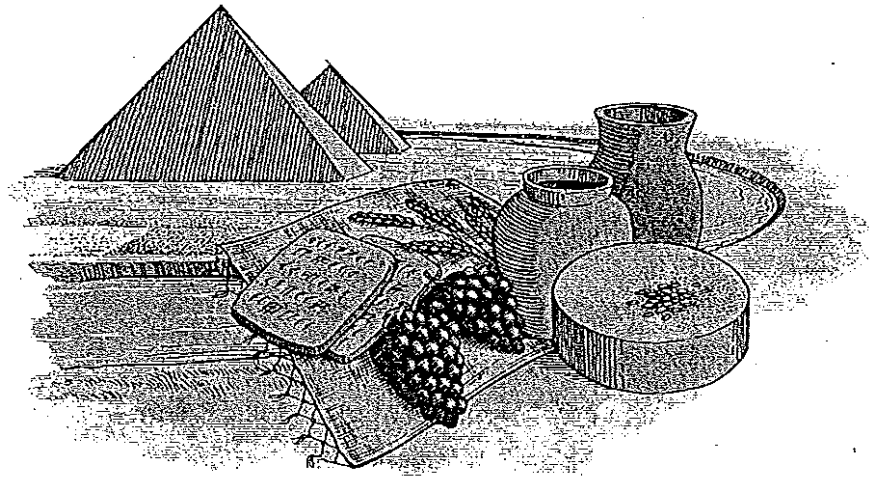


Agriculture of The Foundation of Civilization



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Introduction

It was Agriculture and the resulting surplus of food that enabled civilization to evolve.

Agriculture (often called farming) laid the groundwork for the development of civilizations. The transformation from a hunting and gathering lifestyle to one of agriculture took thousands of years and followed a variety of paths. Cultural as well as technological changes occurred as people adapted to this new way of life. These changes culminated in what we now call "civilization".

Agriculture developed independently on the continents of Asia, Africa and America. Mesopotamia is believed to be one of the earliest sites of large scale agriculture. About 7000 years ago village farming began in the floodplains of the Tigris and Euphrates Rivers. Abundant water, fertile soil and long growing seasons along with improved farming methods made for a bounty of crops.

This bounty led to an increase in population. The surplus of food made it possible for some people to stop farming and specialize in other activities. People now staying in one place had to live together and learn to accept social responsibilities.

A high degree of community organization and authority became necessary to maintain order. Cooperation was important. It took many people to build dams to protect crops from flood waters and to build reservoirs to provide water in the dry seasons. It took many people to create armies to protect the cities from enemies or to expand territories. The need for government and laws became imperative as communities became more complex and diversified.

Agriculture laid the foundation for the development of civilization, and our civilization today is even more reliant than ever before on the surplus of goods generated by agriculture.

Prescribed Learning Outcomes

Prescribed Learning Outcomes addressed in this unit (reference: BC Ministry of Education Social Studies K-7 IRP 1998)

Ancient World Cultures to A.D. 500

Applications of Social Studies:

It is expected that students will:

- identify and clarify a problem, issue, or inquiry
- gather and record a body of information from primary archaeological and historical evidence and secondary print, non-print, and electronic sources
- generate and justify interpretations drawn from primary and secondary sources
- organize information into a formal presentation

Society and Culture:

It is expected that students will:

- compare how various cultures meet common needs
- demonstrate understanding of events as part of a chronological series
- demonstrate understanding of the concept of civilization
- analyze effects and consequences of contact and conflict between ancient cultures
- identify connections between current cultures and ancient cultures

Politics and Law:

It is expected that students will:

- outline the evolution and purpose of rules, laws, and government

Economy and Technology:

It is expected that students will:

- assess how settlement patterns, economies, and occupations of ancient peoples were influenced by their physical environment
- assess ways technological innovations enabled ancient

peoples to modify their environments, satisfy their needs, and increase exploration and trade

- demonstrate understanding of the contributions of ancient cultures to science and technology

Environment:

It is expected that students will:

- construct, interpret, and use graphs, tables scales, legends, and various types of maps
- locate and describe current and historical events
- evaluate how ancient cultures were influenced by their environment
- analyze ways that peoples' interactions with their physical environments change over time
- evaluate the impact of natural processes and human-induced changes on communities

The following Intended Learning Outcomes have not been included in this unit, however, extension and/or enrichment activities may address them.

It is expected that students will:

- design, implement, and assess detailed courses of action to address global problems or issues
- describe ways cultures have sought to preserve identity and adapt to change
- describe daily life, work, family structures, and gender roles in selected ancient cultures
- compare the concept of the individual in early societies to that of today
- compare different concepts of membership and citizenship in ancient civilizations
- compare ways in which ancient governments acquired and used power and authority
- describe how ancient systems of laws and government have contributed to current Canadian political and legal systems
- describe various ways ancient peoples exchanged goods and services
- compare ancient and modern communications media

The Hunter/Gatherer Way of Life

Description:

The teacher and students will discuss three of the basic needs of man: food, shelter and clothing. They will discover that the filling of these needs determined the way of life for Hunters and Gatherers.

Students are asked to compare their methods of 'hunting and gathering' food today with that of early man. (Humans have been in existence for approximately 1,900,000 years during which they have hunted and gathered.)

Objectives:

By considering the basic needs of people, students will know that the quest for food, shelter, clothing has been and continues to be of utmost importance to all humanity.

Students will understand that the very first people had to hunt and gather their food and that the task of seeking food sources dominated their lives.

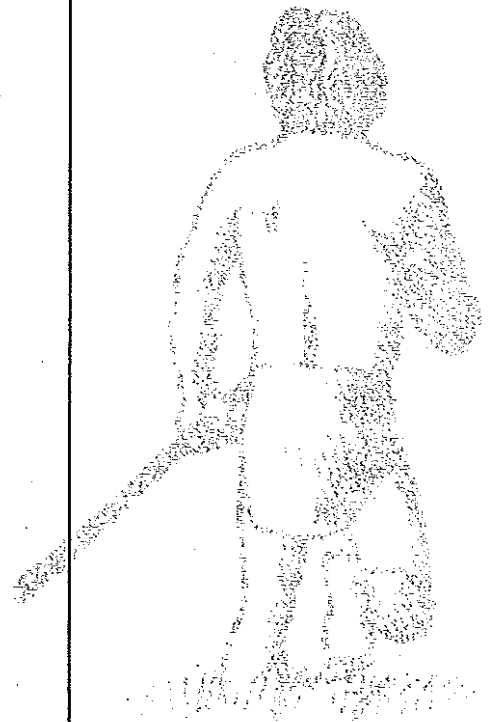
Assessment and Evaluation:

- Classroom discussions
- Written assignments

Lesson 1

Blackline Masters:

- Stop and Think
- The Hunter/Gatherer Way of Life



The Hunter/ Gatherer Way of Life

On the Move in Search of Food

For 99% of human history, people were, and some still are, exclusively hunters and gatherers. In a group of hunter/gatherers the men hunt wild animals with tools of wood, stone and bone. The women collect the roots, leaves and fruit of wild plants to add to their diet. Hunter/gatherers have to move often, usually according to the cycles of the animals and plants they eat. Hunter/gatherers can rely more on food that is gathered than

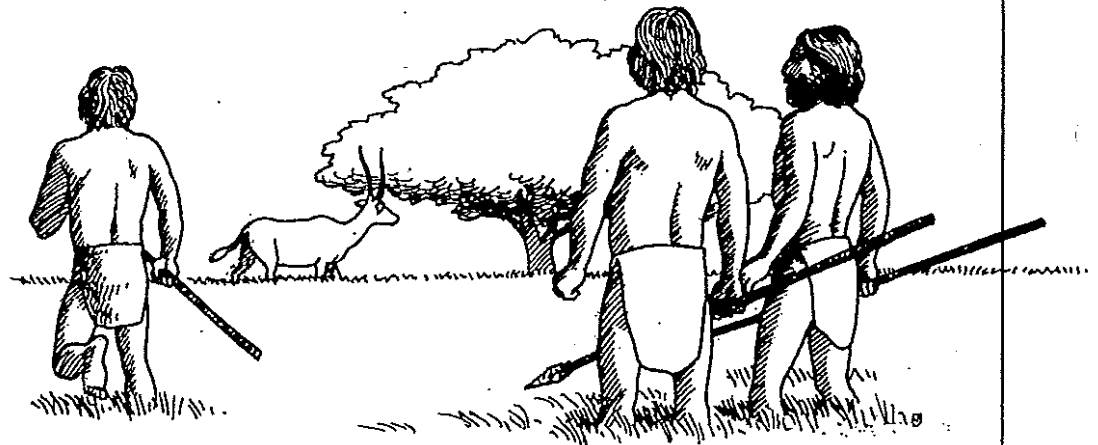
food that is hunted.

Because they are always moving from place to place, their homes and all their possessions have to be light and portable.

Groups of travellers are very small, often consisting of two or three families who work to support each other. Food and most other things are shared with the whole

group and not owned privately. Possessions consist of hunting and cooking tools as well as clothing (often made from the animals they hunt).

These people consider themselves as equals. No person is more important than another because each person is important to the survival of the group.



1. What is a hunter/gatherer?

2. All people share a number of basic needs in order to survive. What are the three basic needs? What are three other needs of people such as hunter/gatherers?

