

Soil Critters

Suggested Curriculum links (Grade 3)

Earth and Space Science: Exploring Soils

- 100-35 Investigate and describe how living things affect and are affected by soils.

Materials

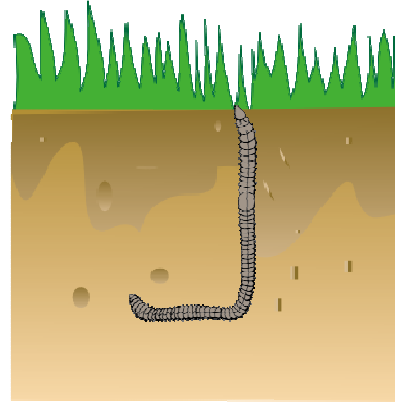
- Gravel/Small rocks
- Clear plastic cups
- Soil
- Grass seeds
- Paper
- Markers/Colouring pencils
- Scissors
- Tape/glue

Overview

Animals have an impact on our soils. In this activity students will discuss what these impacts are and display where these animals are in relation to the soil.

Objectives

- To show where animals are active in and on soil.



Background

Soils are crucial to life on our planet. It nurtures the plants that provide humans and animals with food and oxygen. The humus is the non-living organic matter comes from decomposing plant and animals. Millipedes and earthworms break down the decomposing material into simpler parts. Humus is important for providing nutrients for plants, and air space for root growth and movement of water.

Earthworms aerate the soil as they burrow through it help decompose waste material to add nutrients to the soil. Millipedes live in the top layer of soil with the rotting and dead plants which they eat and break down. Centipedes are carnivores and eat insects and other centipedes in the soil. Ants are insects that live in large colonies. They dig through the soil to make large nests made up of rooms connected by tunnels. Ground beetles generally live on top of the soil and eat other insects. Their larvae live in the soil. Dead insects or waste from carnivorous insects help add nutrients to the soil.

Procedure

1. *Introduce/review how living things affect soils.*
Ask the students how they and/or their families have affected soils. Do they know of any animals that live in the soil or affect the soil? How do things underground affect the soil?
2. *Introduce/review living in the soil.*
Have the students discuss animals that live in and on

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Through hands-on, station-based activities, students will examine the relationship between soil and water as they investigate the effects of absorption, drainage and erosion. In doing so, your Grade Three students will discover that soil and water do not always mix!

the soil. Include earthworms, millipedes, centipedes, ants, and beetles. Discuss where they live in relation to the soil. Alternatively, have students research each invertebrate for where they live and what they eat.

3. *Colour in the animals*

Have students choose two animals that are active in the soil and two animals that are active on top of the soil. Ask the students to draw and colour these animals on small sheets of paper.

4. *Assemble a soil profile.*

Have the students make a soil profile. Add gravel to the bottom of the clear plastic cup and then add some soil, leaving about a 1 cm space at the top. Plant some grass seed in the soil and water it.

5. *Tape/glue animals on the cup.*

Have the students cut out their animal pictures and tape them on the cup to illustrate where they are active in relation to the soil.

Extensions

- Compare the activity of various animals. Draw a Venn diagram on the board and have the students list animals that are active in the soil, above the soil or both.
- Conduct a similar activity using insects, birds, mammals, amphibians and fish. Have the students draw a large wetland mural on brown craft paper. Ask them to research an animal, draw a picture of it and place it on the mural.

Resources

Websites

Kinder Nature - Background Information Soil: Critters of the soil.

<http://kindernature.storycounty.com/display.aspx?DocID=2005418951>

The Field Museum - Underground Adventure: Information on critters.

http://www.fieldmuseum.org/undergroundadventure/critters/critter_info.shtml

Books

Soil. Mayer, Cassie. Acorn. 2008.

Life in a bucket of soil. Silverstein, Alvin and Silverstein, Virginia. Dover Publications. 2000.

