**What’s Soil Made of?**

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Earth’s soil is a very important resource. Without healthy soil we would not be able to grow the plants we need for food, fiber, and shelter. There are many different types of soil and each is made up of different components, not just dirt!

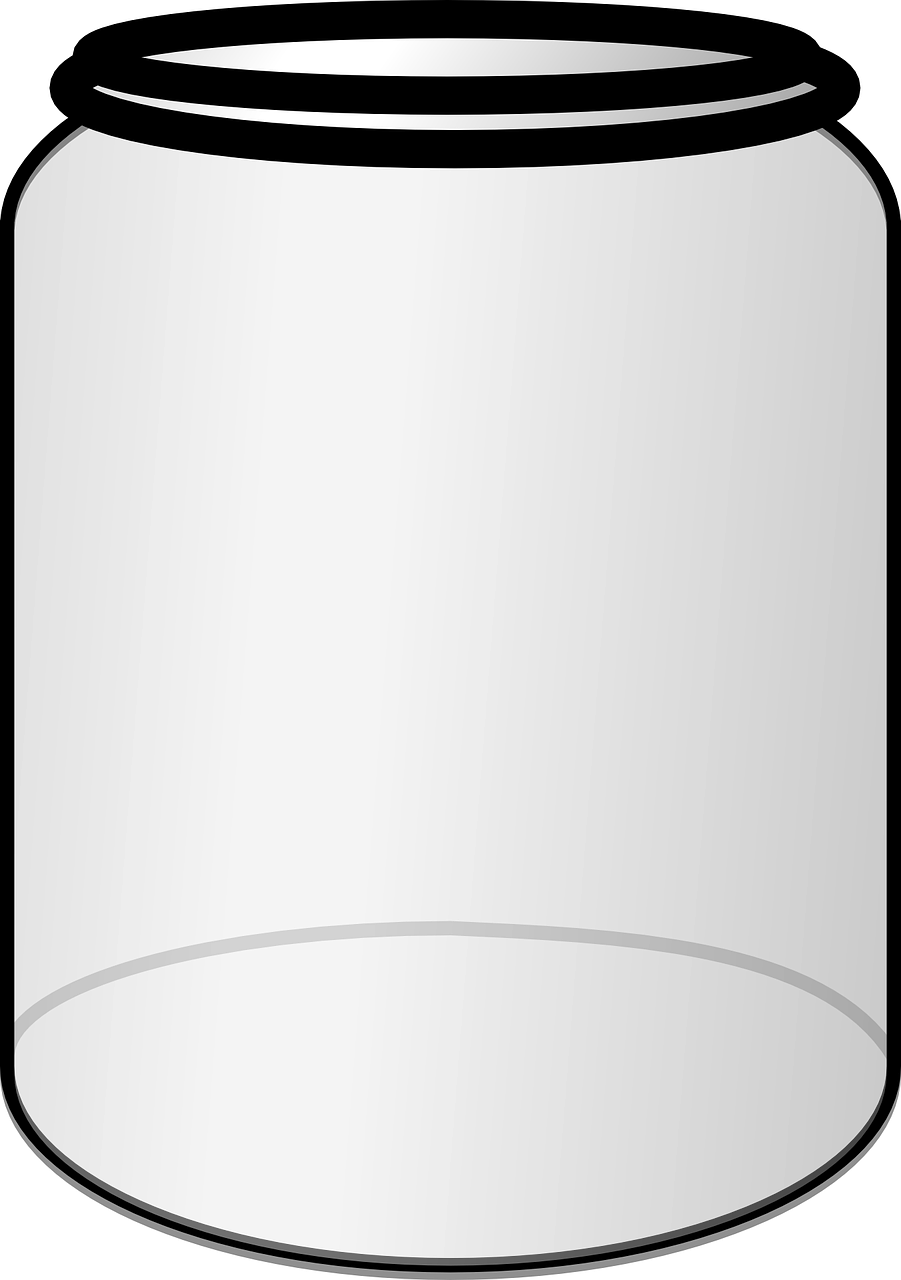
The rock material in soil has been broken down over a long time into smaller and smaller pieces by “weathering”, which happens when rock and soil are exposed to wind, water, and changing temperatures. Water and air are also found in soil. Water, air, and rock particles are the inorganic components of soil, which means these components are not living and never were living. The organic components in soil are living, or were once living, organisms. Examples of organic soil materials include decayed plant and animal waste, worms, insects, bacteria, and more. Healthy soil is a mixture of a variety of inorganic and organic materials.

In this activity you will carefully dissect a soil sample to find out what it is made of. Farmers carry out soil tests like this on a regular basis. Farmers want to know the properties of their soil because it plays a role in the amount of nutrients that are available for plants to use. If their plants do not have the proper nutrients then their plants cannot thrive and grow. Farmers have learned that rotating their crops (this means not planting the same thing in the same spot year after year), they can conserve the nutrients in their soil because some plants make and leave behind nutrients that other plants can use. However, they need to know what nutrients are in their soil first before they decide what crops to plant.