3. How did hunter/gatherers meet their basic needs?

4. Make a list of the possessions you think hunter/gatherers might have had to meet their needs?

5. What tools do you use to hunt, to gather and to cook your food today?

a. _____ b. _____ c. _____
d. _____ e. _____ f. _____

6. Using the Mbuti (Other Places Other Times pgs. 277-292) as your guide fill in the following chart with examples of how the Mbuti met their basic needs:

Food	_____

Clothing	_____

Shelter	_____

Leadership	_____

Rules	_____

Beliefs	_____

Slash and Burn Farming

Lesson 2

Blackline Masters:

- Slash and Burn Farming

Description:

It is thought that some 10,000 years ago for many the hunter/gatherer way of life changed to a more agrarian or farming lifestyle. One of the possible intermediary steps to agrarian societies was found in forested areas where a method of food production called slash and burn farming was used and is still used today.

Slash and burn farming is accomplished in stages. First in a small area of the forest the bark of the standing trees is removed. As the trees slowly die sunlight is able to reach the forest floor through the leafless branches. Early farmers found that grain could be made to grow in these sun bathed patches.

Using the same soil for the same crops year after year depletes the nutrients in the soil. To solve this problem farmers cut down the dead trees (slashed) and burned them over the soil. The remaining ash proved to be a fertilizer for the soil allowing the farmer to grow one or two more years of successful crops.

But in time air borne weed seeds moved in to share the open space with the grain crops. Over time the weeds would crowd out the grain crop forcing the farmer to move to a new place in the forest to repeat the cycle once again.

Since space in a forest is limited this type of farming was not and still is not sustainable.

Objectives:

- Students will understand that slash and burn farming is one possible intermediary step between hunter/gatherer and agrarian societies
- Students will evaluate this farming technique and understand that it is not sustainable

Assessment and Evaluation:

- 6 frame cartoon
- Class discussion

Name _____

Date _____

Slash and Burn Farming

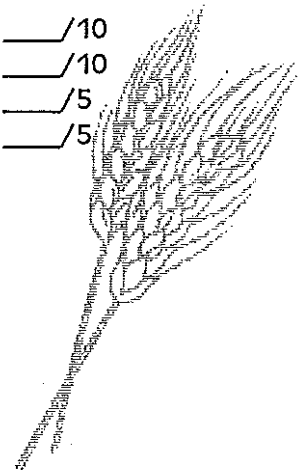
Divide an 11' x 17' piece of paper in six frames and illustrate the Slash and Burn farming technique as described below.

<p>1. The farmer cuts the bark off the tree trunks.</p>	<p>2. Sunlight reaches the forest floor and crops grow abundantly.</p>	<p>3. The farmer burns the trees and the ashes improve the fertility of the soil.</p>
<p>4. The crops again grow well.</p>	<p>5. Air borne seeds of weeds blow into the cleared patches and choke out the grain plants.</p>	<p>6. The farmers move on and repeat the cycle again in a different spot.</p>

Evaluation of your diagram will be based upon:

- Illustrations clearly represent the information
- Illustrations are neatly drawn and coloured
- Frames are neatly drawn
- Captions are accurate and informative

_____/10
_____/10
_____/5
_____/5



How Farming Started

Lesson 3

Blackline Master:

- The Birth of Agriculture

Description:

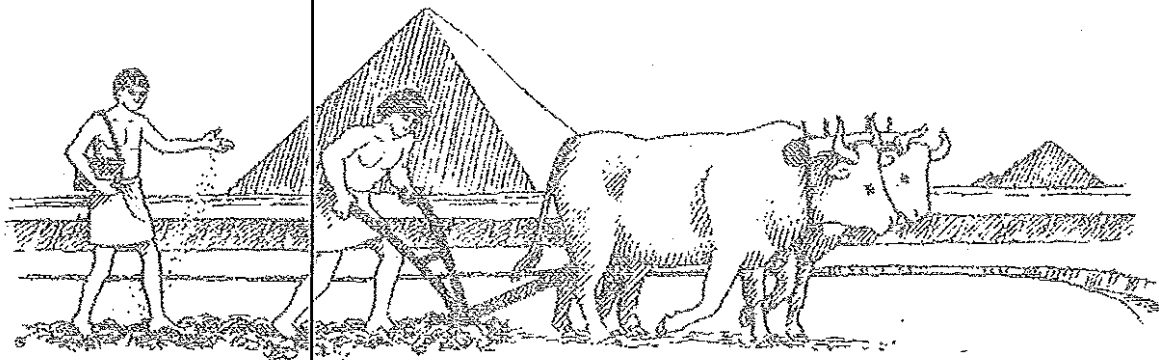
There are many theories explaining how and why humans began to farm. It needs to be understood that the change from a hunter/gatherer lifestyle was a long, slow process that took many routes.

Objectives:

Students will understand the concept of "theories" and develop a theory of their own. One of these theories will be illustrated by the student.

Assessment and Evaluation:

- Classroom discussion
- Illustration
- Chart



Name _____

Date _____

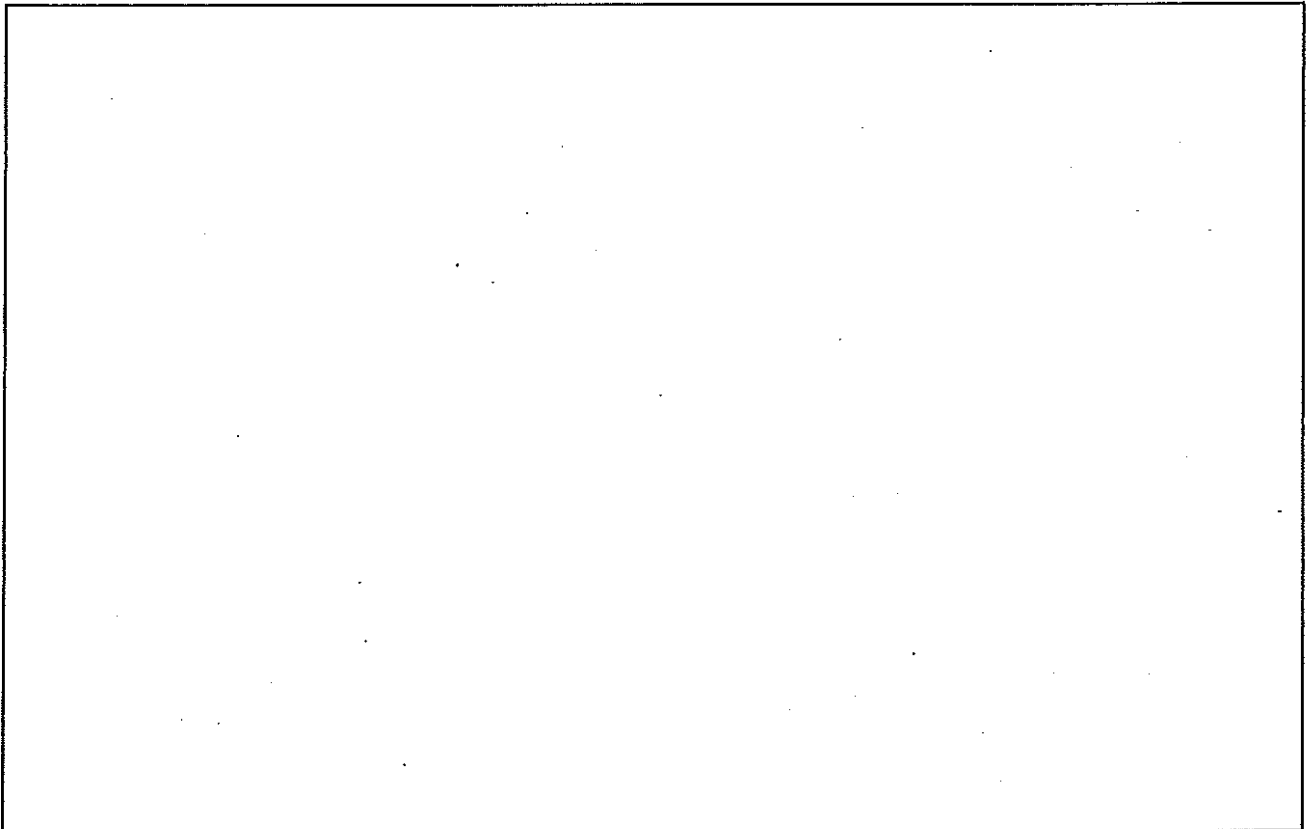
The Birth of Agriculture

Theories are ideas people use to explain something. There are many theories explaining how and why humans began to farm. Some of these theories are:

- a. A change in climate i.e. drier summers meant people and animals had to stay closer to water sources, like rivers and lakes.
- b. Since plants and animals flourished close to a source of water early people chose to settle by their food source.
- c. Women gathered seeds for food. They noticed that spilled seeds eventually started to grow.

In your groups develop a theory as to why people began to stay in one place to grow crops and raise animals for food. Write down two facts to justify your theory. Share these with the class.

In the space below illustrate your own or one of the above theories.



Early People Settle in River Valleys

Lesson 4

Blackline Masters:

- Conditions and Resources of River Valleys
- Mesopotamia Map
- World Map
- Early People Settle in River Valleys

Description:

Certain river valleys provided the conditions and resources required to meet the needs of early people. There are a number of river valleys around the world where ancient civilizations began i.e. Yangtze-China, Indus-Asia, Nile- Northern Africa, Tigris/Euphrates- South Western Asia. Examples of such early civilizations will be discussed and represented on a world map.

