INFILTRATION

Purpose

To measure the rate at which water sinks into different types of soil and to see what effect saturation has on the speed of infiltration.

Activity

1. ***Choose a suitable patch of ground and note the type of soil or vegetation.***

2. ***Place the piece of wood on top of the pipe and hammer it into the ground up to the 3cm mark on the outside. Make sure the pipe is vertical.***

3. ***Pour water into the pipe until it is level with the 15cm mark on the inside and then start the stop watch.***

4. ***Record the time taken for the water to sink to the 10cm, 5cm and 0 cm marks.***

5. ***Wait exactly 5 minutes and the repeat instructions 3 and 4.***

6. ***Plot a graph of your results and those of other students.***

Teacher's Section

Requirements

A 20cm length of 10cm diameter plastic pipe (plastic soil pipe is ideal and odd bits can be obtained from building sites). One end of the pipe should have a bevelled edge, this can be done with a surform or coarse file. The pipe should be marked with a permanent marker pen as follows:
on the outside 3cm from the bevelled edge
on the inside at 3cm, 8cm, 13cm and 18cm from the bevelled edge but marked 0cm, 5cm, 10cm, and 15cm

Board 10cm by 20cm by 2cm
Hammer or mallet
Stop watch
Watering can full of water.

Notes

Different pairs of students should work on different types of ground.

Results

The water should sink in more slowly the second time. The water will infiltrate fast on sandy soils but slowly on clay.

Checks

Make sure the students wait the full five minutes and that the pipes are vertical