Instructions:

1. On the pictures provided below, graph your soil as shown on your jar. Make sure the measure each layer and label it as sand, silt, or clay. You can draw lines and color in each layer. The teacher should have shown you a picture of how this looks.
2. After you label and graph your jar and soil type, switch with other people in your group to graph the other two jar types.
3. After you have graphed your jars, answer the questions below each jar.

**Soil Type #1**



Measurements:

Silt: \_\_\_\_\_\_\_\_\_

Sand: \_\_\_\_\_\_\_\_

Clay: \_\_\_\_\_\_\_\_

What color is the soil sample? (*dark brown, light brown, reddish brown, gray, orange, etc.)*

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

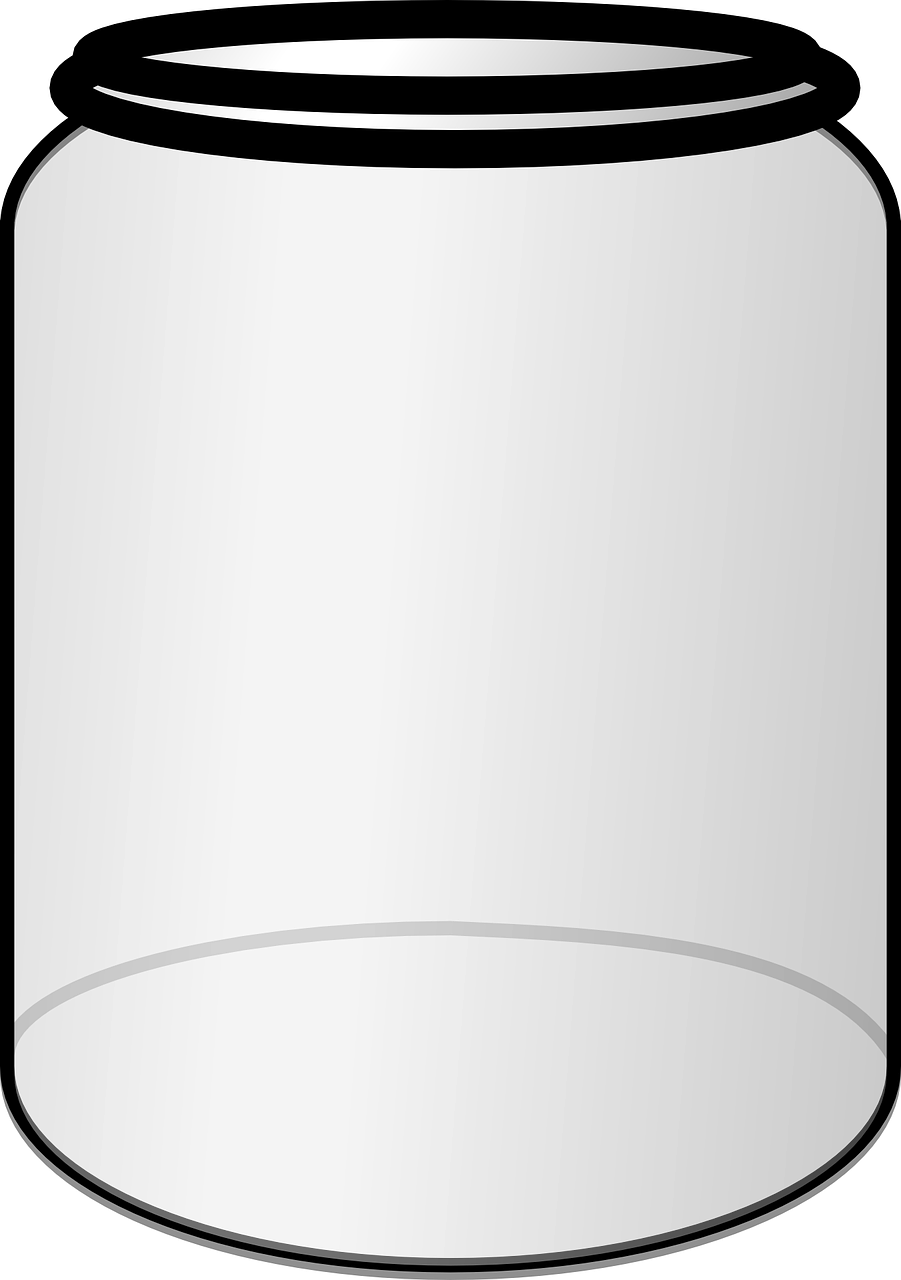
Is there more silt, sand, or clay in your sample? If so how much?

