

Activity: Earth's Resources – Consumption, Conservation, & Preservation

Activity Level: Advanced

Source: Adapted from Utah Agriculture in the Classroom

Purpose

Understand the difference between consumption, conservation, and preservation of Earth's resources in our environment and in agriculture.

Example Topics It Supplements

Soil and water conservation and management; natural resources and the environment

Activity Snapshot

1. Organize and Prepare Supplies
2. Read Background Information
3. Interest Approach
4. Conduct Activity
Provide students with pieces of candy and give instructions on how they are to approach eating/not eating candy. This demonstrates consumption, conservation, and preservation. Share information about how these relate to agriculture. Complete a visual representation of how farmers use conservation practices in agriculture.
5. Ask follow up questions and make the connection to agriculture.
 - Using your own words, what are the differences and similarities of consumption, conservation, and preservation?
 - In what ways do farmers conserve soil and water?
 - Why is it important for us to be aware of conservation in agriculture?
 - What can we share with others about what we learned today?

State Standards It Supports

LA 5.3.3.d—Listen, ask clarifying questions, summarize, and explain information being communicated and consider its contribution to a topic, text, or issue under study.
SC 5.4.2.b—Identify weathering, erosion, and deposition as processes that build up or break down Earth's surface.
SC 8.3.3.g—Identify positive and negative effects of natural and human activity on an ecosystem.
SS 5.3.3.b—Identify examples of ecosystems located in the United States.

Materials

- 3 large tear sheets (or poster board) or large writing surface (white board, etc.)—1 per three groups
- Candy (Hershey's Kisses, Tootsie Rolls, etc.)—1 per student
- Agriculture/farm magazines—2-3 per pairs of students OR access to computers/internet

What's the Connection to Agriculture?

Knowing about consumption and conservation of our natural resources is important; it is also important for us to know and understand how farmers are specifically conserving soil and water. The conservation practices they use will help make sure crops and livestock can be grown to feed and clothe future generations all over the world.

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PROCEDURES:

1. Organize and Prepare Supplies
See “Materials” on cover page.

2. Background Information

As the human population is growing continuously, the consumption of natural resources is also increasing.

Consumption is the different ways and rates that humans consume products of the natural and agricultural world. Some are “finite” meaning once they are used, there are none left, like fossil fuels and land. Others are renewable, like wind and solar energy.

Conservation is the proper management of natural resource to prevent its exploitation, destruction or degradation.

Preservation is when the land and its natural resources are not consumed by humans and should instead be maintained in their original/natural form. It is important to conserve our natural resources and it is equally important to understand how farmers use conservation practices to sustain our farmland so they can continue to feed the world.

3. Interest Approach

On a large writing surface or on three pieces of large paper, write the following words: consumption, conservation and preservation. Divide students into three teams. Assign one team to each of the words. Give them two minutes to brainstorm what each of those words mean. It is okay if they are unfamiliar with the word—use their best ideas to write down their “definition” of the word on writing surface. Have each team report to the class. Ask the other teams to share their ideas on each word and record their responses. Explain to the class that they will be exploring the meaning of each of those words and discovering how they relate to agriculture.

4. Conduct Activity

- a) Give each person a piece of candy with instructions to look at it, but not touch it yet.
- b) Divide students into three groups. Mix the groups differently than before. Have each group pick up their candy and sit together—immediately putting the candy down in front of them and not doing anything with it.
- c) Tell Group one that they may eat their candy.
- d) Tell Group two that they have to make their candy last by unwrapping it slowly, eating small bites, licking on it, savoring it, etc.
- e) Tell Group three they are to admire their candy only. They may NOT eat it. Ask them to admire the wrapper, the shape, the smell, etc.
- f) After one minute, have students stop/pause and return attention to the their group definitions.
- g) Share the following information about each term:
Consumption – utilization of the resource
Conservation – the careful use of the resource
Preservation – saving the resource for the future

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- h) Compare and contrast the definitions with what the students created.
- i) Based on these definitions, ask students to determine which “candy group” represented consumption, conservation, and preservation. Have students “defend” their responses. Then confirm or share the correct answers. *Group 1: consumption; Group 2: conservation; Group 3: preservation.*
- j) Share with the students that these terms are most often referenced when talking about natural resources. Pose question: What are some natural resources that are consumed, conserved, and preserved? *Expected responses: consumption—trees, water, soil, wildlife, etc. Conservation—soil, water, forests, etc. Preservation—rainforests, wildlife, etc.*
- k) Pose question: How do the terms consumption, conservation, and preservation relate to agriculture? *Expected responses: farmers use land, water, etc. to grow crops and feed livestock.*
- l) Farmers are true conservationists. They use the soil and water to grow crops. Ask question: What kind of crops do farmers in our area grow? *Expected responses: corn, soybeans, milo/sorghum, dry edible beans, sugar beets—answers depend upon geographical location in state.*
- m) Because farmers are involved in consumption (utilization of resources) they also use conservation practices (the careful use of a resource). Pose question: Why aren’t farmers using preservation? *Expected response: preservation is not using, but saving the resource for future use. Farmers need to use soil and water to produce food that we eat. That is why it is important for them to carefully use the natural resources so they can continue to grow food for all of us.*
- n) Two main areas that farmers and ranchers work hard to conserve as they are used: soil and water. Pose question: Why is it important to conserve both soil and water? *Expected responses: soil is used to grow crops that feed humans and livestock and water is needed to grow the plants and is consumed by livestock.* Share this additional information: Soil conservation is important because soil is crucial for many aspects of human life as it provides food, filters air and water, and helps to decompose biological waste into nutrients for new plant life. Water conservation is so important because all living organisms need water to survive.
- o) Some ways farmers conserve soil are: rotating (changing) the crops they grow; no-till farming (not plowing or working the soil after harvest—this holds the soil in place and limits erosion from water and wind and preserves amount of moisture in the soil); using terraces and contour farming (taking into account the slope of the land to reduce run-off after the rains); use wind breaks (trees or shrubs planted along specific distances in farms are effective ways in controlling wind erosion).
- p) Some ways farmers conserve water are: planting drought tolerant crops (plant types that are designed to grow with a limited amount of available water); managing irrigation (using drip irrigation which delivers water directly to plant’s roots and reduces evaporation; scheduling when, how often, and how much to water to avoid under or overwatering their crops); using many of the same soil conservation techniques which also help conserve water.
- q) Have students find a partner. Pass out agriculture/farm magazines, if available. If not, have computer and Internet access for students. Student pairs should work together to find at least three pictures that represent farmers using conservation practices. If using magazines, cut out pictures and create a poster. If using computer, place pictures in a PowerPoint presentation or other document that can be projected for class to see.

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r) When complete, have each pair share their work with the class.

5. Ask Follow-Up Questions and Make the Connection to Agriculture

- What are important facts to know and remember about consumption, conservation, and preservation?

Consumption – utilization of the resource

Conservation – the careful use of the resource

Preservation – saving the resource for the future

- In what ways are farmers conserving soil and water?

Answers may include crop rotation, no-till farming, terraces, contour farming, planting drought tolerant crops, and managing irrigation.

- Why is it important for us to be aware of conservation in agriculture?

We are consumers of food and other products and we should know and understand how and why farmers are taking care of the land so there will be food and fiber produced for future generations.

- What can we share with others about what we learned today?

Knowing about consumption and conservation of our natural resources is important; it is also important for us to know and understand how farmers are specifically conserving soil and water. The conservation practices they use will help make sure crops and livestock can be grown to feed and clothe future generations all over the world.