

BUILDING FUTURES IN MANITOBA

TEACHING UNIT

General Topic:	Production of Goods and Services
Unit Title:	Using and Caring for our Resources
Grade Level:	Grade 5
Recommended Curriculum Area:	Drama
Other Relevant Curriculum Area(s):	Language Arts, Social Studies



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Possible Curriculum Integration Points

Grade 5 Drama Recommended

Outcomes

- use the elements of characterization (voice, dialogue, body, gesture, and movement) selectively to develop a range of characters
5–8 dr–L2.1
- sustain voice, dialogue, body, gesture, and movement consistent with the character and situation
5–8 dr–L2.2
- select appropriate action and reaction consistent with the character and situation
5–8 dr–L2.3
- develop characters and roles from different points of view
5–8 dr–L2.5
- collaborate with others in the interpretation of characters
K–8 dr–L2.6
- stay focused and in character for the duration of various play and drama experiences
5–8 dr–L2.8

Other Relevant Curriculum Area(s)

Grade 5 Language Arts

Outcomes

- 1.2.3 Organize ideas and information in ways that clarify and shape understanding.
- 1.2.4 Appraise ideas for clarity and ask extending questions.
- 2.1.3 Use contextual cues (such as key ideas, sequence of major events, table of contents, glossaries...) to construct and confirm meaning.
- 3.1.1 Summarize personal knowledge of a topic in categories to determine information needs.
- 3.1.4 Gather and record information and ideas using a plan.
- 3.2.3 Determine the usefulness of information for inquiry or research purpose and focus using pre-established criteria.
- 4.4.1 Prepare and share information on a topic using print, audio-visual and dramatic forms to engage the audience.
- 4.4.3 Show respect for presenter(s) through active listening and viewing and other audience behaviours [such as giving polite feedback, responding to the speaker's gestures, showing attentive body language...].
- 5.2.1 Distinguish between on-task and off-task ideas and behaviours in cooperative and collaborative groups, stay on task; identify and solve group productivity issues.
- 5.2.2 Assume the responsibilities of various group roles; chose roles appropriate for tasks and productivity.
- 5.2.3 Demonstrate sensitivity to appropriate language use when communicating orally.

Other Outcomes

The Education for Sustainable Development initiative

Relevant Economic Outcomes

- Examples of natural, labour, capital, and technology resources that are available for production
- All resources are limited
- Some resources are renewable and some are not
- Resources are combined to make goods and services that people need and want and are willing to buy
- By “specializing” it is possible to produce more, and better, goods and services
- Specializing leads to the need for “exchange” and “interdependence”
- Opportunities for business and production are the needs, wants, challenges, and problems

Background Information

Students need to appreciate that “everything comes from something” and that various types of resources are needed in order to produce the goods and services that we have today. They also need to recognize that there are different types of resources, some renewable and some non-renewable.

They also need to understand that, as we look at better and better ways of doing things, we come to realize that if we specialize in one part of the process we can be more efficient and produce higher quality goods and services. This will lead to an understanding of interdependence as the producers of goods and services become reliant on each other.

As they reflect on these concepts, the students should examine how people’s needs and wants drive this interdependence and what new directions and opportunities are likely to develop as our society advances. They will also come to understand why governments provide various services.

Overview of the Unit

The unit will involve the students in a number of creative hands-on activities which will require them, in addition to working individually, to work cooperatively and creatively and problem solve in groups. They will have individual tasks as well and be required to contribute to class discussions.

Estimated Time Frame: 5 periods – 60 minutes each

Suggested Implementation Strategy

Period 1 60 minutes – TEACHING ABOUT RESOURCES

- Begin the lesson by asking the students what kind of order-in food they tend to get if their family orders food delivered.
- List their suggestions. If pizza is not suggested, ask how many like to get pizza and tell them that you are going to use pizza for a discussion on our need for different types of resources in order to have the things we need and want.
- Divide the class into 5 groups and have each group appoint a group leader and a recorder.
- Have the students develop a list of all of the things that have to be done in order for them to eat pizza. Tell them that, as they develop their list, they are to include what has to be done in order to have the ingredients needed for the pizza.
- Allow the students some time to develop that list.
- Once the allotted time is up, ask one volunteer group to share their list.
- Record their list and then discuss with the students how there are basically four types of resources on their list – natural, human, capital and technological.
- Provide them with the following explanations:
 - **Natural Resources** – things that come from nature and are unchanged by human hands – for example, trees
 - **Human Resources** – the people who do the work – for example, factory workers
 - **Capital Resources** – man-made tools and equipment – for example, the saws used by construction workers
 - **Technological Resources** - technical equipment such as a computer.
(This is a sophisticated type of capital resource)
- With these categories explained, give each group a piece of chart paper and marker and have the groups examine their lists and put each of their items into its correct category on the chart paper.
- Once they have completed this task have the groups post their chart on the wall and, in turn, review their chart with the rest of the class.
- Explain to the students that all resources have three things in common:
 1. Usefulness
 2. Limited availability
 3. Potential to be used or depleted
- Conclude this lesson by informing the students that in the next class they will look at natural resources to determine if they are renewable or non-renewable.