Objectives:

Students will understand that early people settled mostly in river valleys. These river valleys provided the resources and conditions required to sustain life.

Students will locate four ancient civilizations that began in river valleys on a map of the world.

Students will locate key features on a map of Mesopotamia.

Assessment and Evaluation:

- Classroom discussions
- Written assignments
- Map Work

Other Sources of Information:

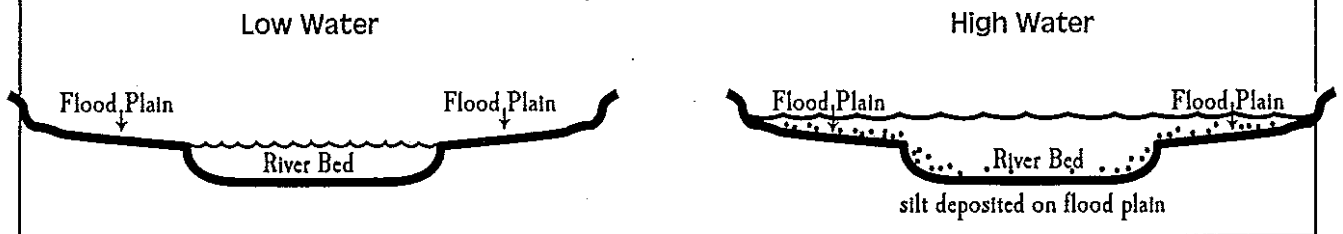
- Social Studies Textbooks:
Other Lands, Other Times and Ancient Worlds
- Atlases

Name _____

Date _____

Conditions and Resources of River Valleys

River valleys offered ancient peoples warmer climates, flat areas of land, transportation on the flowing rivers and good soil. People would experience flooding of the river either during rainy seasons or when heavy snow falls melted in the hills at the river's source. As the water rapidly flowed down the hillsides towards the mouth of the river it picked up and carried nutrient rich soil called "silt". This silt was excellent for growing crops.



On the map of Mesopotamia label and colour:

- Tigris River
- Euphrates River
- Nile River
- Europe
- Africa
- Black Sea
- Caspian Sea,
- Red Sea
- Fertile Crescent

On the map of the World label and colour:

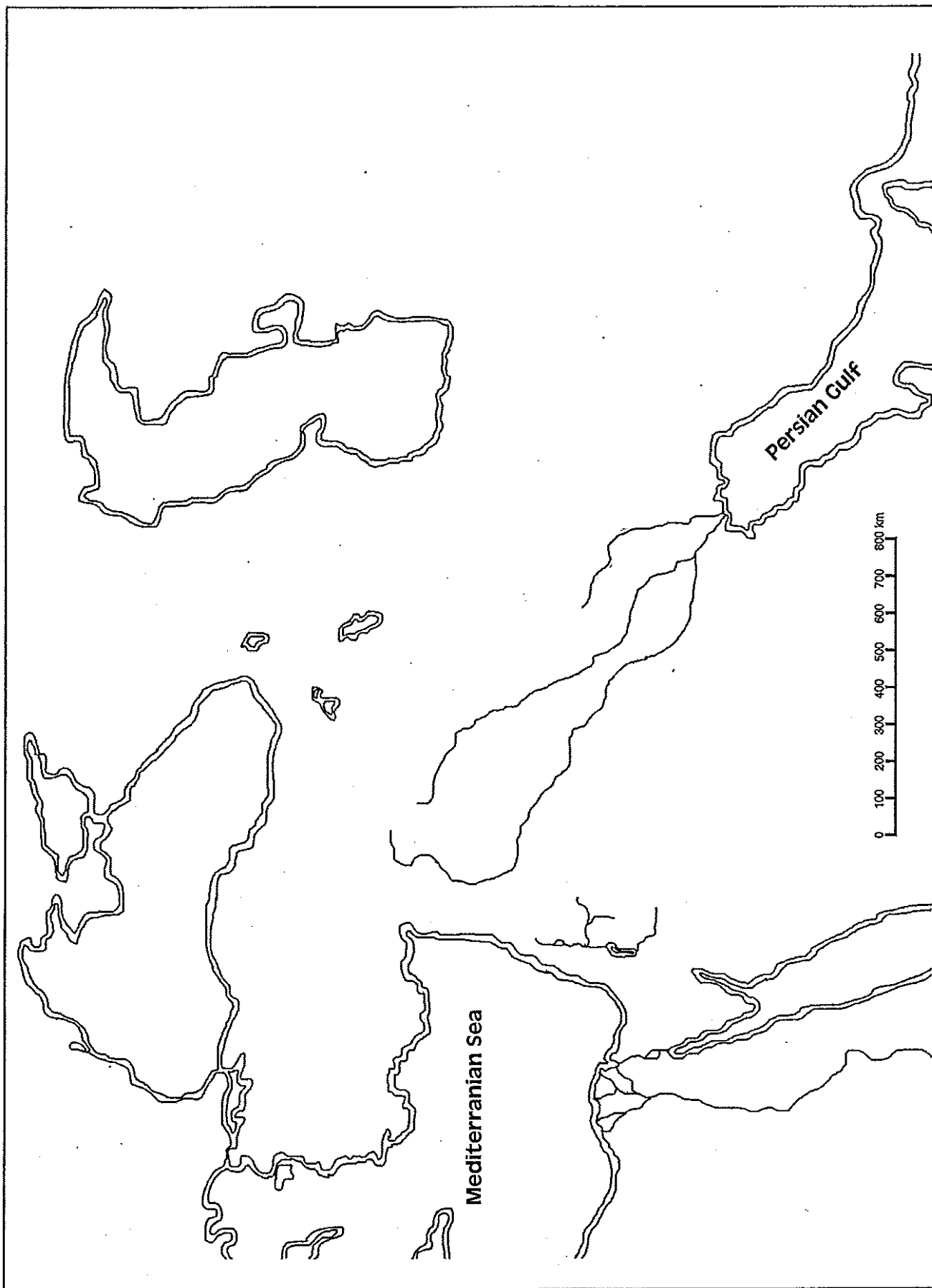
- Indus River-Asia
- Yangtze River-China
- Tigris/Euphrates Rivers-South Western Asia
- Nile River-Northern Africa

Think of other reasons why ancient farmers settled in river valleys. List those reasons on the lines below.

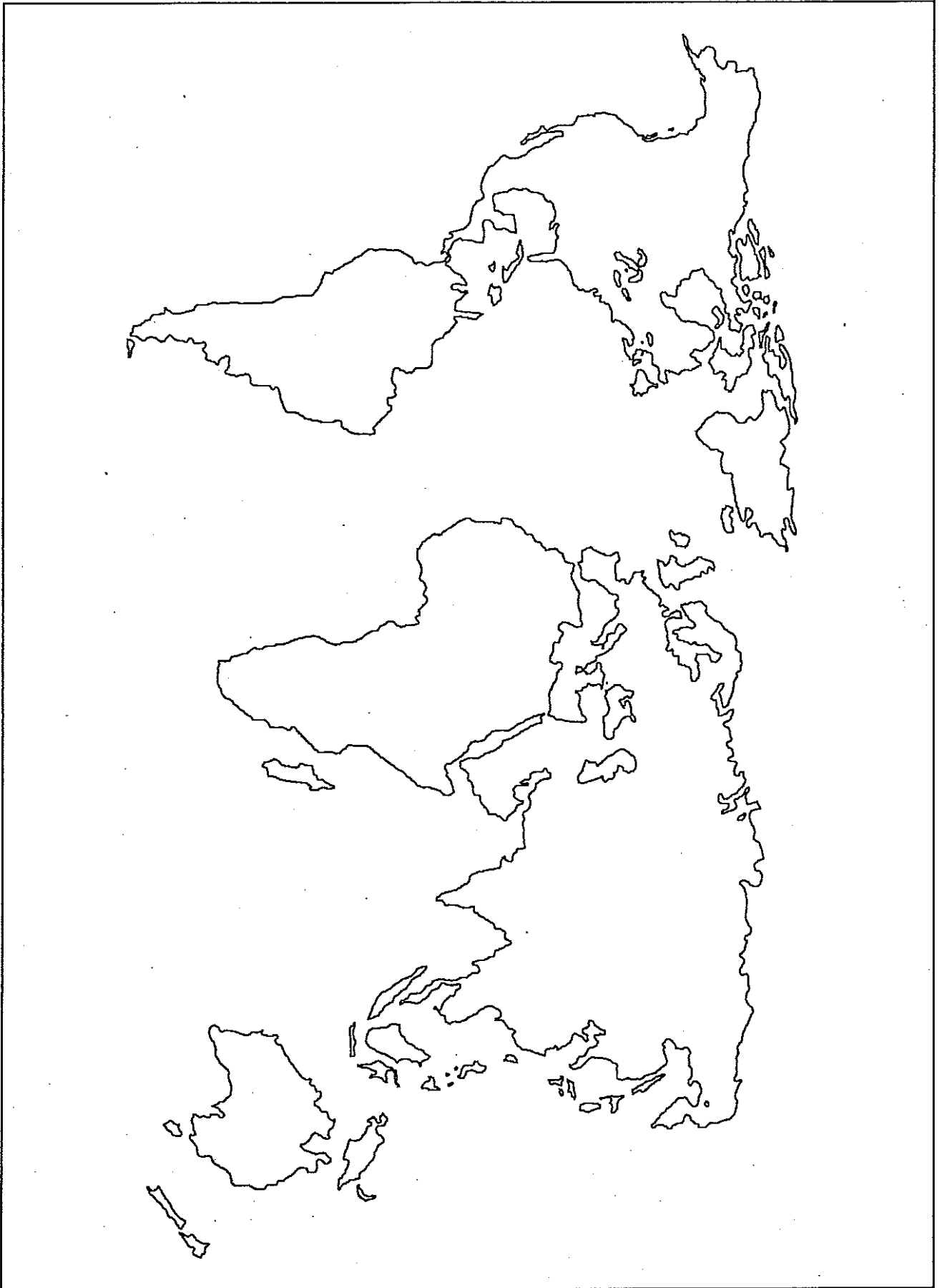
Mesopotamia

Name _____

Date _____



Map of the World



Name _____
Date _____

Pastoralism and Agricultural Communities

Description:

Early people found that if they chose to herd animals and grow their own crops they could have control over their food source. Agriculture (the cultivation of crops), provided food from grasses such as wheat, tubers such as potatoes and legumes such as beans. Herding domesticated animals, a practise called Pastoralism, provided food and clothing from sheep, cattle and goats.

These people stayed in one place as long as the soil remained fertile and there was a constant source of water. As more people made the shift to agriculture and pastoralism small communities developed in the fertile river valleys.

From these two methods of food production, agriculture and pastoralism, came the first opportunities for trade.

With people now living and trading together came the first opportunities for conflict.

Objectives:

Students will understand the impact domestication of animals had on ancient cultures (Pastoralism).

Students will learn that while people were domesticating animals, others were cultivating crops and developing stable agricultural communities.

It will be shown that from these two methods of food production came opportunities for trade.

Students will understand that as agricultural communities expanded, they took over more and more of the grazing land. As a result the raiding of crops became more and more common and conflict arose between Agriculturists and Pastoralists.

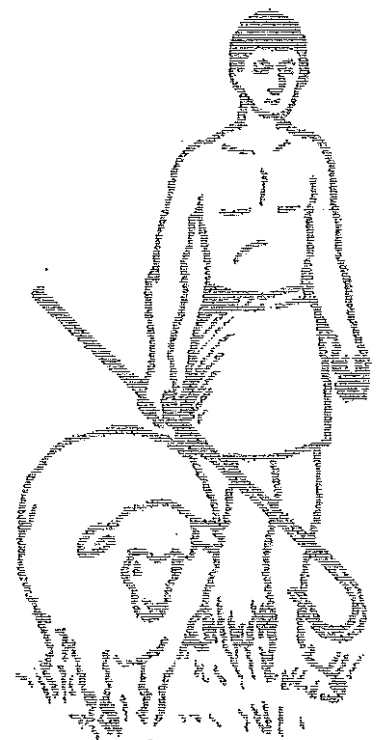
Assessment and Evaluation:

- Classroom discussions
- Written assignment

Lesson 5

Blackline Masters:

- Pastoralism and Agricultural Communities



Pastoralism & Agricultural Communities

An agricultural community is made up of a group of people who plant, grow, harvest, and store crops in a particular location. These people are known as Agriculturists or simply, farmers.

Ten thousand years ago, at about the same time as agriculture began to develop, Pastoralism appeared. Pastoralism is the herding of domesticated animals such as sheep, cattle and goats.

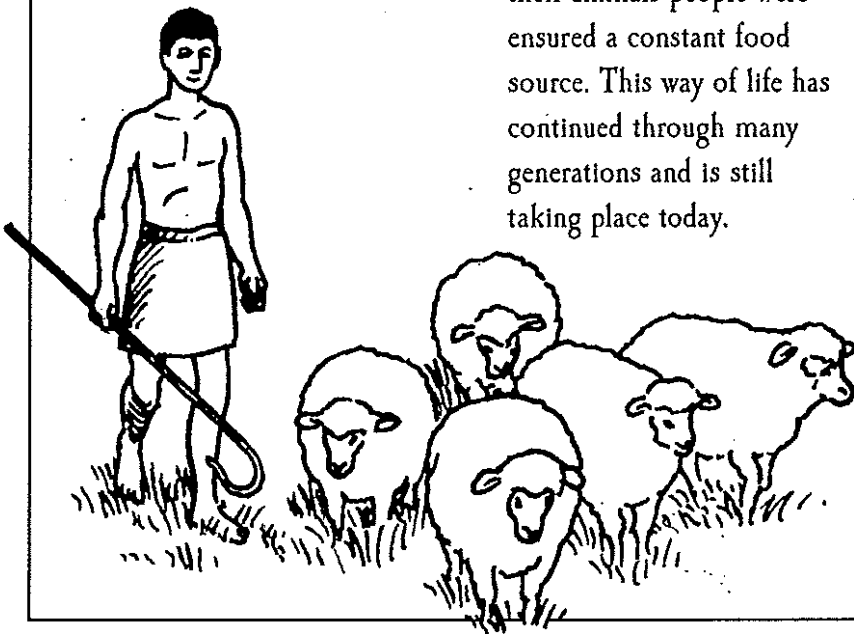
Hunter/Gatherers were in search of animals and plants. Pastoralists were in search of fresh grass to feed their animals. Both lived very nomadic lives (constantly moving from one place to another in search of food). However, unlike hunting and gathering, Pastoralism became very stable over a long period of time.

By controlling the type, numbers and location of their animals people were ensured a constant food source. This way of life has continued through many generations and is still taking place today.

Pastoralism as a lifestyle was very demanding and often dangerous. Since Pastoralists lived on hilly grassland they did not necessarily come into conflict with the agricultural communities developing in the river valleys.

Often pastoralists and agriculturists developed a form of trade that was beneficial to both groups. Pastoralists had hides, wool, meat, or milk to trade for other types of food. Farmers would offer fresh fruits, grains and vegetables.

Sometimes Pastoralists would raid the agricultural communities instead of trading with them. As agricultural communities expanded over more and more land, they sometimes brought grazing land under cultivation. Warfare was often the result.



1. What demands and dangers would Pastoralists encounter?

Changes in Technology

Lesson 6

Blackline Masters:

- Tools and Innovations
- Activity
 1. Cultivation
 2. Irrigation
 3. Containers
 4. Measurement and Writing
 5. Food Preservation Techniques

Description:

Over a long period of time farmers developed better tools and improved methods to grow their crops.

Objectives:

Students will understand that the invention of common tools and innovations influenced the growing of food. They will be able to identify and describe the more common tools or innovations of ancient people by looking at pictures and reading provided information.

Assessment and Evaluation:

- Classroom discussions
- Group work
- Written assignment



Name _____

Date _____

Tools and Innovations

To successfully work the land and create a reliable food supply, people needed to make better tools and develop better farming methods (innovations).

In your group choose one person to:

- read aloud the provided information from the card assigned to your group (cultivation, food preservation techniques, measurement and writing, containers **OR** irrigation).

The others in your group will:

- record the tools and innovations described by the reader in the correct box (1-14)
- answer the questions below

1. How were the tools or innovations used in the production of food?


2. Write a summary of the uses of the tools or innovations you have recorded to share with others in the class.

3. Share your findings with others in the class to complete diagrams #1-14 on the illustrated Tools and Innovations handout.

Tools and Innovations

From the information given to you by other groups match the illustration with its description. Fill in its name, use a check (✓) if it is a tool or an innovation. Answer the final question in full sentences.

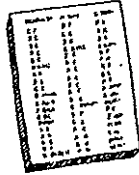
1. _____



Use: _____

Tool Innovation

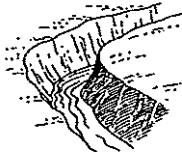
2. _____



Use: _____

Tool Innovation

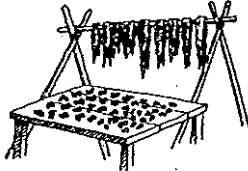
3. _____



Use: _____

Tool Innovation

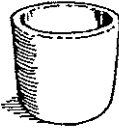
4. _____



Use: _____

Tool Innovation


5. _____



Use: _____

Tool Innovation


6. _____



Use: _____

Tool Innovation

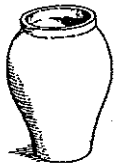
7. _____



Use: _____

Tool Innovation

8. _____




Use: _____

Tool Innovation

Tools and Innovations

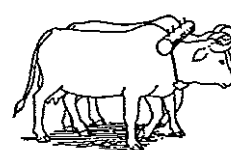
9. _____



Use: _____

Tool Innovation

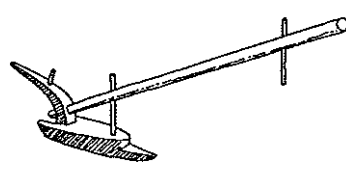
10. _____



Use: _____

Tool Innovation

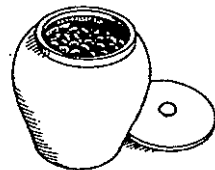
11. _____



Use: _____

Tool Innovation

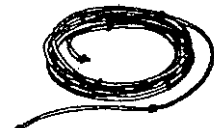
12. _____



Use: _____

Tool Innovation

13. _____



Use: _____

Tool Innovation

14. _____

Use: _____

Tool Innovation

What significance did the invention of these common items have to the growing of food?

