

Essential Question: Why is soil important to all living things?

Activity 5: What is Soil?

Purpose: To *identify* the three main types of soil: **sand, clay, and silt.**



Vocabulary:

- **Organic matter** – carbon based matter from living or once living plants, animals and other creatures
- **Inorganic matter** – matter not consisting of or made from living matter. Compounds lacking carbon.

Background: Soil makes up the outermost layer of our planet and is formed from rocks and decaying plants and animals. Soil is the naturally occurring, loose mineral and/or organic material at the surface of the earth that is capable of supporting plant growth. Soil is synonymous to the word ‘earth’, the word from which our planet derives its name.

Clay, silt and sand are the three main types of **inorganic matter** in soil. Most soils are a blend of all three types. Soil is also made up of **organic matter**, which makes the soil rich. Healthy soil must also have water & air. The texture and appearance of soil depends on the content of each type of soil in the sample.

1. Soil Types: Write down what you know about the following types of soil:

Sand:

Silt:

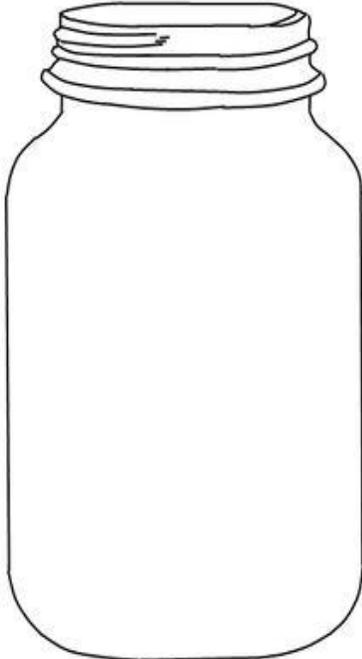
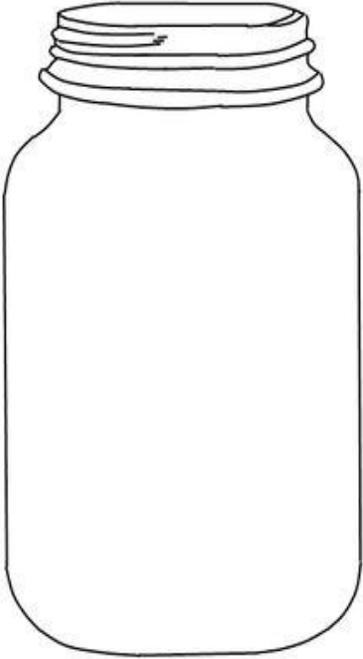
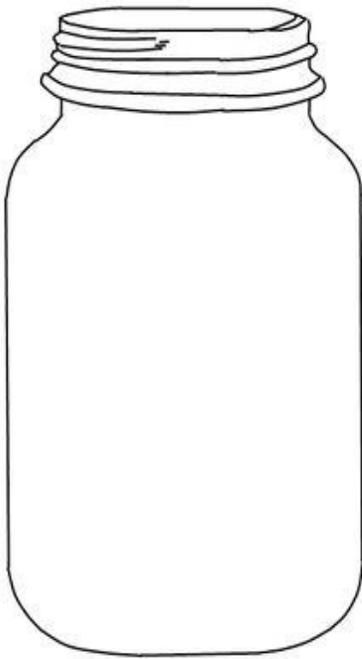
Clay:

2. Observe each type of soil to determine the **physical properties of each.**

Soil Type	Property	Grain size	Texture	Particle spacing	Draw a small sample
Sand	Allows air to move through freely. Doesn't hold water well.				
Silt	Allows air to move through freely. Holds water reasonably well.				
Clay	Does not allow air to move through freely. Holds water & nutrients well.				

A small patch of soil just 1 sq yd (1 sq m) in area can hold up to a billion living things.

3. Observe each of the three samples of soil.

Sample A	Sample B	Sample C
<p>Physical Characteristics</p> <ol style="list-style-type: none"> 1. % Organics 2. % Clay 3. % Silt 4. % Sand 5. Overall Color 	<p>Physical Characteristics</p> <ol style="list-style-type: none"> 1. % Organics 2. % Clay 3. % Silt 4. % Sand 5. Overall Color 	<p>Physical Characteristics</p> <ol style="list-style-type: none"> 1. % Organics 2. % Clay 3. % Silt 4. % Sand 5. Overall Color
<p>Water Sorted Drawing</p> 	<p>Water Sorted Drawing</p> 	<p>Water Sorted Drawing</p> 

Write down three questions that you think could show up on a test about this activity:

Level 1 Easy

Level 2 Medium

Level 3 Hard, but doable