Period 2 **60 minutes – TEACHING RENEWABLE / NON RENEWABLE RESOURCES**

- Begin the lesson by explaining to the students that resources are described in many different ways but one of the most common is whether the resource is RENEWABLE or NON-RENEWABLE.
 1. RENEWABLE NATURAL RESOURCE – any natural resource that can be replenished naturally with the passage of time. Air, wood, water and wildlife are renewable natural resources.
 2. NON-RENEWABLE NATURAL RESOURCE – resources that can be replaced at a slow rate or not at all. Minerals and fossil fuels taken out of the earth are non-renewable natural resources.
- Provide the students with a copy of the worksheet entitled “Activity 4 – What are Renewable Resources?” found under Handouts/Resources below and have them complete the activity.
- Once they have completed the worksheet, put the students in pairs and have them compare their responses.
- Once this has been completed, have the pairs report their lists from Part III of the worksheet and compile a list of their suggestions.
- Conclude the lesson by reminding the students that we all have an obligation to be responsible in our use of resources and we need to not be wasteful and reuse and recycle as much as possible.
- Tell them that in the next lesson, they will look at how resources are best used for the benefit of all.

Period 3 **60 minutes – TEACHING ECONOMIC CONCEPTS INCLUDING
SPECIALIZATION AND INTERDEPENDENCE**

- Begin the lesson by explaining to the students that they are going to role play today and use the following game by Bill Jennings. This game will take 3 lessons to complete.

SURVIVAL:

A SIMULATION TO INTRODUCE STUDENTS TO SOME KEY BASIC ECONOMIC CONCEPTS
by Bill Jennings

(This simulation has been reprinted in many forms and places and put to many uses. It has been used successfully with elementary school age children and as a problem-solving activity in enriched programs for senior high school students. The author began every economics course with it for 23 years.)

It is always surprising that the students who select economics as an option seem to know virtually nothing about its true nature. They seem to think the course may help them save money when they buy their first car or that it is going to teach them how to make a million on the stock market. Little experience with economics, combined with a new bundle of assumptions, concepts, and models of analysis make the introductory months in an economics course difficult ones for the students.

Survival is a very flexible simulation activity. It has the advantage of being quickly played, usually taking about two hours spread over 2 to 3 class periods. The materials required to play it are inexpensive and readily available.

The simulation is used to introduce these concepts and topics.

- **relative scarcity**, which necessitates the making of economic decisions and choices;
- **economic resources** – land, labour, and capital;
- **the basic economic questions** that every economy faces: what to produce, how to produce it, and for whom goods and services are produced (i.e. how they will be distributed) and the different ways in which these decisions can be made;
- **different types of economic systems** such as the traditional, command, and market models;
- **economic interdependence and specialization** and the advantages and disadvantages of each.

Although the simulation itself can take as little as two 40-minute periods to complete, it can set the stage for several weeks' work.

Materials

The amount of materials needed depends upon the size of the class. Generally the following suffices: unlined white paper, paper of some other colour, cloth (which is easy to cut with blunt scissors), compasses, rulers, pencils, scissors, a washer or bottle cap etc. (anything that is small and round), felt markers, and staplers.

Assuming a class size of 25, the following proportions are suggested: a good quantity of white paper and cloth; several sheets of coloured paper; five compasses; six rulers; seven pencils; one washer or bottle top etc.; three scissors; three felt markers, and two staplers.

DAY I — ROUND I

First set the scene. The group has been lost on an Arctic island with little hope of rescue. Their objective is Survival. At this point it must be established – either by telling them directly or asking questions – that in order to survive each of them must satisfy basic needs for food, clothing, and shelter. Their objective in the simulation is to produce one unit of each basic need. If they fail, they perish.

Next, show them the items they must produce: a fish to satisfy the requirement for food; an igloo, the requirement for shelter; and a poncho, the requirement for clothing.