Group 1-Cultivation

Early farmers learned that many seeds grew best in ground (soil) that had been disturbed. A special tool called the hoe was used to disturb the soil and create a fresh patch in which to plant their seeds.

But along with the grains

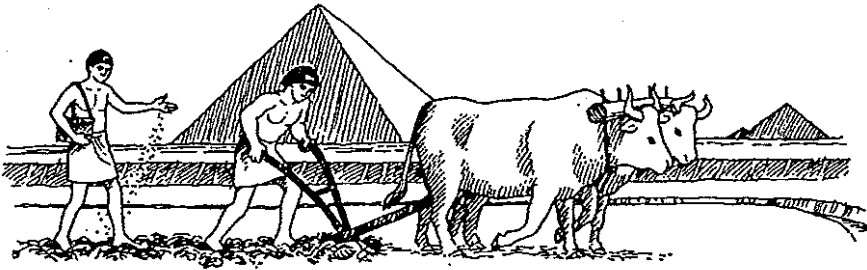
grew unwanted weeds. Farmers then learned that weeds and other unwanted plants would be killed if they were turned under the soil before they produced seeds. The hoe was used to keep the weeds under control as the grain plants grew. But as fields became

larger the hoe was ineffective.

Later farmers invented the wooden plough that would cut through the ground at a slant turning over more soil much faster than the hoe.

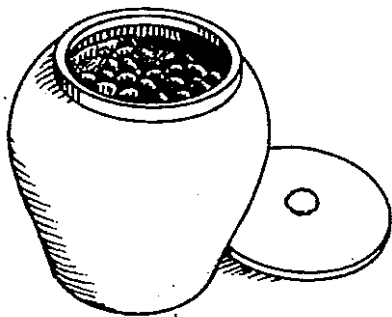
Men learned to guide the plough by handles as cows or oxen pulled them. As a result, larger areas of ground could be turned over (tilled) with less labour in much less time.

These tools and innovations meant that fewer people were needed in the role of food production.



Group 2-Food Preservation Techniques

Since foods are harvested at specific times of the year it is necessary to preserve the food for use throughout the year.

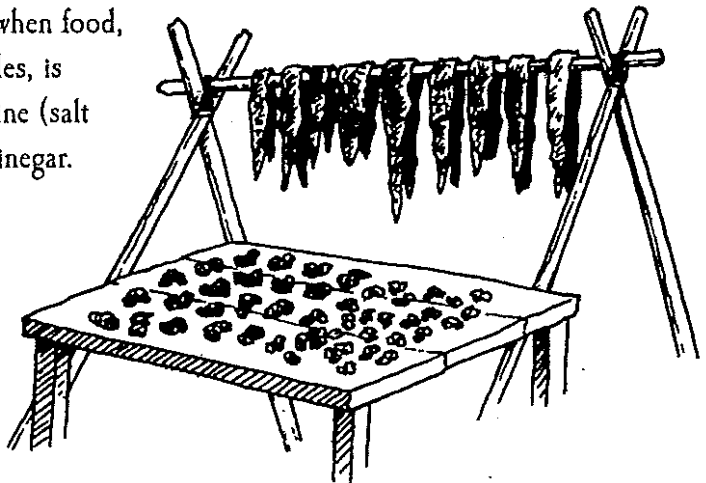


Pickling and drying are some of the techniques used to preserve food.

Pickling is when food, usually vegetables, is preserved in brine (salt and water) or vinegar.

Drying is a process used to

preserve foods such as nuts, meat, raisins and grains for many months.



Group 3-Measurement and Writing

As farms increased in size, farmers needed a way to keep track of what they were doing. The first writing appeared with the development of a writing tablet and then a calendar. Farmers could then record the cycle of the seasons. This was essential for planting, harvesting and

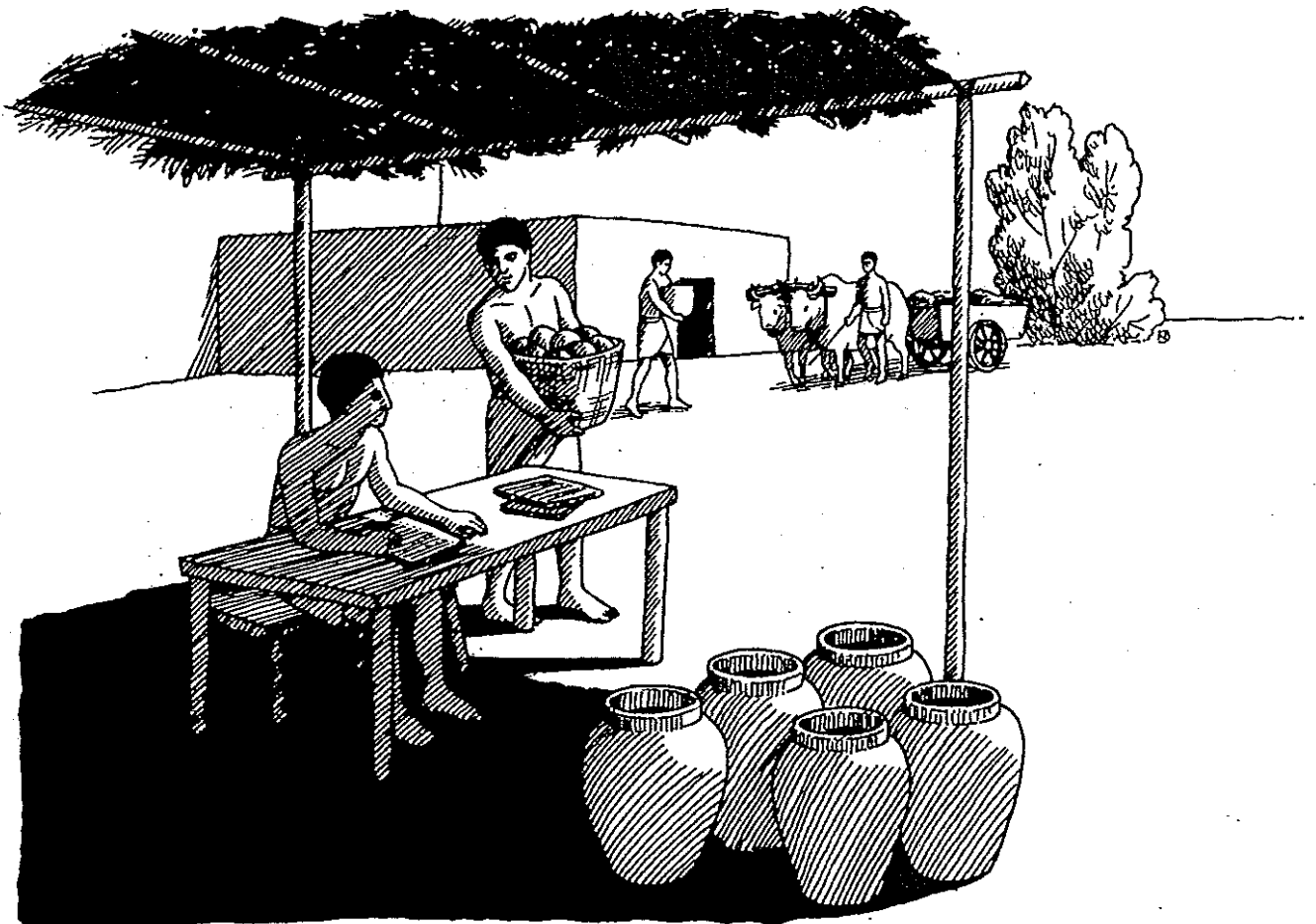
making preparations for periods of flood and drought.

Accurate measurements of seeds for next year's planting were made with primitive measuring cups.

The seed reserved for planting had to be protected and set aside in containers. The remaining harvest was

rationed to last until the next harvest. Extra seed was set aside in case a crop should fail.

Calculations of distance and land area were necessary to determine land ownership. Distance was measured with various lengths of rope.



Group 4-Containers

As production increased baskets or other lightweight containers were required to carry seeds through the fields at sowing times and later, to carry home the harvested crops.

These baskets were made from natural materials such as grass, wool, and bark. Farmers learned that by weaving the materials they could make strong baskets that would last through many seasons.

Storage of the harvest required very large, easily made containers. Clay pottery jars protected grain from rodents (rats and mice) and kept the grain dry for at least one year.



Group 5-Irrigation

Early farmers learned that their grains produced more seeds if the soil was kept moist but not too wet. They could rely on the rain, however, in dry seasons, the crops still needed to receive water in order to grow.

