



Soil Scientists

Lesson Description

Students learn how people in the community work to conserve natural resources.

Teacher Background

This lesson shows students what *soil scientists* and other *conservationists* do. This lesson may be more meaningful to students if you invite professional conservationists to the classroom. If possible, follow class discussions by a trip to an outdoor conservation site.

Opportunities in *resource conservation* are numerous because no single science can accomplish the great task of conserving our nation's *natural resources*. Moreover, such environmental issues are now global concerns. "Think globally, act locally" has become the common call of people from many nations who are working or volunteering to protect the Earth.

Conservationists enhance the productivity, safety, and beauty of our world. The many types of conservation professionals include agronomists, botanists, cartographers, ecologists, economists, engineers, foresters, geologists, hydrologists, plant materials specialists, public affairs officers, recreation managers, soil scientists, and wildlife biologists.

Subjects

Art, Language Arts,
Science, Social Studies

Time

Prep: 30 minutes

Activities: 1 ¼–2 ¼ hours
(not including Extensions)



Topic: erosion
Go to: www.scilinks.org
Code: DIG11



Student Objectives

Students will be able to:

- identify what soil scientists do; and
- learn about resource conservation activities.

A visit from a soil scientist would be especially beneficial for the class to review the many kinds and uses of soil described in previous lessons (see Appendix B for information on contacting a soil scientist). Soil scientists inspect each soil horizon's slope, texture, color, structure, boundaries, thickness, and degree of erosion. To make accurate predictions of soil behavior, the soil scientist must learn all of the characteristics of a particular soil, because it is the unique combination of qualities that controls behavior. After collecting data, the soil scientist plots each sample site, identifies soil types, and outlines soils on aerial photos of the land. The finished work is a *soil survey* that helps farmers, ranchers, highway engineers, land use planners, homebuyers, and others decide how to use the land wisely.

Materials

For the Class

- Magazine photos of conservationists, scientists, farmers, etc.
- Poster paper or bulletin board
- Tape, glue, or pushpins

For Each Student Group

- Drawing paper
- Crayons, colored pencils, or markers
- Writing paper
- Pencil

Learning Cycle

Perception: 15 minutes

- 1 Discuss natural resources and resource conservation. Ask students for examples of natural resources and discuss why the resources are important.
- 2 Discuss the activities of conservationists, especially soil scientists.



Exploration: 15–30 minutes

Prep Cut out magazine photos of people working in conservation or on the land:

conservationists, soil scientists, farmers, ranchers, wildlife biologists, botanists, engineers, ecologists, rangers, foresters, etc. Create a poster or bulletin board and label each picture.

- 1 Discuss the photos and the activities represented, and why they're important for the environment.
- 2 Ask students to think about these activities. Which activities would students personally like to do best?
- 3 Have students draw themselves involved in their favorite conservation activity. Ask students to add a caption describing what they're doing.
- 4 Create a conservation bulletin board with drawings from the class.

Application: 30 minutes–1 hour

Invite a farmer, soil scientist, or a conservationist to visit the classroom. Encourage students to prepare questions about the individual's activities. The resources list in Appendix B has more information on agencies and organizations involved in conservation.

Take younger learners on a field trip to a farm, nursery, or gardening center. You could also invite a gardener to come to class to give a demonstration on how to take care of a plant.



Evaluation: 15–30 minutes

Ask students to write thank-you notes to the visiting conservationist. In the letter, students should summarize some of the most important and interesting facts they learned from the visit and ask any other questions they might still have.

Extensions: 30 minutes–2 hours each

- Take a field trip to a conservation site. On a field trip to visit a soil scientist, for example, students can accompany the scientist to roadside cuts and pits to study soil.
- Encourage students to dress up as their favorite conservationists. Let students role play their part for the others to guess. This could be a special activity for parents' day.
- If appropriate for your class, students can research or write about a conservation activity.