These examples are posted at three different points around the room. A cautionary word: their reproduction must be exact in every detail and no tracing of the models is allowed. After they have completed a unit they must immediately hand it in to the teacher for credit. If it is not an exact reproduction, tear it up or send them back to improve it.

Complication #1

And now the complicating factors that make the game challenging and fun. The students will not be able to use any equipment or materials other than those supplied. (For this reason, the pencils, rulers, compasses etc. should be readily identifiable to prevent inventive students from increasing their resources. A standard trick is to break the pencils in two, so inform them that all broken pencils will be removed from the game.) Show them all the equipment, leaving it in one pile.

Complication #2

Their tasks must be completed within a time limit (15 to 20 minutes). Warn them that since some of the tools can cause injury (particularly the compasses), you will allow no roughhouse tactics. Start their time immediately. If questions are asked, answer them individually but make it expensive in terms of lost production time. This will help them realize the desperation in the situation.

The game having started, the teacher's role is simply to act as a police officer enforcing the rules, to listen sympathetically, and to encourage those who give up or who are slow starters. Record who successfully produces what during the round. On some occasions, the whole round breaks down in frustration as students become aware that they have no hope of completing the tasks. If this happens, end Round 1 at any time. The purpose of Round 1 is really only to have them experience the difficulty of producing a large quantity of goods with limited resources in a limited time. The last task is to collect all the materials and equipment, making sure everything is accounted for. Be sure any partially completed units are destroyed. This introductory exercise can usually be squeezed into one 40-minute lesson.

Period 4 60 minutes – ROUND 2

- Begin the second round by reviewing the results of the previous round's efforts and congratulate those who managed to survive (if any did). Tell them that in this round they get a second chance to do better under the same conditions. They will be given the same amount of time and the same equipment and resources. They will, however, have a maximum of 15 minutes to discuss the problem as a class to see if they can work out better solutions.
- At this point, the teacher should retreat from a position of dominance and make it clear that the students will have to work out their own solutions. There is usually a minute or two of awkward silence, but eventually every class comes to life. Note how decisions begin to be made. This is one of the most interesting periods in the simulation, for the group must decide whether decisions are going to be made on a democratic basis or whether it will follow the lead of a strong group or individual who makes decisions and gives orders. Every class eventually organizes itself into three groups—each producing one item.
- Further specialization develops if the groups are organized so that each individual does just one step in the production process. Towards the end of the 15-minute planning period, things become frantic as each group decides what resources it is going to need to complete its task and starts to negotiate with other groups for these items. If it is well organized, everyone will have an important role to play and the resources to accomplish that role. This is why it is important that there be a sufficient, but not an abundant, supply of resources and tools from the beginning. Some students can be efficiently employed as transporters of the finished goods to the teacher for approval and credit.
- After fifteen minutes, let them have the materials and begin the twenty minute production period. Everyone is usually much busier and happier during this round. The teacher's main task is to keep a running total of approved units which have been produced. These units begin to flood in after the first ten minutes of the round and things become wild as the end of the production period approaches. When the twenty minutes are up, collect the materials and tally up the score.

Period 5 60 minutes

- During these first two rounds, students have not learned much about economics – at least they do not realize they have. They have had some fun and are interested. In this case, the medium is not the message. If the message is to get across, some very good teaching must now take place. The students should be questioned to help them relate the simulation game to economics. Listed below are some of the questions that might be asked and some of the points that can be developed from these questions.

1. What problems did you as a group face during Round 1 of the simulation?

Students will point out that there was a lack of paper, tools, and time, thereby preventing them from producing enough to satisfy their basic needs for survival. This opens the way to introduce the concept of how human needs or wants lead to the fundamental problem of economic scarcity and the fact that we have limited available resources to produce goods and services – so we have to make choices – and everyone cannot have everything they need and want—in other words, the basic economic problem and why we need an economic system.

2. Specifically, what did you need if you were to survive?

Students will say that they needed paper, pencils, and rulers etc.—the concept of economic resources. Go on to identify the major categories of resources—land, capital, and labour. Interestingly enough, students often overlook their own labour as a necessary factor to survival. Relate the items used in the game to the other resource categories of land (the paper and cloth) and capital (rulers, compasses, pencils etc.). You can also discuss how there was a need to make decisions about the organization of production and how things would be produced – which enables you to discuss how decisions need to be made about the type of economic system to establish in a country. At this point, students should be able to give a definition of economics that is something along these lines.

