

## Soil Separation

Here is a quick, but effective lesson that you can use at a moments notice.

### OVERVIEW

Soil is made up of different particles that are categorized into three groups – sand, silt, and clay. Sand has the largest particles and clay has the smallest particles. Most soils are a combination of the three groups. The relative percentages of sand, silt, and clay are what give soil its texture. In the demonstration you will be able to see the different types of particles that make up the soil.

### Preparing Bottles

Step 1: Fill a clear container about 1/3 full of soil. You can use potting soil or local soil from the yard or garden. If you have sand, you can place it in a separate bottle. (A funnel or a paper cone may make it easier to get the soil in the bottles).

Step 2: Add water to near the top of each bottle. Place caps on the bottles, shake the contents well, and place the bottles in a location where they will not be disturbed. The particles will separate more the longer the bottles are left undisturbed.

Step 3: After you feel the material has had time to separate take a close look at the bottles and make observations about the different layers.

You will observe that the different soils separate differently.

**Organic Material:** Try to identify the organic material in the bottles. Soils contain both organic and inorganic material. Where do they see the organic material? Organic material is less dense than inorganic material and floats to the surface of the water.

**Clay Particles:** What could cause the cloudy water? The cloudiness in the water comes from inorganic particles called clay that are so small they can remain suspended in the water. Most of the nutrients in the soil is found in the organic mater and the clay.

Does different soils support the growth of plants equally well? Soils differ in their amounts of organic material and clay, they also vary in their ability to support plant growth. It is important to understand the differences in soil to make educated decisions.

This lesson is found in NFLF's curriculum, Nourishing the Planet in the 21st Century.

