

# Task: Soil Analysis

Conduct an investigation into the composition of soil.



Tip: You can learn more about soil using Britannica School. Find information on the composition of soil and why it plays such an important part in sustaining life on Earth, in the Britannica School "Soil" resource pack.

## Practical Activity

Investigate the composition of soil.

### Materials:

- Small Spade/shovel
- Jar
- Masking Tape
- Marker

### Steps:

1. Break into pairs; Choose an area of a garden to take a soil sample.
2. Dig about 15cm deep and take a sample of soil.
3. Fill your jar halfway with the soil sample and then fill the rest up with water.
4. Close the lid, shake the jar well and leave it to stand overnight.
5. Use masking tape to label the jar with the location of your soil sample.
6. Observe your sample the next day, there should be three distinct layers.



A sample of soil in water shows the relative proportions by volume of sand, silt and clay. The largest and heaviest particles sink to the bottom while the smallest and lightest remain on top.

At the bottom are sand particles, above which are silt particles, and at the top are clay particles. This soil comprises about two-thirds sand and one-third silt and clay. It is classed as a sandy loam. Loamy soils are better for plant growth than sandy soils because they retain more water and nutrients.

**Image credit:** Britannica ImageQuest / Sheila Terry / Science Photo Library / Universal Images Group

**Questions:**

- Why is soil important?
- What are the components that make up soil?
- What is silt? What is organic matter?
- What layers do you observe in your soil sample?
- Are the layers equal in size?
- What happens if there is too much sand or silt?
- Compare your sample to another group's sample and discuss the similarities and differences.
- What can we add to soil to make it more fertile?