

Soil Experiment – separating soil and estimating soil texture!

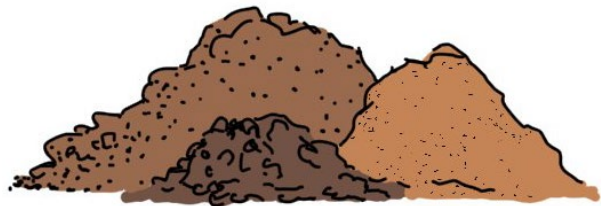
What you'll need for this activity:

3 x jars with lids

3 x soil samples from different locations that are as far away as possible from one another

Water

(Suggested newspaper to lay on the table to protect surface)



Soils are composed of particles of various sizes. The smallest particles are referred to as **clay**, the medium sized **silt** and the largest ones, **sand**.

Soil texture defines which percentage of the total soil each of these categories represent.

Texture is the most important physical property and is vital to the functions of soil - especially in relation to porosity (empty spaces in material), water retention, as well as erosion resistance.

Step 1: Fill each jar half full of soil. Wet the soil to a mud consistency and tap the jar to let the soil settle.



Step 2: Mark the level of soil on each jar and add a teaspoon of water to dampen the soil.

Step 3: Add enough water to fill the jar and shake the soil-water mixtures thoroughly.



Step 4: Let the soil settle for 40seconds and mark the level of soil on the jar to identify the sand portion.

Step 5: Then let the sill settle for 6hours and mark the level of soil in the jar. The different between this mark and the sand mark represents the silt portion.

Step 6: Time for some maths! Calculate the percentage of sand, silt and clay by measuring the depth of each mark. The difference between highest mark and the silt mark represents the clay fraction.



Step 7: Classify your soil texture – which texture makes up most of your soil sample?

- ☐ Clayey soil – over 30% clay
- ☐ Sandy soil – over 60% sand
- ☐ Loamy soils – over 60% silt