

Ecosystems

Additional teacher information

Fieldwork techniques

Soil fieldwork

Soil types

Students will use identification keys.

Lower ability at www.soil-net.com/sm3objects/activities/Activity_TestingSoil.pdf.

Higher ability at www.soil-net.com/downloads/resources/handtexturing.pdf

Another interesting experiment to demonstrate / do if you have the time can be found at www.soil-net.com/dev/page.cfm?pageid=casestudies_jamjar&menuplaceholder=casestudies

pH

Good introduction and basic info can be found at www.soil-net.com/dev/page.cfm?pageid=casestudies_ph&menuplaceholder=casestudies

Instructions on how to use a pH probe can be found at www.soil-net.com/sm3objects/activities/Activity_pH.pdf

Infiltration

Good demo for the classroom to help students understand that different soil types affect water transmission can be found at www.soil-net.com/sm3objects/activities/Activity_SoilSoaking.pdf

If you don't have an infiltrometer, the FSC have a section on their website looking at 'DIY fieldwork' using home-made equipment. Go here to find a simple infiltration method; www.field-studies-council.org/outdoorscience/diy.htm

Alternatively, you can use a stop watch to record the length of time it takes for water to be absorbed by different surfaces.

Microclimate fieldwork

Precipitation

Encouraging students to design and create their own fieldwork apparatus can really help them to understand the purpose of that technique. They will also enjoy making and using it, and develop a sense of 'ownership' over their data collection. It could also be developed into a cross curricular project between Geography and Science or Technology. Students could make their own rain gauges - one method can be found here:

www.ciese.org/curriculum/weatherproj2/en/docs/raingauge.shtml, or here:

www.metoffice.gov.uk/education/primary/teachers/raingauge.html

The gauges should be set up at each site prior to the fieldwork day (preferably left out), so that students can record the amounts on the fieldwork day. The guides suggest keeping the gauges away from vegetation, but don't worry if any of the sites are close to or under vegetation, as it may be interesting to examine the effects of interception.

Wind direction

Provide students with a weather vane, or encourage them to make / devise their own method. Some nice ideas can be found here:

www.epa.nsw.gov.au/resources/atmos_7.pdf, or here:

www.ciese.org/curriculum/weatherproj2/en/docs/windvane.shtml

Wind speed

Students, especially younger / lower ability students could use the Beaufort scale - a nice copy of this with a matching activity is available here:

www.epa.nsw.gov.au/resources/atmos_8.pdf

Alternatively, students could be provided with an anemometer, or create their own. There are some ideas here: www.epa.nsw.gov.au/resources/atmos_9.pdf or here:

www.ciese.org/curriculum/weatherproj2/en/docs/anemometer.shtml

Encouraging students to think about, and create their own fieldwork apparatus can really help them to understand the purpose of that technique. They will also enjoy making and using it, and develop a sense of 'ownership' over their data collection. It could also be developed into a cross curricular project between Geography and Science or Technology.