# Experiment 2: Water and soil

Water interacts with different soils in different ways, impacting the plants and animals that can live there. Some soils don't absorb water (hydrophobic), and the water runs away before it can sink in, carrying away nutrients. Some soils let the water flow through too fast without holding any water for the plants and animals in the soil. And some soils hold some water and let some water go through to the groundwater. Let's take a closer look!

**Materials required:**

- 1.25L soft drink bottles (1 per soil sample)
- coffee filters
- soil samples (e.g. dry hard soil, sandy soil, gravelly soil, garden soil, clay soil)
- measuring cup or jug (250ml water)
- tray to catch water.

**Instructions:**

In the interest of time, you might like to prepare steps 1-3 before the lesson.

1. Cut the soft drink bottles at approximately the 1/3rd mark below the top of the bottle to make a funnel and a container.
2. Place the funnel with the small end pointing down into the top of the container. Put a coffee filter in the funnel.
3. Fill the funnel to the brim with your soil sample. Pack the soil down firmly.
4. Place the bottle in the tray and carefully pour 250ml of water into the funnel.
5. Record your observations.

**Notes:**

Discuss your results -

- Which samples ended up with the most water in the container?
- Which samples held the most water?
- Which samples couldn't absorb the water and saw the water overflow?