“Economics is the study of how we make decisions to use our scarce resources of land, labour, and capital to produce goods and services to satisfy people’s wants and needs.”

3. What basic problem did you (try to) solve during the planning period prior to Round 2?

Students can easily comprehend that they were trying to determine how they could best produce the food, clothing, and shelter they needed to survive. This leads to a discussion of the basic economic questions any economic system must solve:

- What** to produce—in this case determined arbitrarily by the simulation, which forced everyone to produce and consume fish regardless of whether they preferred meat.
- How** to produce goods—the purpose of the 15-minute planning session.
- For whom** goods are produced—which is the one question that students never deal with during the planning period. It never seems to enter their minds, and even if it did the shortness of the planning period would prevent them from arriving at a conclusion. This leads to some really interesting discussions. Assume that in Round 2 our class of 25 was able to produce the following units:

Food	Clothing	Shelter
34	17	22

How many students would survive? Eventually they will see that since every survivor needs at least one unit of each, only 17 out of the 25 students will survive. Then comes the crunch – which 17 – that is, how will the completed units for survival be distributed? The question of distribution – that is, how it is decided who gets what – is one of the most difficult questions societies have to tackle – and is an important question for students to discuss.

It is, in fact, the case that some people in the world do not have access to the basic necessities of life. In other cases, such as in Canada, there are differences among people in terms of the things that they have - and are able to get. Discussion of this topic with students is often lively.

4. Explain how you organized yourselves in Round 2 in such a way as to increase production greatly.

From the students' responses to this question you can develop some of the basic principles of economic life in modern times – that is, specialization where students likely “specialized” in some area of production rather trying to produce everything themselves.

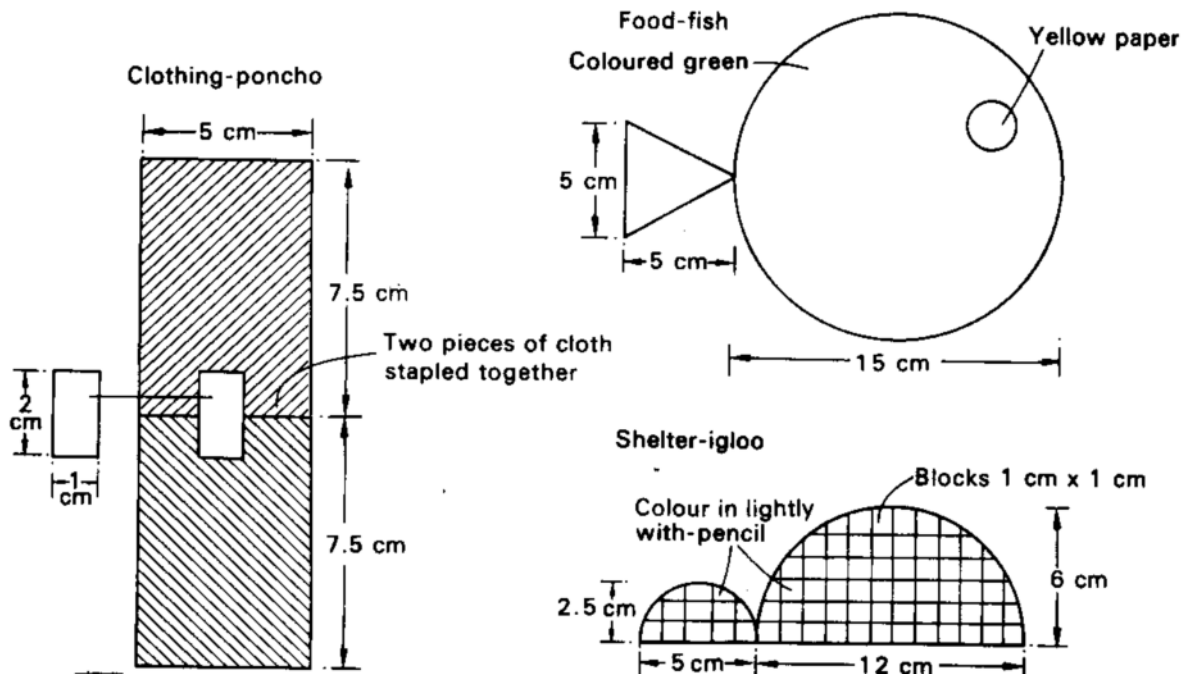
The same thing happens in an economy and in societies where people do not produce all that they need and want. Instead, they decide what to produce (often what they are best at producing) and then trade and exchange to get the other things that are needed and wanted. This leads to interdependence and the need for trade and exchange – among people – and among countries.