When farmers could not rely on a constant and predictable rainfall, they had

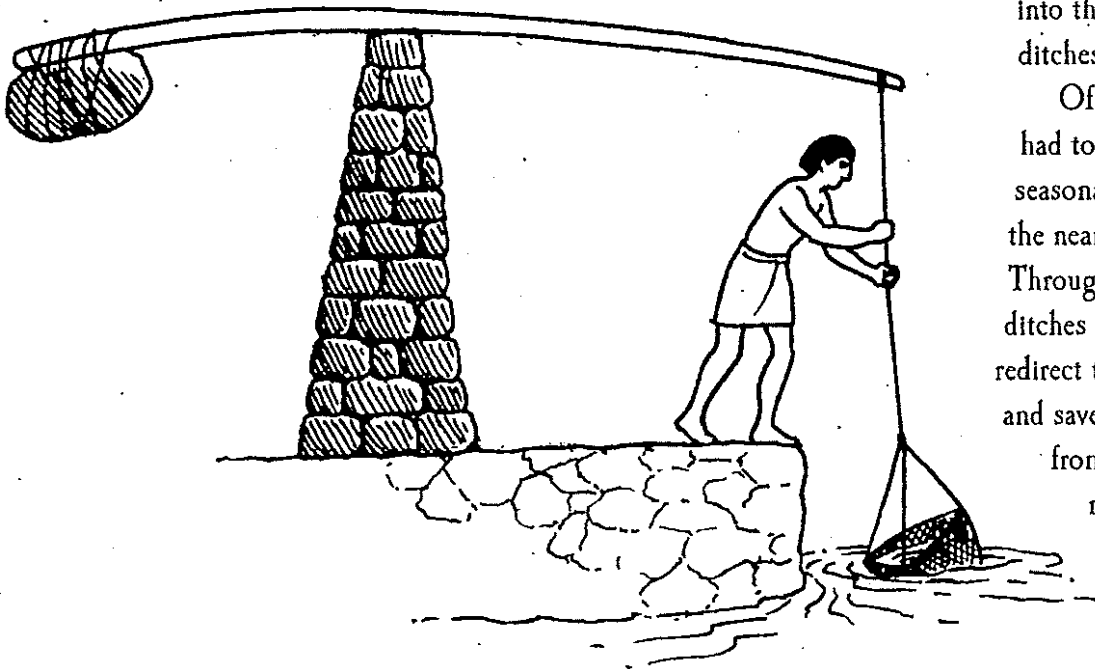
to create other ways to irrigate (water) their crops.

Since the growing of crops always took place near constant sources of water such as rivers or lakes, farmers soon learned ways to redirect the water onto their fields by way of irrigation canals or ditches.

If the water source was level with the field then a simple ditch would guide the water towards the grain plants. But since most water sits below the level of the ground the early farmers needed to create a device that would move the water from one level to another. This watering device would lift the water from the lower level to the higher level

where it would be emptied into the irrigation ditches.

Often farmers had to deal with seasonal flooding of the nearby river. Through a series of ditches they could redirect this extra water and save their crops from flooding and ruin.



Trade and Commerce

Lesson 7

Blackline Masters:

- Specialization

Description:

With advances in farming methods and improvement in farming tools, early farmers began to grow more crops than were immediately needed by their families. When food was abundant farmers had more time to specialize in other skills. With the advent of specialization, farmers were able to trade goods and services with each other.

With trade came the need for people to live closer together. This need saw the development of small communities.

As these communities grew in size rules were needed to settle disputes. As a result, governments were formed to provide some kind of order in their daily lives.

Objectives:

Students will assess various conditions that gave rise for the need of early farmers to specialize.

Students will understand that specialization created more opportunities to trade goods and services.

By understanding the changes in society at this time, students will be able to outline the evolution and purpose of rules, laws, and governments.

Assessment and Evaluation:

- Classroom discussions
- Written assignments
- Research work
- Skits
- Drawings

Name _____

Date _____

Specialization

With advances in farming methods and improvement in the tools used for farming, farmers were able to grow more food than

what they needed. This surplus of food gave people the opportunity to focus on other things such as leather making, pottery, carpentry,

weaving and metal work.

As a result these activities created goods and services for trade.

Answer the following questions.

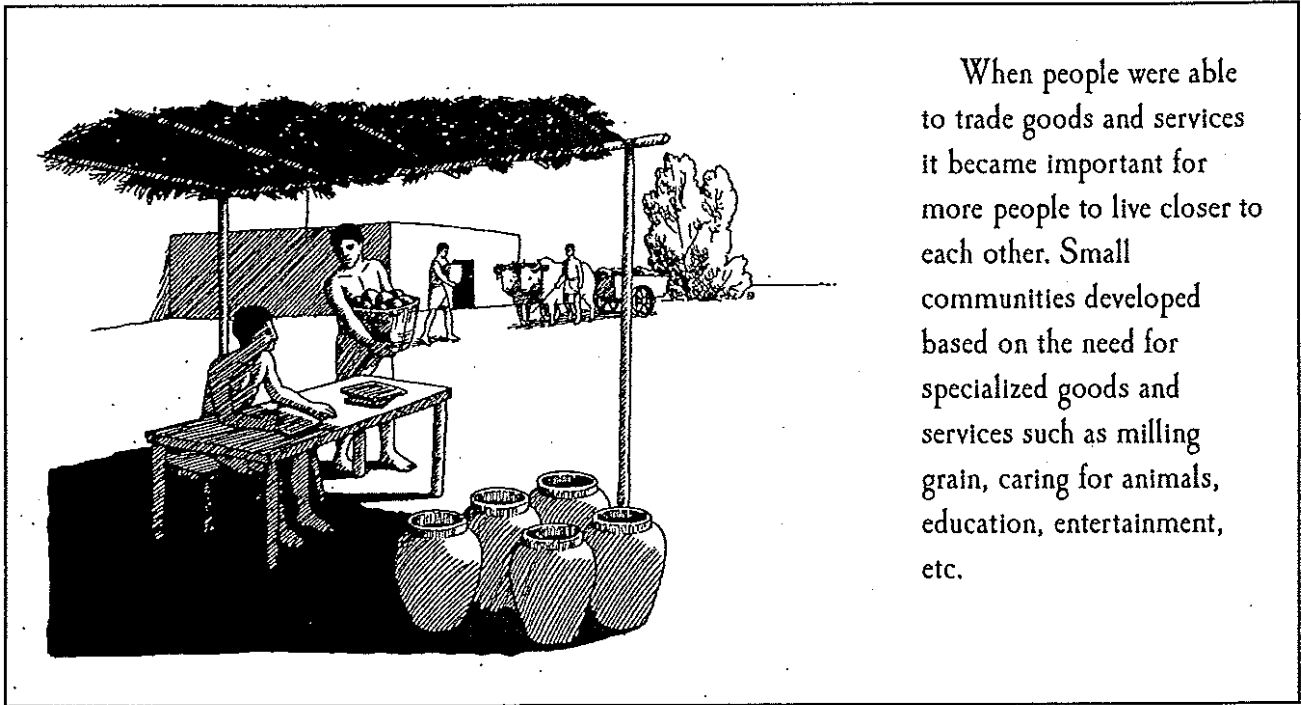
1. What are some goods and services that would be traded in early times? Name some goods and services we trade today?

2. Think about the area where you live. What special goods or services are uniquely available to you? What products would you trade for these goods and services?

3. In what kinds of work do members of your family or your friends specialize? What kinds of work interest you?

In your group:

Create a short (5-10 minute) skit about the challenges of having to rely on your family for all of your needs. Consider what your needs are: food, clothing, shelter, etc. What would a typical day be like? Remember that you can't trade anything with anyone else!



4. Can you name other services that would be required by early civilizations?

On an 11 x 17" sheet of paper:

Draw a map of an early community in ancient Mesopotamia. Show the locations of different people who have specialized in providing a service or making something to trade. Would these people live close together? Where would the farms be located? Colour your map. Create a legend in the corner of your map showing the location of each specialist.

Government and Religion

Description:

Government developed in the young cities to resolve or prevent conflict between citizens, to coordinate building projects and to maintain an army for the protection of the city and the lands it relied upon.

As a result, governments emerged to make laws to deal with disagreements between its citizens, to coordinate large building projects and to organize and maintain an army.

In ancient times, there was little distinction between religion and government. Priest-kings ruled from their palace-temples as the gods' representatives on earth.

Objectives:

- Students will understand that a more complex political system is necessary as the population increases.
- Students will understand the basic purpose of government.
- Students will realize the close connection between political and religious institutions in the ancient world.

Assessment and Evaluation:

- Writing assignment
- Class discussion

Lesson 8

Black Line Masters:

- Government and Religion

Name _____

Date _____

Government and Religion

With the increase in population, the potential for conflict within the growing communities increased as well. Cooperation was required to build and maintain irrigation projects,

to construct walls and temples and to defend the city from invaders.

As a result, governments emerged to make laws to deal with disagreements between its citizens, to coordinate large building

projects and to organize and maintain an army.

In ancient times, there was little distinction between religion and government. Priest-kings ruled from their palace-temples as the gods' representatives on earth.

1. Where do you suppose conflict may have arisen in early cities? Name a rule that would help resolve or prevent the conflicts you listed.

2. Why was cooperation necessary for building and maintaining irrigation projects, roads and walls?

3. What are some of the rules or laws government has made to keep our communities orderly and safe?

4. What things do governments build and maintain now in our communities?

Social Developments

Description:

As population increased and civilizations rose, innovations influenced the ongoing development of human society. There were many changes that affected the way of life for all humankind. These changes will be explored in this lesson.

Activity card directions:

- Glue sheet onto card stock
- Laminate entire sheet
- Cut individual cards

Objectives:

By researching and preparing presentations on a number of social developments in ancient agricultural communities, students will understand the changes that have taken place in our world and continue to take place.

