



# Glossary

*aeration* = the process by which soil is supplied with air, such as when a farmer or gardener tills the soil

*beautify/beautification* = to make something (such as land) more attractive

*bedrock* = solid rock that underlies the soil; also called *parent material*

*burrow* = a deep, narrow tunnel in soil made by worms and other animals

*castings* = nutrient-rich worm excrement

*clay* = the smallest particle of soil, less than 0.002 millimeters in diameter

*clayey soil* = very fine soil; lumpy if wet but hard if dry

*conserve/conservation* = the wise use of natural resources to prevent damage, pollution, and waste, therefore extending the life of the resources for use by future generations. Scientists who work to protect natural resources are called *conservationists*.

*cross section* = a piece of something cut open so that the inside is visible

*decomposition* = biological and chemical breakdown of nutrients from dead plants and animals, including bacteria, fungi, and other microorganisms. Worms are *decomposers*.

*desert* = arid region with sparse vegetation and less than 25 centimeters of precipitation per year.

*dirt* = soil out of place in the human world; a pejorative use of "soil."

*drought* = a period of dryness that causes extensive damage to crops or prevents their successful growth

*environment* = the interaction of physical, chemical, and biotic factors (such as climate, soil, space, and living things) that affect an organism's ability to survive

*erosion* = loosening and movement of the solid material on the land surface by water *runoff*, wind, moving ice, and landslides. Erosion can also result from humans disturbing the soil.

*fertile* = capable of sustaining abundant plant growth, rich in nutrients

*food* = a substance that nourishes a living organism



*food chain* = a series of plant or animal species in a community, each of which is related to the next as a source of food; also called a food web.

*forest* = area covered with trees and woody plants

*habitat* = a place where plants and animals live, grow, and reproduce

*humus* = rich *organic matter* that results from the disintegration of dead animals, leaves, twigs, and fallen trees in the soil

*landform* = a natural feature of the land surface; characteristic of a *habitat*.

*land use* = the varied ways that public space is used, such as for residential property, businesses, government buildings, parks, or recreation areas

*model* = a simulation of a real-world scenario

*mountain* = area with high elevation, rock material, and steep slopes; a type of *landform*

*natural resource* = material found in nature and used by humans, such as trees, water, and oil

*nutrient* = raw material that provides food for organisms' (including humans') growth

*organic matter* = decomposed plant and animal material, found in and on soil, that provides nutrients for living organisms

*parent material* = the unconsolidated and more or less chemically weathered mineral or organic matter from which soil develops

*photosynthesis* = the formation of carbohydrates from carbon dioxide and water in the chlorophyll-containing tissues of plants exposed to light

*planning commission* = a group of people in a community who are responsible for planning how the land in the area will be used

*pollution* = a condition, caused by substances in Earth's air, water, and soil, that reduces the quality of the *environment* for life

*pore spaces* = small spaces between soil grains that are filled with air and water

*prairie* = rolling or level grasslands with few trees and medium rainfall

*resource* = something that an organism must obtain from its *environment* to survive. Resources for animals include food, air, water, and shelter.

*resource conservation* = the preservation and protection of Earth's *natural resources*

*runoff* = water from precipitation that is not absorbed but flows over the land, carrying *sediment* and other materials to streams, lakes, and other bodies of water



*sand* = the largest particle of soil, between 0.05 and 2.00 millimeters in diameter

*sandy soil* = soil with sandy particles (larger and grittier than *silty soil*)

*scavenger* = an animal that feeds on dead animal matter or refuse

*sediment* = earth material carried by water from eroding areas of the land. Sediment can clog rivers and streams, destroy wildlife habitat, and pollute water supplies.

*silt* = the medium-sized particle of soil, between 0.002 and 0.05 millimeters in diameter

*silty soil* = soil with a high content of silt-sized particles; generally darker and looser than *sandy* or *clayey soil*.