5. How did you decide what groups to form and what task each individual would do in the group?

This question leads to a discussion of the decision-making process. It is also an excellent introduction to the concept of different kinds of economies - market, planned, and mixed economies and a discussion of the differences among them.

The Models

(Do not draw them to scale—it makes them too easy to trace.)



Possible Evaluations

- Period 1 – chart paper can be collected and evaluated.
- Period 2 – the activity sheet can be collected for evaluation.
- Periods 3-5 – a peer evaluation could be done to assess the contributions of each member. The teacher could also evaluate how effective each group was.

Follow-up Activities

- The students could look at a non-renewable source and report on things that are being done to help conserve that resource.
- The students could consider a new service or product and explain what need exists for this new product or service.
- The students could also play “Winter Survival in Colonialburg” found under “Handouts/Resources” below.
- The students could engage in a creative activity during which they are given a number of common things found around the school and asked to create something new from them.
- The students could examine the types of services provided by governments and discuss why this is the best way of doing this.

Modifications or Suggestions for Different Learners

- The various roles within the game played in Period 3 allow for different types of learners to play active roles.
- The group activities allow for different learners to contribute within their “comfort zone.”

Additional Related Links

- This link uses an assembly line game to show the value of specialization and interdependence.
<http://www.econedlink.org/lessons/index.php?lid=446&type=educator>

Handouts / Resources

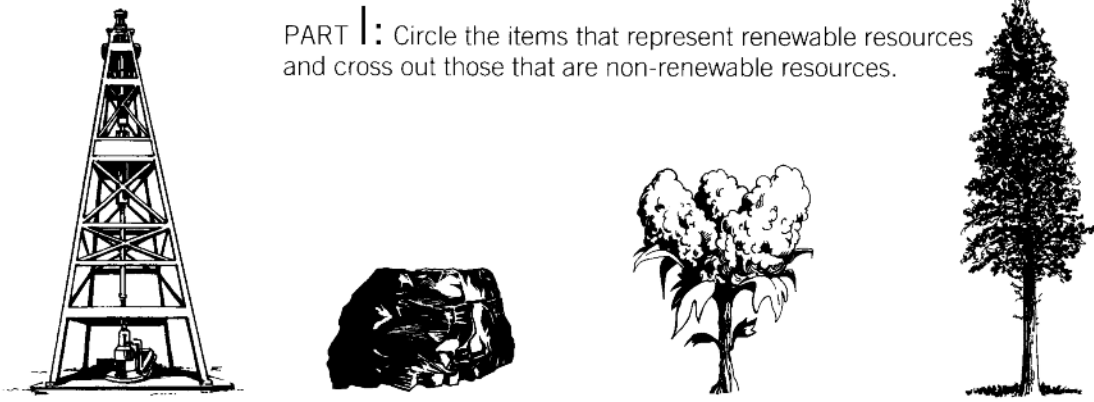
- The handout contained in this section is spaced to fit a full page layout. As a result it might be necessary to scroll down to find the appropriate handout.

Activity 4 WHAT ARE RENEWABLE RESOURCES?

A natural resource which can be used to benefit people and then be replaced for other people to enjoy is called a **renewable resource**. A resource which has a limited supply and can not be replaced again is called a **non-renewable resource**.

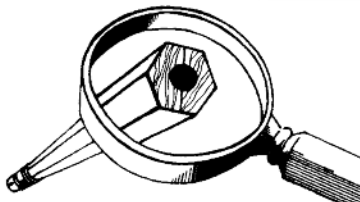
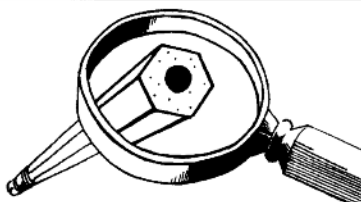
The difference between the two kinds of natural resources has to do with where they come from, or their **source of origin**. For example, your shirt and jeans are probably made from cotton, which comes from a plant. Farmers harvest their cotton crop every year, but the plants will always grow back. In contrast, the gasoline in the family car comes from oil that is drilled out of the earth. Since there is only so much oil that we can use and the earth cannot replace the oil we know that gasoline is made from a non-renewable resource.

PART I: Circle the items that represent renewable resources and cross out those that are non-renewable resources.



