



Soil

When students finish working through this section:

1. They will be able to define soil and describe its component parts.
2. They will have examined the factors involved in soil production.
3. They will have looked closely at the soils in their area.
4. They will have experimented with the concept of a soil survey.

The soils used to grow any crop are an important factor in the success of that growth. REAL TREE growers need to understand the characteristics of the soil on their operations in order to select appropriate species for production, to cultivate successfully, and to maintain the soil for future usage. They have a very vested interest in maintaining soil quality. Without quality soil, their business and livelihood is threatened.

Soil is a natural resource that is often underestimated. Students may understand its importance to those who farm, but not understand its importance to them (humans) as a whole. This section is a good place to start that discussion.

Possible Discussion Points/Activities:

- Take a field trip to a location where students can view a cross-section of soil. Ask them to use what they have learned about soil surveys to identify the layers in the soil. If several areas are available, ask students to compare them. What factors might be in play that caused similarities/differences. What conservation strategies might be useful in aiding soil production to the area?
- Invite your county extension agent to speak to the class about the soils found in your area and how students might help support soil conservation efforts.
- Invite students to discuss the ways in which they are dependent on soil. Make a list. Discuss the interdependence humans have with the soil: how does it support them and how do they support it?
- Invite farmers of various crops to your classroom. Ask them to share with students how they prepare the ground for growing. What processes, chemicals, and conservation techniques do they use? Compare.
- Ask students to print and complete the *Think Tank* assignment. This can be done as a whole class, in small groups, or as an individual activity. Discuss and share!



Grades 3-5 | Grades 6-8 | Grades 9-12

Words to Know in this Section:

- agronomist: a person who studies the science of land cultivation and management
- erosion: natural processes which cause material to be worn away from the earth's surface
- humus: dark organic material in soils produced by decomposition of plant and animal matter
- mineral: an inorganic element, such as calcium, magnesium, and potassium, that is essential to the nutrition of humans, animals, and plants
- organic: of, or made from, living organisms
- parent material: the material in which soils are formed
- soil: the top layer of the earth's surface consisting of rock and mineral particles mixed with organic matter
- soil profile: shows and describes the layers of the soil just below the surface of the earth
- soil survey: a carefully planned study of the soils in an area
- system: an assemblage or combination of things or parts forming a complex or unitary whole
- weathering: any of the chemical or mechanical processes by which rocks exposed to the weather undergo changes and break down

Link Up! in this Section:

- Soil Science: Student Guide - <http://soils.missouri.edu/data/studentguide.pdf>
- Careers in Soil Science - <http://soils.usda.gov/education/facts/careers.html>
- State Soils - http://soils.usda.gov/gallery/state_soils/

Fast Facts in this Section:

- The study of soil science is called Pedology.
- It takes 500 years or more to make one inch of soil.