Assessment and Evaluation:

- Presentations
- Written assignments

Lesson 9

Blackline Masters:

- Growing Agricultural Communities
- Activity Cards

Growing Agricultural Communities

As the number of people (populations) increased in ancient times there were many changes and innovations taking place.

Living in cities required discipline and cooperation and for this reason many social changes were required in order to survive.

The following developments were factors in the growth of cities and the make-up of civilization.

- New kinds of labour
- New forms of energy
- Government
- Laws
- Artwork
- Trade and commerce
- New ways of eating
- Breakables
- Metallurgy
- Private property
- More permanent housing
- Larger families
- Farmers desired a surplus of food
- Improved farming tools and techniques
- Stored food attracts vermin
- What can be stored can be stolen
- Agriculture made human communities dependent on relatively few plants
- Food is collected in an agricultural community only a few times a year
- People living in towns and cities needed to develop cultural practices for disposing of wastes and keeping a clean and healthy space
- Organized communities could accomplish a lot more than Hunter/Gatherers
- When populations in an area increase, competition for resources also increase
- With increased populations come more diversity in work and increased trade
- Standardized currency
- Astronomy
- Mathematics
- In hunter/gatherer societies, everyone is essentially equal

You will be given one of the above topics to research and report on. Your report must consist of a poster (11" X 17") and a short written report. You will be asked to present your findings to the class. Your report will be graded on the following criteria:

Poster:

- Poster clearly represents the information _____/25 (Social Studies)
- Poster is neatly drawn, coloured and easy to understand _____/25(Language Arts)

Written report:

- Information is accurate and complete _____/25 (Social Studies)
- _____/10 Spelling (Language Arts)
- _____/10 Grammer (Language Arts)
- _____/10 Punctuation (Language Arts)
- _____/10 Capitalization (Language Arts)
- _____/10 Sentence and Paragraph Structure (Language Arts)

Oral Presentation:

- Clearly heard, looks at audience, easily understood _____/25 (Language Arts and Personal Planning)

1. Improved farming tools and techniques

Farmers found better ways to grow more than they needed. By developing new tools and methods, farmers were able to spend more of their time specializing in other skills.

From previous lessons, describe the tools used by early people.

Compare their tools with those tools we use today.

2. Metallurgy

Once the hot pottery kiln was in use farmers discovered they could melt, mix and shape metals. By mixing copper with a little tin a much stronger metal called bronze was made. Both copper and tin were readily available in some areas or could be obtained by trading.

Draw some of the tools used in early civilizations.

What types of metals do we use most often today?

3. Larger families

Hunter/gatherer families needed to be small because they were always on the move. Once people lived in the same place for long periods of time to cultivate, sow, tend and harvest the crops, farmers could have larger families. At an early age, children could help as field hands and as shepherds.

Why was it important for a farmer to have a large family?

What kinds of jobs needed to be done on a farm in early time? On today's farms?

In what ways do you help your family at home? Prepare a graph showing different jobs students in your classroom do at home.

4. In hunter/gatherer societies, everyone is essentially equal

In cities there is a difference between those who manage others and those who are managed. Hierarchies (different levels of society) in wealth, power and status develop.

Name some early civilization jobs that would involve managing people or things.

Name some jobs that would require being managed.

Is this much the same as today? Why or why not?

Name some modern jobs that manage people and others where people are managed.

5. What can be stored can be stolen

Grain was very precious and was a target for raiders to attack and steal. Trade also made towns and cities rich. Ways of protecting the food and wealth had to be developed. Walls and towers were built around cities and soldiers kept watch.

How would early people build large walls?

What do we do today to prevent our property from being stolen?

6. Laws

With increased populations, more diversity in work, and increased trade come the need for laws to govern people working together. Governments were formed to make laws and enforce them.

What kinds of laws do you think early people would need?

What kinds of laws do we need today to keep our communities safe?

In what ways have our laws changed or remained the same?

5. More permanent housing

Working the same fields for years at a time made it worthwhile for people to build permanent communities near crops. Living close to the crops made it possible for people to protect their crops from grazing animals (both wild and domestic). They could ensure proper cultivation and irrigation and they could observe their cultivated fields.

What kinds of housing would early people build?

What types of building materials would they use?

How does this differ from our houses today? Think about houses, apartment buildings, etc.

What could farmers learn from observing their crops?

8. Government

With the increase in population and the need for even more goods and services, it was necessary to establish rules for trading, rules for living and working together and rules for handling differences. As a result, governments had to be formed to govern the people to keep order and to prevent and deal with conflicts as they arose.

What would life be like if there were no rules or laws?

List some rules or laws that governments have made to keep our communities orderly and safe today.

9. Food is collected in an agricultural community only a few times a year— at Harvest.

Harvest time was extremely important to the survival of the group. Everyone worked until the crop was safely stored away. A sense of time developed around this event. Early farmers were aware of the times of year crops could be harvested.

When could a crop be harvested?

Did early people celebrate harvest time? Do we celebrate harvest time? If so, how would some people celebrate the harvest season?

10. New kinds of labour

The farmers had to separate the hard compact seeds from the unusable plant material of the hulls and stalks of grain. Sometimes this threshing of the grain was achieved by flailing (hitting) piles of grain with a club, pulling a kind of sled over it or by walking on it.

If the threshed grain was tossed into the air the chaff (stems and leaves) were carried away in the breeze while the heavier grains fall to the ground. This was called winnowing.

How do farmers separate seeds from the unusable part of the plant today?

What do today's farmers do with the chaff (the part that is separated from the grain)?

12. Trade Routes

As early communities produced more and more items, it was desirable to trade these items for others. People began to travel and soon realized that people in distant lands were willing to trade the products they produced.

Spices were very important to early civilizations as they were hard to come by and were used not only to improve the flavour of food, but to preserve food as well. With people journeying further and further away from their homes they came to see that other cultures existed. As a result, some cultural activities were copied or shared.

What would early people in Mesopotamia have to offer people from other areas? What kinds of items would they like to trade for? Where would they go to trade? How do trade routes in early times differ from trade routes today? Use a map to demonstrate some of the differences.

11. Breakables

Storage of harvest required very large, easily made containers that could be available in every home. Clay pottery jars protected grain from vermin (rats and mice) and kept it dry, preventing it from sprouting. Grains had to be kept for a minimum of one year as it took that long for the next harvest of grain to be ready. When crops failed, grain had to be kept longer.

What types of containers do we store our grains in today? How long do you think grain will keep in these containers? Why?

14. People living in towns needed to develop cultural practices for disposing of wastes and for keeping a clean and healthy living space.

Poor waste management made cities a good breeding ground for infectious diseases. Epidemics became common. Early people also had to develop cultural ways to dispose of their dead in order to help prevent the spread of diseases and show respect for those who passed away.

In early times, how did people dispose of wastes? Were they aware of the importance of keeping a clean and healthy living space?

How do we dispose of waste? List some things we do to keep our environment clean and healthy. Name some epidemics we have today. (Note that some epidemics no longer exist or are nearly eradicated from our planet because of advances in modern research and medicine.)

13. Agriculture made human communities dependent on relatively few plants

Farmers grew only a few different types of plants in one location compared to the many different kinds of plants which hunters/gatherers used. If the weather conditions are not favourable for the crops that had been planted then the people could starve. Hunter/gatherers relied on many sources of food, so if one plant didn't do well that year, another one may be flourishing.

How do we control our environment today to ensure crops will be consistently successful?

What have scientists done to ensure crops will grow well in a particular climate?

Do farmers still worry about weather conditions for growing grain?

What sorts of conditions could damage a grain crop today?

15. When populations in an area increase, competition for resources also increases

Warfare between neighbouring cities and nations becomes more common.

What resources would early people compete for?

What resources do nations go to war over today?

18. Farmers desired a surplus of food

A surplus of food allowed the farmers to trade at the markets for other items. This motivated them to improve tools and develop techniques that would help them grow more food.

Do our farmers produce more than they can use?

Where do they sell their produce?

17. Organized communities could accomplish a lot more than hunter/gatherers

Walls, irrigation projects, temples and tombs, to name a few, are all possible with cooperation and organization.

Name some projects we participate in today that require cooperation and organization.

Can you name any of today's projects that do not require cooperation and organization? If so, name them.

16. New ways of eating

Since people can't eat most grains in their natural form, several ways were developed to process the grain. One of the common ways to make the grain digestible was to mill it between two stones and then boil it in water making a kind of porridge or gruel. If the grain was ground very fine it could be made into different kinds of bread. If the grain was fermented it could be made into beer or other alcoholic beverages.

List some of the many ways grain is eaten today?

19. Currency

As trade increased there was a need for standardized currency (money). It was common for farmers and crafters to trade one product for another, or for two people to trade services, but as trading became more and more common it was necessary to have a uniform, easily recognized form of currency to use for exchange.

What did people in ancient times use for money (currency)?

What do we use for currency today?

Why did we end up using coins and paper money instead of trading goods such as grain for wool, or clay pots for tools?

20. Stored food attracts vermin

Mice and rats have adapted along with agrarian societies (farming communities). Dogs have been domesticated (tamed) for thousands of years, but it now became necessary to domesticate the cat to help control these pests.

What do farmers do today to keep vermin (rats and mice) from eating their stored food?