*soil* = the collective term for the natural bodies of earthy materials that cover much of the Earth's surface; a complex combination of mineral and organic materials

*soil scientist* = someone who studies the types and properties of soil

*soil survey* = a map of the soil types in a particular region; a science-based inventory of the distribution and properties of soils and factors affecting the soil environment. Soil surveys include predictions of soil behavior related to selected *land uses* in an urban, agricultural, or natural environment, and the impact of land uses on these environments.

*texture* = the characteristic proportion of *sand*, *silt*, and *clay* in a particular soil

*water erosion* = the detachment and movement of soil by water

*weathering* = the breakdown of rocks and sediment at or near the Earth's surface due to biological, chemical, or physical actions

*wetlands* = a transitional area between water and land that is saturated long enough to support very moist soils and plants that grow in water

*wind erosion* = the detachment and movement of soil by wind





# Resources

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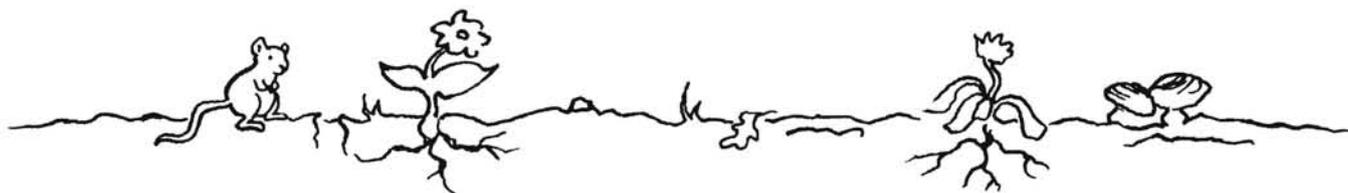
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## Agencies and Organizations

### Natural Resources Conservation Service

For more information about soil and water conservation education, or about resource management, contact the Natural Resources Conservation Service (NRCS) or your local NRCS office. NRCS is an agency of the U.S. Department of Agriculture (USDA). There are 3,000 NRCS field offices nationwide, one in nearly every county. Your local office is listed in the telephone directory under "United States Government, Agriculture."

Natural Resources Conservation Service  
Educational Relations/Conservation  
Communications Staff  
U.S. Department of Agriculture  
P.O. Box 2890  
Washington, DC 20013  
[www.nrcs.usda.gov](http://www.nrcs.usda.gov) (main page)  
[www.statlab.iastate.edu/soils/nssc](http://www.statlab.iastate.edu/soils/nssc)  
(National Soil Survey Center)

NRCS publishes county-level soil surveys for the United States. These soil surveys are available from your local

NRCS office. You can also request these and other educational publications from NRCS by calling 1-888-LANDCARE or e-mailing [landcare@swcs.org](mailto:landcare@swcs.org).

- *Backyard Conservation* (Program Aid 1621, 1998). Available at [www.nhq.nrcs.usda.gov/CCS/Backyard.html](http://www.nhq.nrcs.usda.gov/CCS/Backyard.html).
- *Buffers: Common Sense Conservation* (Program Aid 1615, 1997, U.S. GPO 1997-576-666). Available at [www.nhq.nrcs.usda.gov/CCS/Buffers.html](http://www.nhq.nrcs.usda.gov/CCS/Buffers.html).
- *The Colors of Soil* poster (1999, Poster 999901)
- *Conquest of the Land Through 7,000 Years* (Agriculture Information Bulletin 99, 1999)
- *Soil Erosion by Wind* (Agriculture Information Bulletin 555, 1994)
- *What is a Watershed?* (Program Aid 420, 1999)
- *Working with Wetlands* (Agriculture Information Bulletin 672, 1994)
- *The Water Cycle* poster (Program Aid 1588, 1999)
- *Your Hometown Clean Water Tour* poster (Program Aid 1587, 1998)



## **U.S. Department of Agriculture**

Other sources of soil information from USDA include:

### **Ag in the Classroom**

U.S. Department of Agriculture  
1400 Independence Avenue, SW  
Stop 2251  
Washington, DC 20005  
202-720-7925  
[www.agintheclassroom.org](http://www.agintheclassroom.org)