OIL WELL **COAL** **COTTON** **TREE**

PART II: Some pencils are made from wood and others are made from plastic (petroleum). Which of these two resources can be replaced? Take a close look at your own pencil and compare it with the chart. Is your pencil made from a renewable resource?

INCENSE-CEDAR	PLASTIC
	
<p>Pencils made from Incense-Cedar are a reddish brown inside with distinctive grain or growth lines and a cedar aroma. You can usually see a dark vertical line where the two pieces of wood were glued together. Wood pencils are stiff and will not bend. When broken, they leave a rough, uneven edge.</p>	<p>Plastic pencils have a pinkish cast inside and are grain free. Because plastic pencils are squeezed out in one long line (like a string) they have no visible seam or line in the casing. They are flexible, and will bend a full inch or more before breaking. When broken, they snap, leaving clean, straight edges.</p>

PART III: Think of the products that you use on a regular basis. Name three that are made from renewable resources and three that are made from non-renewable resources.

Write your answers on the back.

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“Winter Survival in Colonialburg”

Object of the Game:

To acquire the following items (more resources if possible) to ensure that you have enough resources

to make it through the coming winter. If you fail to acquire these items you will perish.

50 bushels of wheat for bread and baking

4 head of cattle for meat

40 boards of wood for building repairs as they happen

3 sets of door hinges to replace the ones currently on doors

100 pounds of dry goods

NOTE: You must also obtain the resource which is unique to your group.

This will ensure that you have very basic needs covered. If you get more resources you will live even better during the winter.

Method of Play:

1. You will be placed in a family group and that group will assume the role of a member of the settlement of Colonialburg.
2. You will have time to barter and trade with other members of the settlement for the resources you need.
3. You will have a limited time to do this bartering so it must be done earnestly and with respect for others.
4. There will be responsibilities assigned to each member of the group and all trades must be agreed upon by the group's family council whose responsibility it will be to make sure that the basics have been obtained.
5. You can only barter or trade with one group at a time.
6. You will be given a role for your group complete with your needs and what resources you have to trade.
7. The members of the group must know the specific needs of the group and agree to be either a negotiator or a member of the family council.
8. The teacher will call a pause at certain points to have the groups convene and determine their progress and needs.
9. Each group will need to acquire the resources outlined above as the minimum. You are allowed to gather more resources and, if you do, your quality of life over the winter will be much better. You are also to try and keep as much of your resources as you can – so trade wisely and carefully. Drive a hard bargain.
10. Each family group will have a need and a resource which is specific to them.
11. NOTE: Each family group would like to add on to their building during the winter but need 5 oak beams in order to do so. If you do not get the beams it does not affect your survival but it means you must put off your building for another year.

Roles: (This information is to be given only to the groups to which it applies!!)

1. Storekeeper:

You have 800 pounds of goods available.

You need a buggy wagon wheel. You have changed to this type of transportation but one wheel needs to be replaced.

You now have a spare “wagon” horse because your buggy only requires one horse and you cannot afford to keep the other horse, which costs a great deal to feed.

2. Lumber Baron:

You have 400 boards available for trading.

You need a new saw blade for your saw.

You used to cut firewood in addition to boards but no longer do that. You have a lot of firewood left for trading.

3. Rancher:

You have 300 head of cattle available for trading.

You need a new crib for your infant son.

You have some saw blades left over from when you built your ranch house.

You have cow hides to trade from cattle that died over the summer.

4. Farmer:

You have 500 bushels of wheat for trade.

You need a “wagon” horse as one of your horses has come up lame and can no longer pull your wagon.

You have an old buggy that you used to use before you got the wagon. You haven’t used it in 5 years and are not likely to use it again.

5. Blacksmith:

You have 18 sets of hinges for trade.

You need some leather for your gloves, apron and bellows.

You have just got a new bed for your young son who has outgrown his crib and you have no place to store the crib.

Playing the Game:

Each family unit will appoint 2 negotiators whose job it will be to go and talk to other family negotiators. These negotiators must wear a badge that identifies their family group and indicates that they are a negotiator. Only negotiators can discuss deals and all deals must be brought back to the family council for finalization. Only then can the contract between the two families be signed. The contract form, found under Handouts below, must be signed for the deal to be considered complete.

The family council must keep track of what resources the family has left to trade during negotiations and what resources they have acquired. They must also, by majority vote if needed, approve all trades and deals.

- The teacher will monitor the time, call appropriate timeouts and end the lesson by telling the students that during the next class period they will discuss what they learned about specialization and interdependence while playing the game.