

# How Soil Forms



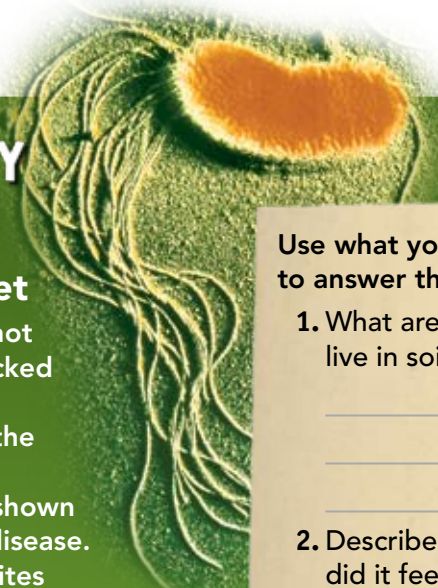
What Is Soil?

How Do Living Things Affect Soil?



## Life Beneath Your Feet

The soil beneath your feet may not look very interesting, but it's packed with life! Many microscopic organisms live in soil and affect the lives of other organisms. Some bacteria, like the *Pseudomonas* shown above, can protect plants from disease. Hundreds of thousands of soil mites can live in a single square meter of soil. And tiny worms called nematodes eat plants, bacteria, fungi, and even other nematodes!



Bacterium



Nematode

Mite

## FUN FACT

Use what you have read and your experiences to answer the questions below.

1. What are some examples of organisms that live in soil?

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\_\_\_\_\_

\_\_\_\_\_

2. Describe soil you have seen or touched. What did it feel like? How did it smell? What creatures did you see in it?

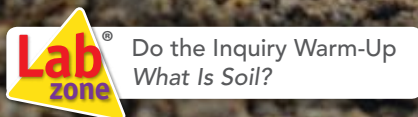
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PLANET DIARY Go to Planet Diary to learn more about soil.



## Vocabulary

- soil • bedrock • humus • fertility • loam
- pH scale • soil horizon • topsoil • subsoil
- decomposer

## Skills

- 🔍 Reading: Ask Questions
- 🔺 Inquiry: Form Operational Definitions

## What Is Soil?

Have you ever seen a plant growing in a crack in a rock? It may look like the plant is growing on solid rock, but it isn't. Plants can only grow when soil begins to form in the cracks. **Soil** is the loose, weathered material on Earth's surface in which plants can grow.

**Soil Composition** Soil is a mixture of rock particles, minerals, decayed organic material, water, and air. One of the main ingredients of soil comes from bedrock. **Bedrock** is the solid layer of rock beneath the soil. Once bedrock is exposed to air, water, and living things, it gradually weathers into smaller and smaller particles that are the most common components of soil.

The particles of rock in soil are classified by size as gravel, sand, silt, and clay. **Figure 1** shows the relative sizes of these particles. Together, gravel, sand, silt, and clay make up the portion of soil that comes from weathered rock.

The decayed organic material in soil is called humus. **Humus** (HYOO mus) is a dark-colored substance that forms as plant and animal remains decay. Humus helps create spaces in soil for air and water. Humus also contains nutrients that plants need.

FIGURE 1

### Soil Particle Size

The particles shown here have been enlarged.

Graph Mark where a 1.5-mm particle would fall on the graph. What type of particle is it?

