

# Save Our Soil

## Background

All living things depend on soil to live. If we had no soil we would have nothing to eat. Soil that can be used for growing food is called arable land. Every year we lose thousands of acres of arable land. Between 1992 and 1997, the number of acres used for growing crops in the US dropped by 5 million acres. Those used for pasture and range dropped by 11 million.

Some of the land is lost because we need more houses for people to live in. Quite a bit of land gets paved over every year for parking lots and shopping malls. Some is poisoned by industrial waste and other pollutants. Some of the land blows or washes away, and some of it just gets used up, because it has been producing food year after year for many years.

In many parts of the country, people are moving to the farm areas to get away from city life but then complain about the smells of farm life and other characteristics. These kinds of situations make it difficult for farmers to continue to grow the food we need to eat.

In Oklahoma we have about 34 million acres in farm land, and that number has stayed about the same since 1996. In the nation, however, the number of acres dropped from 960 million in 1996 to 943 million in 2000.

The US is one of the most productive agricultural countries in the world. America's farmers and ranchers produce 16 percent of the world's food on just 7 percent of the world's land.

## Math

1. Explain to your students that the apple represents the Earth, and use the diagram included in this lesson to cut up the apple and explain distribution of land. Review safety procedures if students are to cut their own apples.
2. Guide students to understand comparing and converting common fractions to the 100ths place to solve problems.
3. Explain the correlation of  $\frac{1}{4}$  to 25 percent by using manipulatives (i.e., cut apple into four sections). Use these percents to solve problems and correlate them to their corresponding fractions and decimals.

## Language Arts

1. Read and discuss background.
2. Lead a class discussion in which you ask the following questions:
  - What would happen if the sliver of topsoil we use for food production should suddenly wash into the ocean or become polluted by chemical warfare?

## P.A.S.S.

### GRADE 3

**Social Studies**—3.4; 4.4

**Math Process**—2.3; 4.4;  
5.1,2

**Math Content**—2.1bii;  
5.1b,2

**Science Process**—3.1,4;  
4.1,3

**Earth Science**—3.2

**Writing**—1.1,2,3,4,5;  
2.1,6a7; 3.1,23a,4,5,6

**Oral Language**—1.1,2

### GRADE 4

**Science Process**—3.1;  
4.2,3

**Earth Science**—4.1

**Writing**—1.1,2,3,4,5;  
2,1,4ac; 3.1,24,5

**Oral Language**—1.1,2,3

**Math Process**—2.3; 4.4;  
5.1,2

**Math Content**—2.1bi; 5.2

### GRADE 5

**Science Process**—3.1,3;  
4.2,3; 5.3,4

**Earth Science**—3.1

**Writing**—2.1,5,6; 3.1,2,3;

**Oral Language**—1.2

**Math Process**—2.3; 4.4;  
5.1,2

**Math Content**—2.1b; 5.2b

## Materials

apple(s)

one sharp knife (for demonstration) or plastic knives (for student participation)

cutting board

paper towel(s)

## Vocabulary

**arable**—Fit for cultivation, as by plowing.

**rural**—Of or pertaining to people who live in the country or relating to farming; agricultural.

**urban**—Of, relating to, or located in a city.

—What will happen if the world’s population continues to grow larger, while the amount of topsoil continues to grow smaller?

—Brainstorm ways that you and your family can help conserve precious soil in your own backyard? (composting food scraps and yard waste to help build soil, insisting that local officials make responsible decisions about urban development, growing some of their own food, encouraging parents to carpool or support mass transit systems to cut down on the need for parking lots, urging farmers to practice good soil conservation, etc.)

—What about you and your classmate on your school grounds?

—Have students compose written drafts of their ideas for conserving the soil.

## Social Studies

1. Have students research new development in your community and find out if any of it is taking place on land that was farm land.
2. Invite a city planner to your class to talk to students about land use and zoning laws in your community.

## Science

1. Start a school compost pile. When the compost is “done,” spread it out on ground that has been trampled, or mix it into a flower bed.

## Extra Reading

Bourgeois, Paulette, *The Amazing Dirt Book*, Wesley-Addison, 1990.

Delton, Judy, *Peewee Scouts #16, Trash Bash*, Dell, 1992.

