Unit A: Recognizing the Role of Agriculture in Society

Lesson 2: Understanding the Importance of Agriculture to Society

Student Learning Objectives: Instruction in this lesson should result in students achieving the following objectives:

1. Define quality of life.

2. List agricultural products used to provide food.

3. Identify agricultural products used to provide clothing.

4. Identify agricultural products used to provide human shelter.

Recommended Teaching Time: 2 hours

Recommended Resources: The following resources may be useful in teaching this lesson:

http://www.fao.org/docrep/007/y5163e/y5163e08.htm
http://www.gl.iit.edu/govdocs/afghanistan/Agriculture.html

List of Equipment, Tools, Supplies, and Facilities

Writing surface
Projector
PowerPoint Presentation
Apple
Sharp knife for cutting apple

Terms: The following terms are presented in this lesson (shown in bold italics):

Aquaculture
Beef
Conifer
Consumer
Deciduous tree
Exports
Food Guide Pyramid
Forestry
International trade
Imports
Lamb
Mutton
Natural fiber
Nutritional groups
Poultry
Pulp
Quality of Life
Seasoning
Synthetic Fibers

Interest Approach. Use an interest approach that will prepare the students for the lesson. Teachers often develop approaches for their unique class and student situations. A sample approach is given here.

The EARTH as an APPLE
Lead the class in a discussion of the importance of agriculture as you show them this visual example. Ask the class to view this apple as a representation of planet earth. Below are the steps for this activity.

1. *Cut the apple into four equal sized pieces. ¾ of the earth (3 of the pieces) represent all the oceans or water on earth, while ¼ is the land. Set the ocean pieces aside.*
2. *Cut the land portion in ½; one piece represents the land that is unsuitable for farming because it is mountains, desert with no access to water, or covered with ice. Set the unsuitable piece aside. This leaves 1/8 of our earth.*
3. *Cut this portion in 4 pieces. Three pieces represent land that is unsuitable for farming because it is covered by paved roads, cities, and buildings. Set three of the pieces aside. This leaves 1/32 of earth's land to be farmed for agricultural purposes.*
4. *Remove the peel from this small section of the apple. This peel is the topsoil that farmers use to produce their crops.*

Throughout this discussion, emphasize the scarcity of the land that is available for raising agricultural products. Although this is such a small portion of the entire earth, agriculture is imperative for sustaining human life.

Summary of Content and Teaching Strategies

Objective 1: Define quality of life.

Anticipated Problem: What is meant by quality of life?

I. Agriculture is important in the quality of life people enjoy.

   A. *Quality of life* includes adequate supplies of basic needs like food, clothing, and shelter.

   B. Agriculture provides food, clothing, and shelter. It helps people to enjoy a higher quality of life.

   C. When an abundant volume of agricultural products are produced, the price to consumers decreases. *Consumers* are people who use products or services.

   1. This allows for more money to be spent on clothing, housing, and other enjoyable items.

   D. Agriculture helps meet the needs of millions of people around the world. *International trade* is buying and selling commodities by two or more nations.

   1. Goods sold to or in another country are *exports*.

      a. Goods are exported because there is an extra supply in the nation. Other countries are willing to purchase these goods for their nation because they are unable to produce enough of it for their citizens.

      b. Examples of agriculture exports are wheat, rice, and cotton.

   2. *Imports* are products bought from another nation.

      a. Goods are imported because the citizens want or need more of a product than the nation can produce.

      b. Imports include shrimp and coffee.

   E. As farming and agribusinesses increase in number and size, more jobs are created for the people. Having a higher number of jobs in any community, province, or country helps more individuals provide income for their families.

***To help students master this objective, use PowerPoint Slide #2. It may be helpful to simply draw this chart on the chalkboard starting with the bottom, "Agriculture Foundation of Life." Discuss each graphic with the class and ask the students questions to check their understanding of the material. On PowerPoint Slide #2, the causes are listed in green, the affects in blue, and the end result in red.**

To help students master Objectives 2, 3, and 4, write the three topics (food, clothing, shelter) on a large writing surface, such as a chalkboard or 3 large sheets of paper. Below each topic, students should write the names of agricultural products that serve each purpose. This can be accomplished in many ways; one suggestion is to have student take turns until no student can think of anymore agricultural products. When this activity is finished, use the lists to begin a discussion including the details in the lesson content below. Utilize photos in the PowerPoint Presentation to show examples of these products.

Objective 2: List agricultural products used to provide food.

Anticipated Problem: What agricultural products are used to provide food?