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What kinds of things can you see in the sample? (*leaves, twigs, sand, worms, insects, etc.)*

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**Soil Type #2**



Measurements:

Silt: \_\_\_\_\_\_\_\_\_

Sand: \_\_\_\_\_\_\_\_

Clay: \_\_\_\_\_\_\_\_

What color is the soil sample? (*dark brown, light brown, reddish brown, gray, orange, etc.)*

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

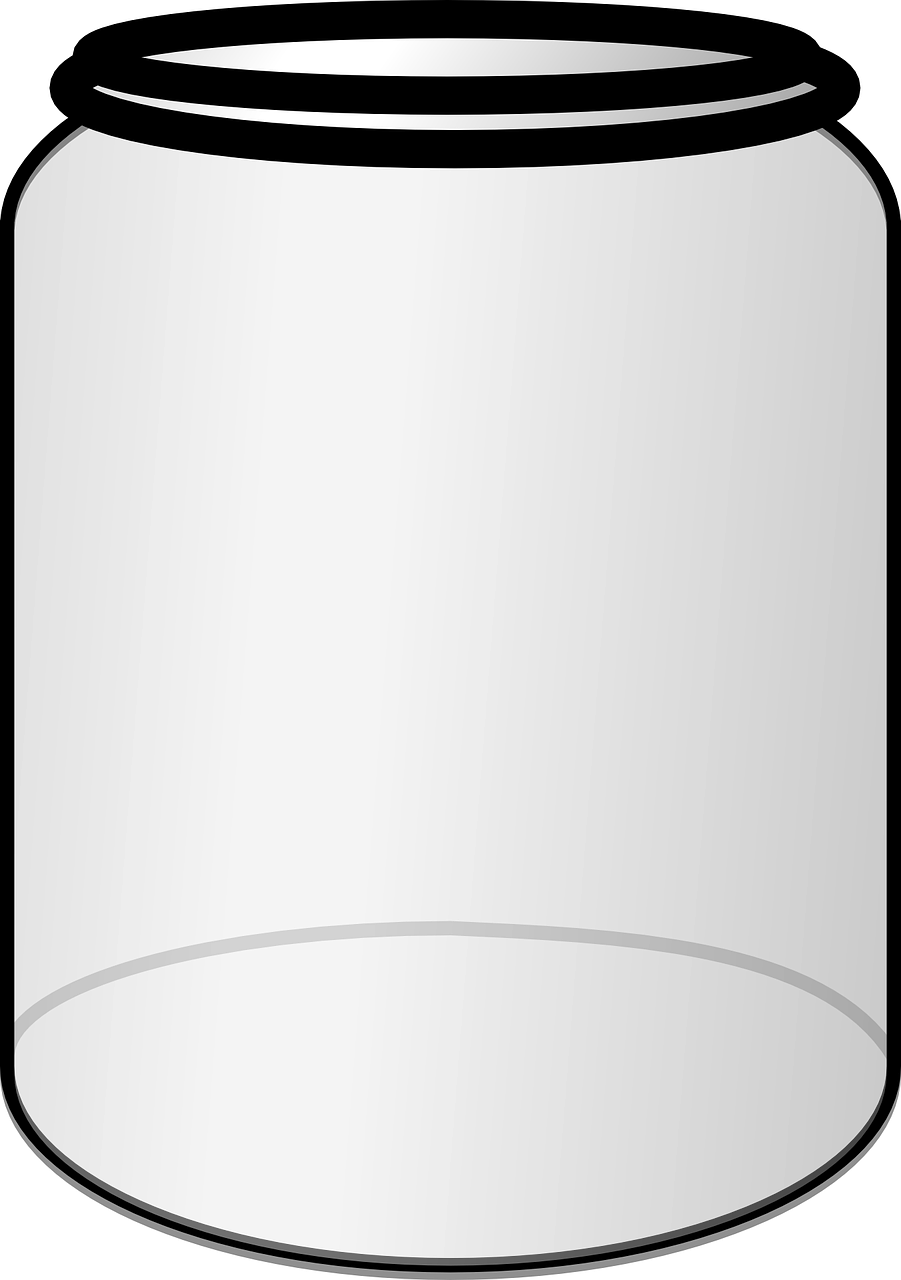
Is there more silt, sand, or clay in your sample? If so how much?

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What kinds of things can you see in the sample? (*leaves, twigs, sand, worms, insects, etc.)*

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

**Soil Type #3**



Measurements:

Silt: \_\_\_\_\_\_\_\_\_

Sand: \_\_\_\_\_\_\_\_

Clay: \_\_\_\_\_\_\_\_

What color is the soil sample? (*dark brown, light brown, reddish brown, gray, orange, etc.)*

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

Is there more silt, sand, or clay in your sample? If so how much?

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What kinds of things can you see in the sample? (*leaves, twigs, sand, worms, insects, etc.)*

*\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*