we try to make sure that every grizzly bear in an area has enough habitat to survive.)

5. We try to conserve whole ecosystems to maintain a natural balance so that all of the species will survive.

6. We teach people about conservation and the environment. Everyone should learn about the natural world because it is our habitat.

---

Do You Practice the Four R's?

Refuse Reduce Reuse Recycle
C. The Ministry of the Environment has pointed out that:

1. Information about the environment is changing all the time. We do the best we can to keep up with and understand this information and to use it correctly.

2. We are learning more about how everything is connected in the natural world. We try to think globally, but act locally.

3. The more support we get from each person, the easier it is to protect the environment.

4. There are some economic benefits to conservation:
   - There are 2,000 direct conservation jobs (conservation officer, park ranger, wildlife manager, research scientist).
   - Some businesses benefit from conservation. For example, conservation helps to:
     - maintain a healthy fishing industry by protecting salmon habitat
     - promote tourism and settlement by protecting wildlife and their habitat. (Wildlife attracts more visitors, hunters and photographers.)
     - ensure a healthy forest industry by preserving some natural forests. In the future, the forest industry may study these natural forest areas to help them solve problems in reforested areas.
     - maintain human settlements by protecting watersheds so people who live in an area have access to clean water.
   - The government does not collect very much money from conservation. But the money it does collect comes from:
     - Personal taxes: Workers pay some of the money they earn to the government each year.
     - Business taxes: Businesses pay some of the money they earn to the government each year.
     - Park fees: People who visit parks pay money to the government.
     - Sales taxes: Tourists buy goods and services and the taxes collected go the government.
   - The money that the government collects pays for things such as: roads, schools, visits to the doctor, school lunch programs, B. C. Summer Games, museums, unemployment insurance, sewage treatment plants, police, etc.
   - The government probably spends more money than it collects on Conservation. For example, the government may collect $2,000 from Conservation, but it may spend $35,000 to pay a park ranger to care for a wilderness area.
Square Dancing

Names

Proposal Name ___________________________ Date _____________

Column 1: Print the coordinates (eg. A3, B6) of five squares that are shared by 4 Sectors in your group's Proposal.

Column 2: For each square, place a checkmark beside the names of the Sectors that will share that square in your Proposal.

Column 3: Explain how the Sectors in that square will share the land without conflict.

Column 4: Do not write in this column. The teacher will complete it.

Dashed Box: Justify your answer. Where did you find information to complete Column 3? (teacher, parents, EcoTimes, Pot-Luck, E & E Report, local newspaper, book, etc.)

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ Agriculture □ Forestry</td>
<td></td>
<td>□ Good</td>
</tr>
<tr>
<td></td>
<td>□ Conservation □ Mining</td>
<td></td>
<td>□ Poor</td>
</tr>
<tr>
<td></td>
<td>□ Settlement □ Fishing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Tourism &amp; Rec</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□ Agriculture □ Forestry</td>
<td></td>
<td>□ Good</td>
</tr>
<tr>
<td></td>
<td>□ Conservation □ Mining</td>
<td></td>
<td>□ Poor</td>
</tr>
<tr>
<td></td>
<td>□ Settlement □ Fishing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Tourism &amp; Rec</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Number Crunching Chart

**Name** ____________________________  **Date** __________

<table>
<thead>
<tr>
<th>Agriculture</th>
<th>Conservation</th>
<th>Fishing</th>
<th>Forestry</th>
<th>Mining</th>
<th>Settlement</th>
<th>Tourism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not shared</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Not shared and not wanted | | | | | | |

| 2 - 3 Sectors share a square | | | | | | |

| 4 Sectors share (good reason) | | | | | | |

| 4 Sectors share (poor reason) | | | | | | |

(Print the numbers from the Conservation column in Chart 1, Row V.)
### Chart 1: Habitat Protected

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td># of squares that are not shared</td>
<td># of squares that are not shared</td>
<td># of squares shares with 1 or 2 Sectors</td>
<td># of squares shares with 3 Sectors. (Good reasons for sharing)</td>
<td># of squares shares with 3 Sectors. (Poor reasons for sharing)</td>
</tr>
<tr>
<td>W</td>
<td>x 100</td>
<td>x 20</td>
<td>x 75</td>
<td>x 60</td>
<td>x 20</td>
</tr>
<tr>
<td>Z(V x W)</td>
<td>amount of habitat</td>
<td>amount of habitat protected</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Add the numbers in Row Z. Put the total in the box with the double line border.)

