Course	Agricultural Science II
Unit	Plant Science
Lesson	Importance of Plants
Estimated Time	50 minutes

Student Outcome

The student will be able to identify the importance of plants.

Learning Objectives

1. Describe why plants are important.
2. Describe the role that plants play in the environment.
3. Identify where the common crop plant species originated.
4. Explain how plants are used.

Grade Level Expectations

Resources, Supplies & Equipment, and Supplemental Information

Resources

1. *Plant Science* (Student Reference). University of Missouri-Columbia: Instructional Materials Laboratory, 1991.
2. *Plant Science Curriculum Enhancement.* University of Missouri-Columbia: Instructional Materials Laboratory, 2003.

Supplies & Equipment

- ❑ Dried ear of corn used for either feed or food crop seed

Supplemental Information

1. Internet Sites
   - ❑ Introduction to the Story of Corn. Camp Silos, Silos and Smokestacks National Heritage Area. Accessed January 18, 2008, from http://www.campsilos.org/mod3/index.shtml.
   - ❑ Story of Corn Resources and Webliography. Camp Silos, Silos and Smokestacks National Heritage Area. Accessed January 18, 2008, from http://www.campsilos.org/mod3/teachers/r2c.shtml.
2. Print
   - ❑ Parker, Rick. *Introduction to Plant Science,* rev. ed. Clifton Park, NY: Delmar Learning, 2003.

Interest Approach

Bring into the classroom a dried ear of corn that is used for either feed or food crop seed. Remove the grain from the ear and ask the class how people benefit from the grain. Explore every benefit that grain provides. Examples include food for livestock that in turn provides people more food, food for humans in many forms (canned, raw, ground, popped, etc.), stalks left in the field to protect against soil erosion, starch from the corn to be used in biodegradable plastic products, and ethanol for alternative fuels.

Communicate the Learning Objectives

1. Describe why plants are important.
2. Describe the role that plants play in the environment.
3. Identify where the common crop plant species originated.
4. Explain how plants are used.

Instructor Directions	Content Outline
Objective 1 *Most plants can survive on their own without any assistance from humans. However, people depend on plants every day. List examples of each type of plant.*	**Describe why plants are important.** 1. Production of food crops (human and livestock) 2. Production of fiber crops 3. Beneficial to the environment
Objective 2 *A common misconception about plants and their benefits is that they only provide food. Fortunately, plants do much more.*	**Describe the role that plants play in the environment.** 1. Production of oxygen 2. Reservoir for carbon compounds (carbon sinks) 3. Prevention of soil erosion (windbreak) 4. Increase soil organic matter and soil quality 5. Beautification (trees and flowers) 6. Sound barriers 7. Recreational surfaces (turf) 8. Visual barriers
Objective 3 *A variety of crops are produced in the U.S. and exported to many parts of the world. However, many plants originated from other countries.*	**Identify where the common crop plant species originated.** 1. Corn – Mexico 2. Soybeans – China 3. Wheat – Southwestern Asia (Euphrates and Tigris Valleys) 4. Oats – Eastern Europe or Western Asia 5. Barley – Abyssinia and Southeastern Asia 6. Potatoes – South America 7. Rice – Southeast Asia 8. Peanuts – Brazil

Instructor Directions	Content Outline
	9. Cotton – India, Mexico 10. Sorghums – Africa and India 11. Flax – Mesopotamia, Assyria, Egypt
Objective 4 *Researchers in plant science continue to work to discover new information about plants and how they grow and reproduce. New methods, processes, and products have been the result of the work of plant scientists.*	**Explain how plants are used.** 1. Production of food, feed, and fiber crops (including lumber and pulp) 2. Research (biotechnology and crossbreeding) 3. Nonfood products (medicines, clothing, rubber, perfumes, and spices) 4. Beautification
Application	Other activities 1. Have students choose one crop plant species from an instructor-generated list and prepare a written and/or oral report. Include the following information in the report. a. History b. Origin c. Production areas in the world d. Botanical characteristics e. Varieties f. Products from species g. Economical importance 2. Bring in an assortment of common crop plant species from the local area to discuss in class. Possibly demonstrate grinding corn or wheat. **Note**: It may be necessary to begin an early collection of these plants during specific harvest times in order to have them available for class.
Closure/Summary	For as long as people have been aware of their existence, plants have provided a source of food for human survival. From feeding multitudes to protecting the environment, plant research continues to play a vital role in the world.
Evaluation: Quiz	Answers: 1. True 2. False 3. True 4. False 5. A

Instructor Directions	Content Outline
	6. A 7. B 8. A 9. A 10. A 11. A 12. B 13. A 14. C