

Grade 4-5: A Slice of Soil*

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National Social Science Standard

Physical Systems: Understand the physical processes that shape the patterns of Earth's surface.

Objective: The student will:

1. identify the amount of the earth's surface available for food production
2. identify characteristics of the earth's surface that are not conducive to food production.



Background

One of the most natural resources on the earth's surface is soil. Many living things depend on it as a source of food, either directly or indirectly.

Our food producing land remains the same and yet the world population continues to grow. Consequently, each person's food portion becomes smaller and smaller. It is the responsibility of each generation to use the soil wisely to insure the future. You can conduct the following demonstration to show how little of the earth's surface is actually used for food production as compared to growing populations.

Instructional Procedure

1. Inform the students that the apple in Activity 1 represents the earth.
2. Conduct Activity 1
3. Have students complete activity 2

Word Power:

- Natural Resource (n.): A material found in nature that is necessary or useful to people such as plants, animals, the weather, etc.

Assessment

Review activity 2

A Slice of Soil

(To be demonstrated by a teacher)

Materials:

Large Apple (softer apples work better)

Paring knife (or heavy plastic knife)

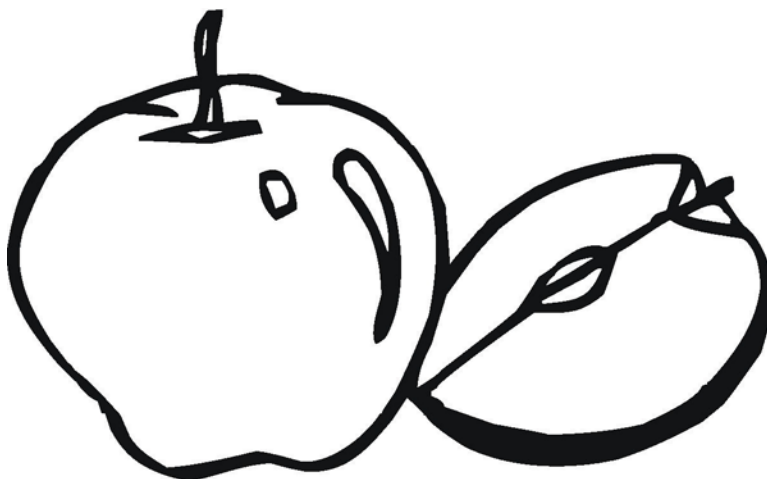
Procedures:

1. Cut the apple into four parts. Three parts represent the oceans of the world. The fourth part represents the land area.

2. Cut the land section in half lengthwise. Now you have two $1/8$ pieces. One section represents land such as deserts, swamps, Antarctic, arctic and mountain regions. The other $1/8^{\text{th}}$ section represents land where man can live and may be able to grow food.

3. Slice this $1/8^{\text{th}}$ section crosswise into four equal parts. Three of these $1/32^{\text{nd}}$ sections represent the areas of the world which are too rocky, too wet, too hot, or where soils are too poor for production, as well as areas developed by man.

4. Carefully peel the last $1/32^{\text{nd}}$ section. This small bit of peeling represents the soil of our earth on which mankind depends for food production.



Natural Resources

Supporting Detail

Supporting details are the facts and information that explain or give examples of the main idea.

Read each main idea and the sentences that follow it. Write an X before each sentence that gives supporting details.

1. The amount of soil on the earth to grow food is limited.

Most of the earth is covered in water.

Deserts are too dry to grow food.

Some areas of earth are too rocky, too wet or too hot to grow food.

The earth has seven continents.

2. The Antarctic and Arctic are not good places to grow crops.

The temperatures are very cold.

The sunlight is limited.

The Antarctic and Arctic are on opposite poles of the earth.

People are unable to live in the Arctic and Antarctic.

3. Developed urban areas (city) are not used for crop production.

A city has a limited amount of open land area.

A city has a dense population of people.

Urban areas are dispersed around the United States.

Think for yourself:

Think of another main idea about amount natural resources in relation to growing food? Write the main idea with 3 supporting details.