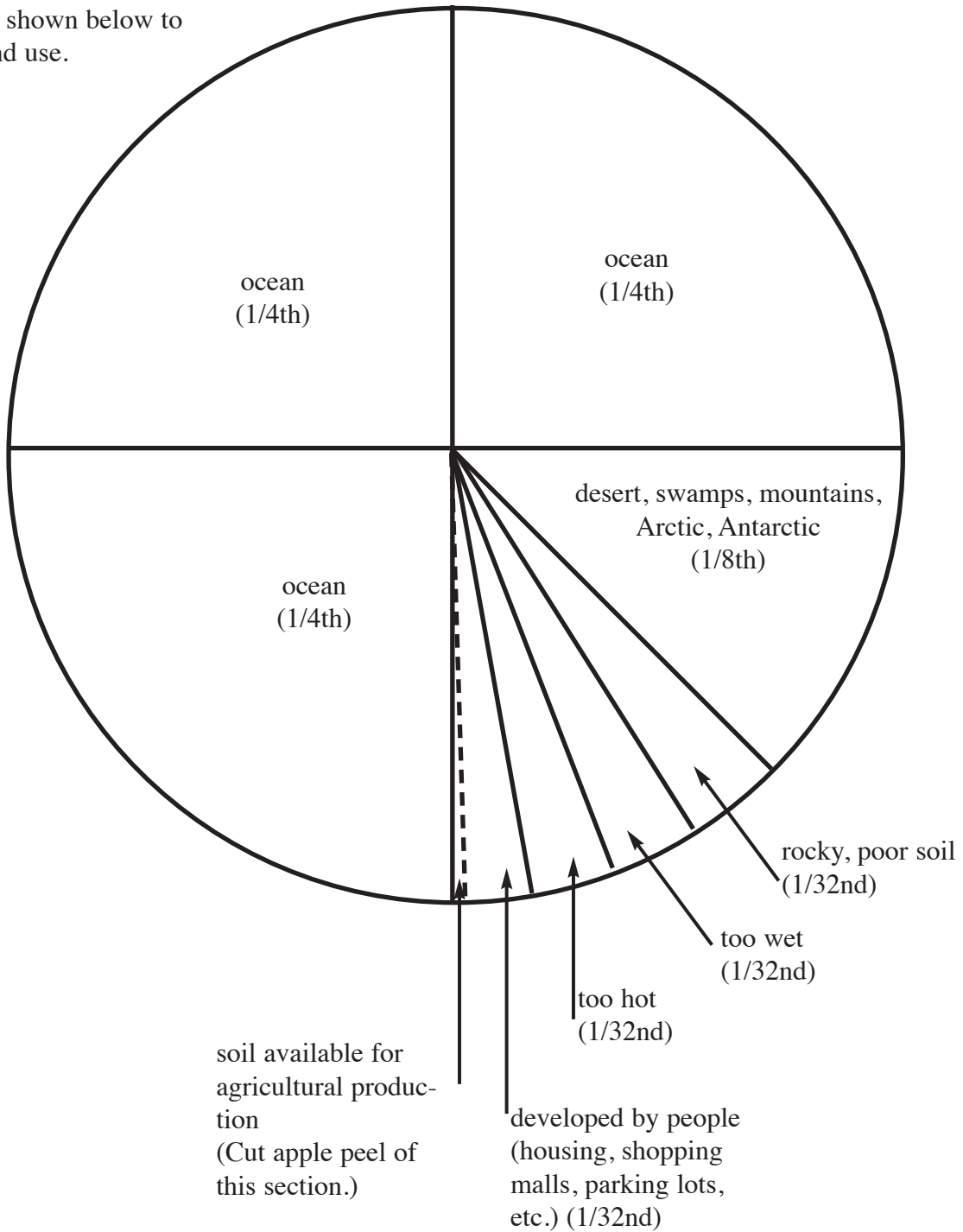
Lindbo, David, *SOIL! Get the Inside Scoop*, American Society of Agronomy, 2008.

Stille, Darlene R., *Soil Erosion and Pollution*, A New True Book, Children’s Press, 1990.

Name \_\_\_\_\_

# Save Our Soil

Cut apple as shown below to represent land use.



Name \_\_\_\_\_

# Save Our Soil

Label the segments of the graph, using the information your teacher reads to you. When you have finished, color the graph, using a different color for each segment.