How are today's methods of protecting our food similar to those of ancient people?

21. Trade

Crops could only be grown during certain times of the year, which left periods of time for other activities such as crafts or the construction of large buildings. Additionally, there arose a growing number of people who did not farm.

Name some items early people would have traded. Who would they trade them with?

Name some items we trade in Canada.

What would we trade them for? Who would we trade with?

Why is trading so important to a country?

22. Private Property

Because city dwellers stayed in the same place indefinitely they acquired more possessions. Many of these possessions were the private property of the owner.

Name some things that people would possess privately.

What are some of the problems that might arise now that people owned possessions privately?

What might be some of the solutions to these problems?

Agriculture Yesterday and Today

Lesson 10

Blackline Master:

- Agriculture Yesterday and Today
- A Timeline of Agricultural Settlement and Events

Description:

In these activities the students will compare pictures of ancient and modern farming and storage techniques by connecting pictures of ancient methods with modern methods.

Students will rewrite information in a timeline format using the dates and events supplied giving them an opportunity to understand and visually represent the progress of wheat from ancient times through to today.

Objectives:

Students will understand the changes that have taken place in agriculture over the years by comparing ancient farming methods with current farming methods.

By creating a timeline from information provided, students will understand that events form part of a chronological series and that change has been constant in the development of civilization.

Assessment and Evaluation:

- Written assignments
- Timeline
- Storyboards(s)

Other Sources of Information:

- Canadian Wheat Board, www.cwb.ca
- www.cyberspaceag.com
- The Food Timeline, www.gti.net/mocolib1/kid/food.html

Name _____

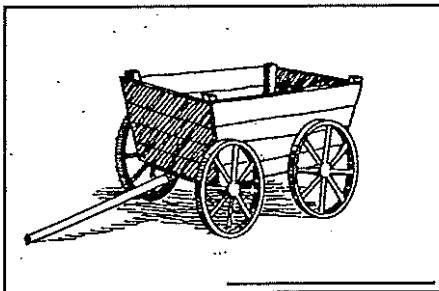
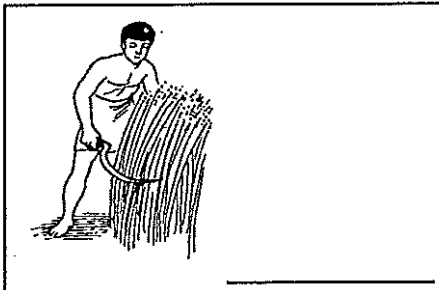
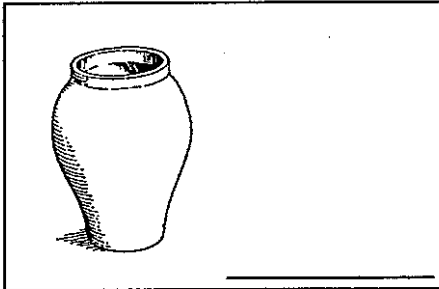
Date _____

Agriculture Yesterday and Today

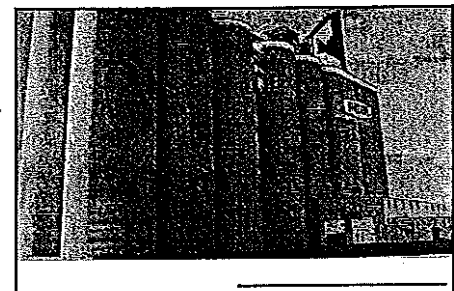
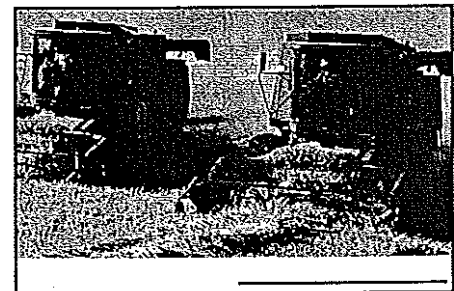
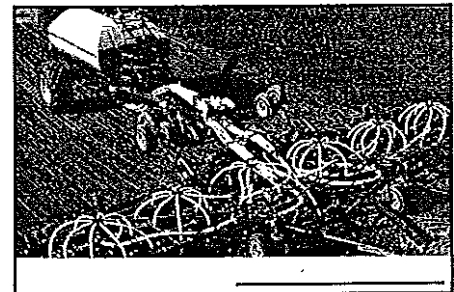
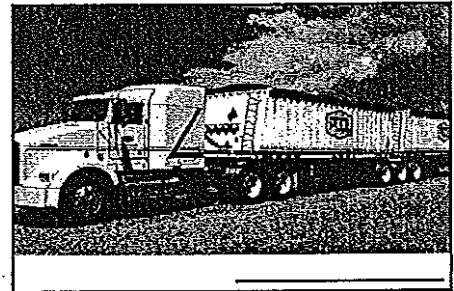
In this assignment you will compare pictures of ancient and modern farming and storage techniques allowing you to examine the unchanged elements as well as some of the innovations made within the last few thousand years.

Match the pictures on the left (Ancient Methods) with the pictures on the right (Modern Methods) by drawing a connecting line. Label each picture.

Ancient Methods



Modern Methods



On the back of this page create a venn diagram. In the centre of the diagram show similarities in farming methods from ancient times to today. In the outside sections show the differences.

Name _____

Date _____

An Timeline of Agricultural and Settlement Events

Event	Years Ago
Human existence begins-Early man called homo habilis	1,900,000
Fire	500,000
Tool making (Neanderthals)	250,000
First spread of human beings around the world	30,000
People learn to hunt together	24,000
Early humans begin to fish for food	22,000
Ice Age: Glaciers begin to melt/Climate begins to warm up	15,000
Flint-edged wooden sickles are used to gather wild grains	13,000
The dog is the first wild animal domesticated	11,000
Plant cultivation begins in the Fertile Crescent region of the Middle East	11,000
First crops and livestock domesticated	10,500
Sheep domesticated in Near East	9,000
The first seeds are planted, tended and then harvested	8,300
Egyptians begin irrigation of crops	7,000
Swine (pigs) become domesticated	7,000
Domestication of corn	6,000
Domestication of cattle begins	5,500
Popcorn is discovered	5,000
The Vikings explore the coast of North America	3,000
Chickens are domesticated	3,000
Mechanized agriculture using simple tools with goat, horse and ox replacing human muscular power	3,000
Holstein cows come on the scene	2,000
Rabbit, the last farm animal to be domesticated	1,500
Potatoes brought back from America's and cultivated in Spain (1573)	427
Invention of the horse drawn drill and mechanical seed planter (1701)	299
Canadian Confederation (1867)	133
Heinz Ketchup is developed (1876)	124
City of Vancouver incorporated (1886)	114
Intensive (industrial) agriculture develops	55
Biotechnological development (1980)	20

Name _____

Date _____

**Agriculture
begins
10,000 years
Ago**



Extension Activities

Activity 1:

Have students link a Thanksgiving tradition (preferably their own family's) with a harvest element of an ancient culture.

Have the student groups expand their research to include the social, cultural and spiritual importance of a grain. Were any deities associated with this crop? What ancient or modern feasts, festivals, holidays or traditions became associated with this grain, its harvest or foods produced from it?

Activity 2:

Have each student create a drawing to display the stages of metamorphosis of a grain from seed to plant.

In addition have students report on:

- origin and early movement of the grain, locally and world wide
- current global production and consumption figures
- summary listing of products made from the grain
- related careers in its production
- drawings or photos of the grain in ancient and modern times
- regions in British Columbia and Canada where it is produced

Activity 3:

Generate a quick list of foods that students have eaten in the past 2 or 3 days. Try and identify where each food came from. (i.e. bread-wheat from Peace River, Baking in Lumby, BC) Begin to focus on the foods produced locally. What other foods do students know of that are produced in this region? Present the information listed in *Grow BC* about your region (pg. 147-173). What ancient grains are produced here?

Activity 4:

Provide the students with a list of products created from the four world staple grains. Have them take an inventory of their kitchen and home—recording the many forms they have found these grains in their house.

Have them interview family members, friends or neighbours regarding the grains and their products. What role do these plants and their derivatives play in cultural tradition, festivals and feasts? How are these grains a part of the family's healthy diet?

Invite a few community of family members to visit the class and share their stories.

Activity 5:

Have students develop a menu and prepare dishes of food for a celebration. As much as possible, use food from your local region and recipes from ancient cultures.

Have the class decide on a theme relating to "food variety" with which to base a food fair, i.e. variety of recipes from an ancient culture, cultural variation of foods produced around one staple crop, variety of foods grown or produced in this region. Having selected one, the class should brainstorm factors to consider in selecting recipes, food sources and food courses. Following this, ask students to collect recipes from their family's traditions that relate to this theme.

Encourage the students to prepare the entire dish themselves, noting the recipe, ingredients and their source, family or cultural traditions regarding this recipe and the connections this dish has to the class theme.

The foods might be designated according to an expanding circle of:

- foods from their region
- foods from British Columbia
- foods from the West Coast—BC, Washington, Oregon
- foods from North America
- foods from overseas

Decorate the classroom or gym with work that the students have prepared throughout these activities. Invite family, friends, local farmers and other members of the community who may have helped the students with their study of agriculture, to gather and share from the buffet.

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