II. Agricultural products used to provide food include:

(PowerPoint Slide #3)

A. Grain—
1. Grain crops, also called field crops, are grown throughout Afghanistan.
2. Grain crops are used for bread, pasta, rice, cereal, and many other food products.
3. Wheat is an important example of grain.

(PowerPoint Slide #4)

B. Fruit—
1. Fruit crops are grown widely in Afghanistan.
2. Apples are grown on trees. Apples produced can be eaten fresh or processed into juice, jellies, pies, and other products.
3. Grapes are grown on vines. They can be eaten fresh or dried as raisins.
4. Other fruits produced in Afghanistan include watermelon, honeydew melon, peaches and pomegranate.
4. Imported fruits may include oranges, bananas, blueberries and others.

(PowerPoint Slide #5)

C. Vegetables—
1. Onions, peppers, spinach and radishes are all vegetables grown in Afghanistan.
2. Some vegetables consumed are imported from other countries.

(PowerPoint Slide #6)

D. Milk—
1. Dairy foods are made from milk.
2. Most milk comes from dairy cattle.
3. Another source of milk is from goats.

(PowerPoint Slide #7)

E. Meat—

    1. Meat includes poultry, beef, pork, fish, and lamb.

        a. *Poultry* includes any domesticated birds grown for food.

           i. Examples of poultry include chickens, turkey, duck and geese.

        b. *Beef* is meat from cattle. It is prepared into popular dishes like steak and hamburger.

        c. *Aquaculture* is the production of aquatic plants and animals for food.

           i. Fish are being farmed in oceans, streams, lakes, ponds, and raceways.

           ii. Fish are harvested, processed, and prepared for the fresh or frozen market.

        d. *Lamb* refers to meat from a sheep that is less than a year old.

           i. *Mutton* refers to meat from a sheep that is over a year old.

(PowerPoint Slide #8)

F. Nuts—

    1. The major type of nut grown in Afghanistan is the almond.

        a. Here, the environment and growing conditions are ideal for this crop.

    2. Other nuts include pecans, walnuts, and peanuts

    3. Nuts can be harvested by hand or by machines. The machine that gently shakes the tree. The nuts are then picked up form the ground by a nut sweeper.

Objective 3: Identify agricultural products used to provide clothing.

Anticipated Problem: What agricultural products are used to provide clothing?

III. Clothing is made form natural and synthetic fibers. A *natural fiber* is from a plant or animal. *Synthetic fibers* are manufactured from petroleum and other substances.

(PowerPoint Slide #9)

A. Cotton is a shrub-like perennial plant (cultivated as an annual plant). It requires a long growing season and warm temperatures.

    1. Cotton is picked then the lint is separated from the hull and seeds. The lint is cleaned then can be used for clothing and other products. This process can be completed by hand or by large machines.

    2. Cotton seeds can then be fed to animals as feedstuffs or pressed for cottonseed oil.

(PowerPoint Slide #10)

B. The flax plant produces fibers used in making a high quality cloth called linen.

    1. This popular cloth is used for making tablecloths, napkins, and clothing.

    2. The flax plant requires climates with plenty of rain and moderate temperatures.

    3. Flax plants grow to a height of about 3 feet and before they are harvested. Linen comes from the fibers that make up the phloem of the plant (in the plant's stem).

    4. Fibers are removed from the stem by soaking the stem in warm water.

    5. When the phloem fibers are removed, they are rolled and later combed to be spun into yarn.

    6. The seeds of the flax plant are pressed for linseed oil. This oil is used in making paints and varnishes.

C. Kenaf is a relatively new crop used to make cloth and paper.

D. Jute is used to make burlap.

E. Hemp and sisal are coarse fibers used in making rope.

F. Wool and fur are two animal fibers used in making clothing.

    1. Sheep and goat fleece are two sources of wool. The sheep and goat fleece are sheared, cleaned, dyed, and woven into thread.

    2. Angora goat-grown fleece is woven into mohair. It is used to make soft blankets and clothing.

    3. Fur is used to make coats, hats, and other clothing. Rabbit and mink are two common sources of furs used in clothing.

G. Much of the cloth produced today is manufactured from petroleum. This process was developed in the first half of the 20th century. Petroleum is processed into long fibers that are used to make cloth such as rayon, nylon, and polyester. Synthetic fibers tend to be more wrinkle resistant and durable, but cannot match the comfort of natural fibers. Today, cloth is generally a blend, or a combination of artificial and natural fibers. Blended cloth is durable yet has the comfort of natural fibers.

H. Animal hides can also be used as clothing.

    1. Leather is made from the skin of an animal. The skin is tanned, or processed, to make it firmer and longer-lasting. Once this process is complete, it can be cut and sewn into garments.

Objective 4: Identify agricultural products used to provide human shelter.