### Total Habitat Protected

### Chart 2: Jobs Protected (squares not shared)

<table>
<thead>
<tr>
<th></th>
<th>Agr</th>
<th>Con</th>
<th>Fish</th>
<th>For</th>
<th>Min</th>
<th>Set</th>
<th>Tour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td># of 1st choice whole squares</td>
<td>x 1000</td>
<td>x 100</td>
<td>x 200</td>
<td>x 1500</td>
<td>x 2000</td>
<td>x 1500</td>
</tr>
<tr>
<td>B</td>
<td># of jobs per square</td>
<td>x 100</td>
<td>x 20</td>
<td>x 40</td>
<td>x 300</td>
<td>x 400</td>
<td>x 300</td>
</tr>
<tr>
<td>C</td>
<td>(A x B)</td>
<td># of jobs protected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Chart 3: Jobs Protected (squares not shared)

<table>
<thead>
<tr>
<th></th>
<th>Agr</th>
<th>Con</th>
<th>Fish</th>
<th>For</th>
<th>Min</th>
<th>Set</th>
<th>Tour</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td># of squares the Sector is given that it did not choose</td>
<td>x 200</td>
<td>x 20</td>
<td>x 40</td>
<td>x 300</td>
<td>x 400</td>
<td>x 300</td>
</tr>
<tr>
<td>E</td>
<td># of jobs per square</td>
<td>x 100</td>
<td>x 20</td>
<td>x 75</td>
<td>x 150</td>
<td>x 1125</td>
<td>x 1500</td>
</tr>
<tr>
<td>F</td>
<td>(D x E)</td>
<td># of jobs protected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Chart 4: Jobs Protected (shared with 2 Sectors)

<table>
<thead>
<tr>
<th></th>
<th>Agr</th>
<th>Con</th>
<th>Fish</th>
<th>For</th>
<th>Min</th>
<th>Set</th>
<th>Tour</th>
</tr>
</thead>
<tbody>
<tr>
<td>G</td>
<td># of squares shared with 1 or 2 Sectors</td>
<td>x 750</td>
<td>x 75</td>
<td>x 150</td>
<td>x 1125</td>
<td>x 1500</td>
<td>x 1125</td>
</tr>
<tr>
<td>H</td>
<td># of jobs per square</td>
<td>x 750</td>
<td>x 75</td>
<td>x 150</td>
<td>x 1125</td>
<td>x 1500</td>
<td>x 1125</td>
</tr>
<tr>
<td>I</td>
<td>(G x H)</td>
<td># of jobs protected</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Chart 5: Jobs Protected (share with 3 Sectors) | Agr | Con | Fish | For | Min | Set | Tour  
---|---|---|---|---|---|---|---  
J | # of squares shared with 3 Sectors (Good) | x 600 | x 60 | x 120 | x 900 | x 1200 | x 900 | x 900  
K | # of jobs per square | | | | | | |  
L | (J x K) # of jobs protected | | | | | | |  

## Chart 6: Jobs Protected (share with 3 Sectors) | Agr | Con | Fish | For | Min | Set | Tour  
---|---|---|---|---|---|---|---  
M | # of squares shared with 3 Sectors (Poor) | x 200 | x 20 | x 40 | x 300 | x 400 | x 300 | x 300  
N | # of jobs per square | | | | | | |  
O | (M x N) # of jobs protected | | | | | | |  

