

Percolation



Essential Questions: What soil types have the fastest percolation rates? Which have the slowest rates?

Overview

As water enters and moves through a soil, it becomes available to the plant roots and animals which exist in that soil. The speed at which the water passes through the soil determines how long water remains in it. It also determines *how much* water the soil can retain for use by the soil organisms and plants. Many physical and chemical factors of the soil have an impact on how fast water moves through soil. However, it is not difficult to simply measure this speed in your soil samples.

In this exercise, you will determine the rate at which water moves through different types of soil. This rate is called the percolation rate, or permeability

Description	Percolation Rate
Very Slow	Less than 0.5 cm/hour
Slow	0.5 to 1.6 cm/hour
Moderate	1.6 to 5.0 cm/hour
Rapid	5.1 to 16.0 cm/hour
Very Rapid	More than 16.1 cm/hour

Safety

Follow standard safety rules and school safety rules for laboratory activities.

Materials

6 sets of soil samples

250-mL graduated cylinder

grease pencil

ruler

stopwatch

for each soil sample, you will also need:

cup with small holes in the bottom (around 10 oz. in size)

250-mL beaker to place below the container