

Experiment 2: Do all soils hold water equally well?

Plants need the right amount of water to grow. Is all soil good for growing plants?

Hypothesis: Sandy soil does not hold water as well as soil with more plant and animal matter.

Method

1. Measure one cup of sandy soil into a jar.
2. Measure one cup of water and slowly pour it onto the sandy soil. Record any observations in your log.
3. Repeat steps 1 and 2 with garden soil and potting soil ('compost' you might buy from a garden centre). Use a different jar for each soil.
4. What do you see in each jar? Record your observations in your log.

Health and safety

Always wash your hands after you have touched soil. If you have a cut or graze, cover it with plaster before touching soil.

Now let's see how much water is held in the soils.

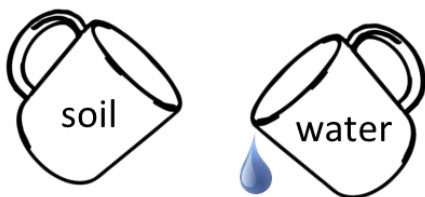


Photo by Kier in Sight on Unsplash

5. Place a small sieve over an empty measuring jug. Pour the sandy soil from the first jar into the sieve. Wait for ten minutes. How much water came out of the sand? Record the results in your log.
6. Repeat step 5 for the garden soil and potting soil.
7. Which soil released the most water? Which soil held the most water?

Science explained

Plants take in water through their roots. Plants need water – but not too much or their roots will rot.

Sandy soil does not hold as much water as soil with more plant and animal matter. Sandy soil is not as good as some other soils for growing plants.

How to do an experiment like a scientist:



- Start a **log**. Write down your questions and **hypothesis**.
- Plan step-by-step how you can test the hypothesis. This is called the procedure or **method**.
- Carry out the experiment and **record** everything that happens in your log. These are your **observations**.
- Compare your results with your hypothesis. Was your hypothesis right or wrong? What did you learn? The answer is your **conclusion**.

Glossary

Conclusion

What you learn from the results of an experiment.

Experiment

Organised way of testing an idea.

Hypothesis

Suggested statement or explanation that can be tested

Log

Written notes about an experiment

Method

Steps followed to carry out an experiment

Observations

Something that you notice (using any of your five senses!)

Results

What happens in an experiment