## Chart 7: TOTAL Number of Jobs Protected | Agr | Con | Fish | For | Min | Set | Tour  
---|---|---|---|---|---|---|---  
P | copy Chart 2, Row C | | | | | |  
Q | copy Chart 3, Row F | + | + | + | + | + | +  
R | copy Chart 4, Row I | + | + | + | + | + | +  
S | copy Chart 5, Row L | + | + | + | + | + | +  
T | copy Chart 6, Row O | + | + | + | + | + | +  

(Add the numbers in this column. Print the total in Row U.)  
(Add the numbers in this column. Print the total in Row U.)  
(Add the numbers in this column. Print the total in Row U.)  
(Add the numbers in this column. Print the total in Row U.)  
(Add the numbers in this column. Print the total in Row U.)  

## Total Jobs Protected  
(Add up the numbers in Row U. Print the total in the box with the double line border.)
5. Be ready to give a presentation at Round Table 3. You want people to know how your Sector works so they will understand why you need land. Think about and decide:
   • What information should be presented? (Main ideas? interesting details?)
   • How will the information be presented? (Chart, picture, diagram, web, etc.)
   • Who will present the information?
   • Presentations should be 7 minutes or less.
   • Will you be able to answer questions? (ie. Why do we need your Sector? How does your Sector work? Why does your Sector need land?)

6. Read the Viewpoint in your Role File.

7. Design a poster to represent your Sector. The poster will be explained at Round Table 3.

8. Talk about Worksheet 9 (Room For All Views).
   Make notes here:

9. Do Worksheet 9 (Room For All Views).

   • Give Worksheet 9 (Room For All Views) to the teacher for marking.

**Round Table 3**

The purpose of Round Table 3 is to get information about the other Sectors.

1. Take notes. Give the notes to the teacher for marking.

2. Give the presentation on your Sector and your poster.

3. At the end of the meeting, the teacher will discuss the way you completed Worksheet 6 (My Thoughts About The Meeting) for the Round Table 2 meeting.

4. Do Worksheet 6 (My Thoughts About The Meeting) for Round Table 3. Give it to the teacher for marking.

**Task Time 4**

The purpose of Task Time 4 is to choose the best places in the Pangea Valley for your Sector.

1. Study the Sector Map Information in your Role File. It is a grid that shows the best places for your Sector in the Pangea Valley.
2. Read Map Wrap in your Role File.

3. Talk about Worksheet 12 (Sector Map Grid) with the teacher.
   Make notes here:

4. Use Worksheet 12 (Sector Map Grid) to show the squares that your Sector wants.
   - Give reasons for each of your choices.
   - Use the information from Map Wrap, your Sector Map Information and the Pangea River Basin Map.
   - Do not choose a square that is blank on your Sector Map Information.

5. Look at each Sector member’s copy of Worksheet 12 (Sector Map Grid). As a group, you must all agree on the squares that your Sector wants.
   - Make 2 new copies of Worksheet 12 (Sector Map Grid).
     - One copy shows the squares you want and gives the reasons why you want those squares. Give this copy to the teacher.
     - One copy only shows the squares you want. Give this copy to the Assistant.
   - Be ready to defend your choices at Round Table 4.

6. You may be asked to explain your Worksheet 12 (Sector Map Grid) to an Organizer.

7. Make a larger version of your Sector Map Information. It will be put up on the wall at Round Table 4. The map should show three different types of squares.
   - Squares that you could not choose: leave these squares blank.
   - Squares that you could choose, but decided against: put a small black and white picture of your Sector in these squares.
   - Squares that you did choose: put a small coloured picture of your Sector in these squares.

Round Table 4

The purpose of Round Table 4 is to see the places that all the Sectors want in the Pangea Valley.

1. Put your large Sector Map Information on the wall.

2. Take notes. Give the notes to the teacher for marking.

3. You may need to explain your Sector’s Worksheet 12 (Sector Map Grid).


5. Do Worksheet 6 (My Thoughts About The Meeting) for Round Table 4. Give it to the teacher for marking.