### **Agriculture Research Service**

Office of Information  
56701 Sunnyside Avenue  
Beltsville, MD 20705  
301-504-9403  
[www.ars.usda.gov](http://www.ars.usda.gov)

### **National Agricultural Library**

10301 Baltimore Avenue  
Beltsville, MD 20705  
301-504-5755  
[www.nal.usda.gov](http://www.nal.usda.gov)

### **USDA Forest Service**

Sidney R. Yates Federal Building  
201 14th Street, SW  
Washington, DC 20250  
202-205-1760  
[www.fs.fed.us](http://www.fs.fed.us)

### **USDA Office of Communication**

Public and Media Outreach Center  
1400 Independence Avenue, SW  
Washington, DC 20250  
[www.usda.gov/agencies/ocpage.htm](http://www.usda.gov/agencies/ocpage.htm)

## **Other Organizations**

There are hundreds of private and nonprofit organizations involved in resource conservation and education. Many of these professional organizations publish educational materials on soil. To conduct a search for related organizations or references via Internet search engines, use keywords such as "soil science," "sciences of soil," "soil education," or "soil lesson plans."

Other helpful resources are county-level resource conservation or local government conservation organizations. Throughout the United States, local citizen-districts carry out conservation activities that help to improve water quality, reduce soil erosion, and improve wildlife habitats.

### **American Geological Institute**

4220 King Street  
Alexandria, VA 22302  
703-379-2480  
[www.agiweb.org](http://www.agiweb.org)

### **Boy Scouts of America**

1379 West Walnut Hill Lane  
Irving, TX 75038  
[www.bsa.scouting.org](http://www.bsa.scouting.org)

### **General Federation of Women's Clubs**

1734 N Street, NW  
Washington, DC 20036-2990  
800-443-GFWC  
[www.gfwc.org](http://www.gfwc.org)



**Girl Scouts of the U.S.A.**

420 Fifth Avenue  
New York, NY 10018  
800-478-7248  
[www.gsusa.org](http://www.gsusa.org)

**National Association of Conservation Districts**

509 Capitol Court, NE  
Washington, DC 20002  
202-547-6223  
[www.nacdnet.org](http://www.nacdnet.org)

**National Gardening Association**

1100 Dorset Street  
South Burlington, VT 05403  
802-863-5251  
[www.garden.org](http://www.garden.org)

**National Science Teachers Association**

1840 Wilson Boulevard  
Arlington, VA 22202  
703-243-7100  
[www.nsta.org](http://www.nsta.org)

**National Wildlife Federation**

8925 Leesburg Pike  
Vienna, VA 22184  
703-790-4000  
[www.nwf.org](http://www.nwf.org)

**Project Food, Land & People**

Presidio of San Francisco  
P.O. Box 29474  
San Francisco, CA 94129  
415-561-4445  
[www.foodlandpeople.org](http://www.foodlandpeople.org)

**Project Learning Tree**

1111 19<sup>th</sup> Street, NW, Suite 780  
Washington, DC 20036  
888-889-4466  
[www.plt.org](http://www.plt.org)

**Project WILD**

707 Conservation Lane, Suite 305  
Gaithersburg, MD 20878  
301-527-8900  
[www.projectwild.org](http://www.projectwild.org)

**Soil and Water Conservation Society**

7515 Northeast Ankeny Drive  
Ankeny, IA 50021  
515-289-2331  
[www.swcs.org](http://www.swcs.org)

**Soil Science Society of America**

677 South Segoe Road  
Madison, WI 53711  
608-273-8095  
[www.soils.org](http://www.soils.org)





# Dig In!

## Hands-On Soil Investigations

Kids will be up to their elbows in the study of soil formation, habitats, animals that depend on soil, plants that grow in soil, land use, and soil conservation. A dozen teacher-tested lesson plans offer helpful background, assessment methods, and suggestions for further exploration. These activities and stories integrate science with art, geography, language arts, math, and social studies. *Dig In!* also includes valuable sciLINKS—Internet links that keep the material up-to-date.

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