

READ TEXTBOOK

Name _____ Date _____ Class _____

Weathering and Soil Formation • Section Summary

READ AND ANNOTATE

Soil Conservation

Guide for Reading

- Why is soil a valuable resource?
- How can soil lose its value?
- What are some ways that soil can be conserved?

ANSWER ON FRONT
COVER OF BOOKLET

The prairie soils of the central United States took many thousands of years to develop. Prairie soil was once rich with humus because it was covered with tall grass. The sod—the thick mass of tough roots at the surface of the soil—kept the soil in place and held onto moisture. Today, farm crops have replaced the prairies. But the prairie soils are still among the richest in the world.

A natural resource is anything in the environment that humans use. Soil is one of Earth's most valuable resources because everything that lives on land, including humans, depends directly or indirectly on soil. Plants depend directly on soil to live and grow. Animals depend on plants for food. Fertile soil is valuable because there is a limited supply. It can take hundreds of years for just a few centimeters of soil to form.

The value of soil is reduced when soil loses its fertility and when topsoil is lost due to erosion. This occurred in large parts of the South in the late 1800s in areas where only cotton had been grown. In the early 1900s, a scientist named George Washington Carver developed new crops and farming methods that helped restore soil fertility in the South.

Soil can be lost to erosion by water or wind. Water or wind erosion can occur wherever soil is not protected by plant cover. Plants break the force of rain, and plant roots hold soil in place.

Wind erosion was the cause of soil loss on the Great Plains in the 1930s. By 1930, almost all of the Great Plains had been turned into farms or ranches. Plowing removed the grass from the Great Plains and exposed the soil. In times of drought, the topsoil quickly dried out, turned to dust, and blew away. Wind blew the soil east in great, black clouds. The problem was most serious in the southern Plains states. This area was called the Dust Bowl. The Dust Bowl helped people appreciate the value of soil.

Soil conservation is the management of soil to prevent its destruction. Soil can be conserved through contour plowing, conservation plowing, and crop rotation. Contour plowing is the practice of plowing fields along the curves of a slope. This prevents rain from washing soil away. Conservation plowing disturbs the soil and its plant cover as little as possible. Dead weeds and stalks of the previous year's crop are left in the ground to help return soil nutrients, retain moisture, and hold soil in place. In crop rotation, every year different crops are planted in the field.

SIDE 1

Name _____ Date _____ Class _____

Weathering and Soil Formation • Review and Reinforce

Soil Conservation

Understanding Main Ideas

Complete the flowchart below by filling in the blanks.

- _____ exposed the soil of the Great Plains. → A(n) _____, or lack of rain, turned the topsoil to dust. → Wind blew the soil away, creating an area called the _____.
- _____.
- _____.

Answer the following questions on a separate sheet of paper.

- Why is soil valuable?
- What causes soil damage and loss?
- When and where did the Dust Bowl occur?

Building Vocabulary

Fill in the blank to complete each statement.

- The practice of plowing fields along the curves of a slope is called _____.
- _____ is the management of soil to prevent its destruction.
- A method of planting crops that disturbs the soil and its plant cover as little as possible is called _____.
- The thick mass of tough roots at the surface of the soil in a grassland is called _____.
- In _____, a farmer plants different crops in a field each year.
- Anything in the environment that humans use is a _____.

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