

## Water Infiltration: Getting Water Where It's Needed!

One of the soil's important jobs is to absorb and hold water so it can be taken up by plants when they need it. Quick absorption of water is important, especially during heavy rainstorms.

*What can happen if the soil is not absorbing water quickly during a heavy rainstorm? (imagine you are an ant again... what would happen to you?)*

The speed with which water is absorbed by soil is called an **infiltration rate**. Two things can affect soil infiltration rate:

- **compaction**: when soil particles are squeezed together tightly
- **soil particle size**: remember soils are composed of different materials such as sand, clay, and organic material

We will test the speed at which soil is absorbed in 2 spots:

1. On the path of the nature trail area
2. Off the path of the nature trail area

*Which spot do you think will absorb water quickly?*

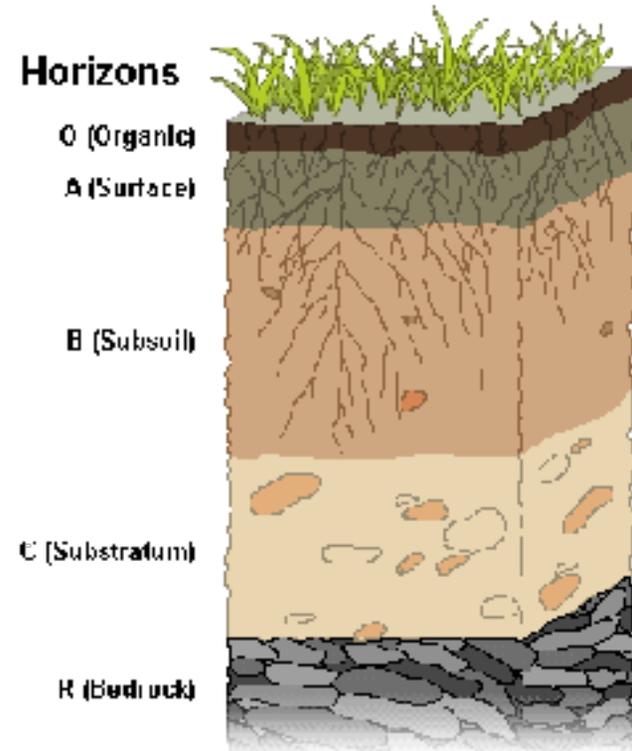
*Why?*

Did you guess correctly? Try this at home with your family! Just remove the top and bottom of a tin can and press 2 inches deep in the soil. Fill the can with water and time how long it takes for the water to be absorbed.

## Walking on Ecosystems: Microhabitats Under Foot!

An **ecosystem** is a community or group of living organisms that live in and interact with each other in a specific environment.

We walk on an ecosystem every day - our soil! Soil consists of several **soil horizons**, starting at the soil's surface. Each soil layer consists of different materials and organisms that help with soil production.



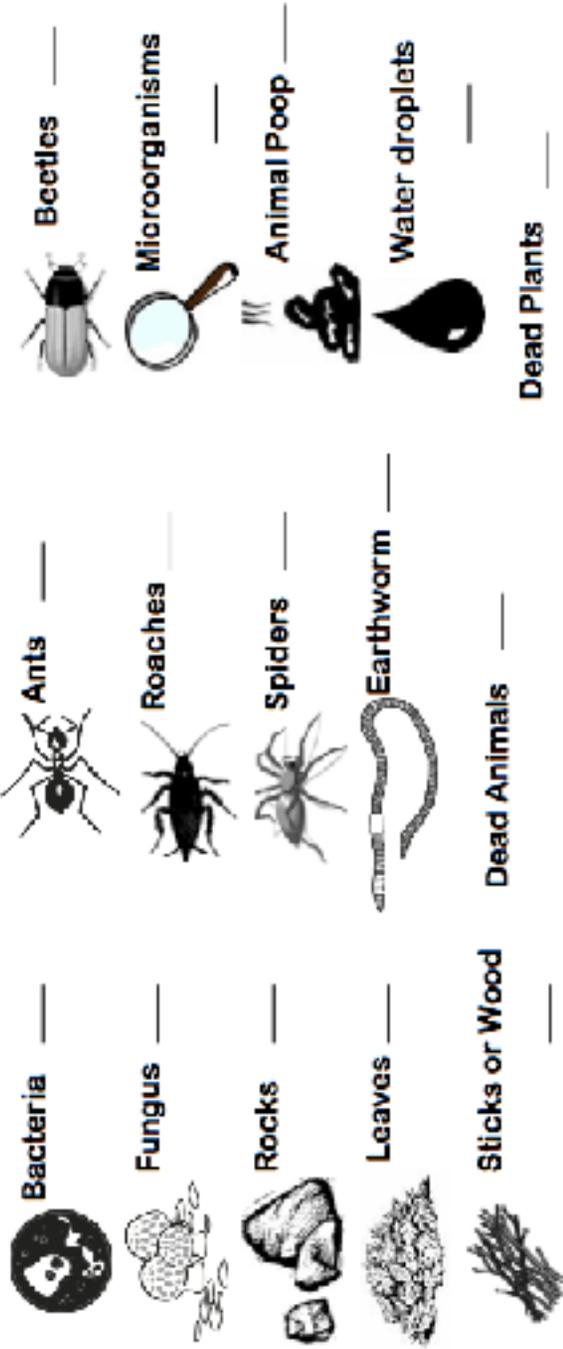
*Home challenge:* With a hand shovel and ruler, see how many different layers you can observe. Try digging 1, 3, 6 and inches deep.

Name \_\_\_\_\_

Top soil is the most productive layer of soil. How many years can it take to form 1 inch of top soil?

# Ant Trails

Pretend that you are an ant crawling along in the soil. The string is your "ant trail". Look for the different components of soil and the many organisms that live right under your feet. Make a check mark next to the objects and organisms you find. Be sure not to harm any living organism!



## My Soil's Better Than Your Soil

*Do different soils have different amounts of organic matter?*

The remains of living things found in soil are called organic matter. Organic matter can contain many different **elements**, but always has a large amount of **carbon**.

Organic matter adds important nutrients to the soil and helps the structure of the soil. This also helps keep the nutrients from washing away by rain before plants can use them.

*List some of the once living things that are now making up part of the soil:*

*List some of the decomposers that help break down the soil:*



**Soil Test:** Find a spot along your ant trail that you think has a lot of organic matter. Collect 2 tablespoons of the soil and place in the plastic cup. Carefully bring your soil sample back to the seating area. We will test your sample for organic matter.

*What place on campus do you think you'll find soil with a lot of organic material?*

*What place on campus do you think you'll find soil with very little organic material?*