Anticipated Problem: What agricultural products are used to provide shelter?

IV. *Forestry* is the science of planting, caring for, and harvesting trees. Forestry products are made into many kinds of lumber, plywood, particle board, veneer, and paper. These products are used in many ways—shelter being the most important.

A. Forestry products are grouped by the types of trees harvested. The two major types of trees are hardwood and softwood.
(PowerPoint Slide #11)

    1. Hardwood trees are deciduous trees. A *deciduous tree* sheds its leaves in the winter.
(PowerPoint Slide #12)

    2. Softwood trees are conifers. *Conifers* are evergreen trees that usually have cones and needles instead of leaves.

(PowerPoint Slide #13)
    B. Lumber is made by sawing logs into boards. Logs are the large stems of trees that require many years to grow. Trees are cut down and cut into logs. Most logs are 12 to 20 feet in length.
        (PowerPoint Slide #14)
        1. Logs are then cut into boards, also called lumber. Then lumber is seasoned. ***Seasoning*** is the natural or artificial drying of lumber.
            a. Natural drying involves stacking lumber so that air can move between the pieces.
            b. Artificial drying involves using heat to speed up the drying process.
        2. Lumber is then smoothed and sized.
        3. Some of the lumber is treated with chemicals to make it resistant to rot and insect damage.
    C. Smaller trees are used to make paper. Paper is made by breaking wood into smaller pieces and cooking the pieces in a chemical bath. These smaller pieces are called ***pulp***. The steps in making paper are:
        1. Pulp is screened and washed.
        2. The mixture of pulp and water is spread over a meshed wire to drain.
        3. The remaining mat of fibers is then rolled and dried.
        4. The fibers bond together during the drying process.

Review/Summary: Complete worksheet WS: 2-1 for review. Students should complete the worksheet, then grade and discuss the answers as a class.

Evaluation: A sample written test is attached.

Answers to Test:

Part One: Matching

    1=g, 2=b, 3=a, 4=d, 5=h, 6=f, 7=c, 8=e

Part Two: Completion

    1. Synthetic
    2. import
    3. consumer
    4. Lamb
    5. wheat

Part Three: Short Answer

  1. Quality of life involves having a good environment for living, ample food, adequate housing, and clothing.
  2. Answers will vary.
  3. Students can list any two of the following: cotton, flax, kenaf, jute, hemp, sisal, fur, and leather.
  4. Students can list any two of the following: sheep, goats, mink, rabbits, cattle, and others.

Test

Understanding the Importance of
Agriculture to Society

Part One: Matching

Instructions. Match the term with the correct response. Write the letter of the term by the definition.

a. international trade   d. poultry   g. softwood
b. linen   e. export   h. mutton
c. hardwood   f. aquaculture

_____   1. A coniferous tree.

_____   2. Cloth woven from the stem of a flax plant.

_____   3. Buying and selling among two or more nations.

_____   4. Meat that describes either chicken, turkey, duck or geese

_____   5. Meat from a sheep that is older than one year.

_____   6. Water farming.

_____   7. A deciduous tree.

_____   8. To send or carry goods to another country for sale.

Part Two: Completion

Instructions. Provide the word or words to complete the following statements.

1. _____ fibers are manufactured from petroleum and other substances.

2. Products bought from another nation are known as _____.

3. A _____ is a person, business, or agency that uses goods and services.

4. _____ is the meat from sheep that are less than a year old.

5. _____ is an important grain.

Part Three: Short Answer

Instructions. Answer the following questions using correct spelling and complete sentences.

1. What is quality of life?

2. Name one agricultural product from each group that is grown in this country: nut, fruit, vegetable, meat, and grain.

3. What are two plant fibers used for clothing?

4. What are two animals fibers used for clothing?

Understanding the Importance of Agriculture to Society

Instructions. Using complete sentences, answer the following questions. To complete some of the questions, you will need to utilize the resources you have. These may include the internet, encyclopedia, or others.

1. Describe the way that a growing agriculture industry helps people in our world.

2. Why is international trade important to agriculture and the general public?

3. Name the 6 classes of agricultural products used for food.

4. List agricultural products used for clothing and shelter.

5. Select one agricultural product used for food, clothing or shelter that is grown in Afghanistan. (Example: watermelon, cotton, or oak trees) Answer the following questions in relation to that product.

       Product Name:_____

       What is the use of this product?_____

       In what region(s) is it grown?_____

       About how much is grown in Afghanistan?_____

       What are the growing conditions for this product?
           Temperature_____
           Soil Requirements_____
           Fertilizer Needs_____
           Water Needs_____

       Is this product exported? To what countries?_____

       What is the market price for this product?_____