

Soil

CONTENT TOPIC: Geology/Earth Structure

CONCEPT: Rocks and soil move through a continuous cycle.

CONTENT OBJECTIVE: To understand some living and non-living components of soil

INSTRUCTIONAL OBJECTIVES: The learner will: discuss components of soil.

OUTLINE OF CONTENT:

- I. Living components of soil
- II. Non-living components of soil

GOAL: To enable students to demonstrate the process of science by posing questions and investigating phenomena through language, methods and instruments of science

BENCHMARK: Awareness of our surroundings is a result of individual observations and prior knowledge.

CLASSROOM CONNECTORS

TIME REQUIRED: 30 minutes

MATERIALS:

Containers of soil and sand, magnifying glasses (1 per team of students), paper plate, 1 quart jar w/lid, baggie of soil with leaves, sand, etc.

SET:

Today we will look at something that we normally call dirt. What is a better name for dirt? (Soil) Think of a time when you were supposed to keep your clothes clean and you didn't. Tell your neighbor what happened (response - got into trouble for getting dirty, etc.) We are going to look more closely at soil.

INSTRUCTION:

We know that useful materials from the earth are called natural resources. Plants, air, forests, and water are all natural resources. SOIL is also a natural resource. Let's think of some ways that soil is important to us. Write on board as children brainstorm (i.e. animal homes, to plant crops in, etc.) What do you think we would find if we looked at the soil carefully? (Responses - bugs, leaves, rocks, etc.) We could find some living things, and some NON living things.)

Soil is made of many different kinds of matter. Most soil is made of weathered rocks. This means the rock has been broken down- some pieces may be large, others may be as fine as dust. Soil also contains matter that was once living. The remains of dead plants and animals have become part of the soil.

Let's look at a soil sample (Have a prepared baggy with a good soil combination small rocks, silt, decaying leaves, bark chips, etc. Pour the baggy contents into a quart jar. Add water. Shake. Let the contents settle as you go on with the rest of the lesson. Discuss *after* supervised practice.)

SUPERVISED PRACTICE:

I am going to give each group of children a container of soil and sand, a paper plate, and a magnifying glass. Pour the soil on the paper plate. Look carefully, using a magnifying glass. Classify the items you see as "living or non-living." Write on your paper 2 headings, living & non-living. Write the name of each item under correct heading. (Give students time to look at soil. Try to include live bugs, worms, and/or roots in each sample.

Class, let's write on the board the different things we found. (Compare and contrast lists. Discuss) Did everyone have the exact same things? (Response) Why or why not? (Samples may have been from different places.)

Look at jar. Discuss how items have settled, heaviest on bottom, organic matter on top.

CLOSURE:

What do we use to plant seeds in? (Soil) Tell your neighbor two things we might find in soil (Bugs, worms, roots, etc.) In your science journal, draw a picture and label one living thing and one non-living thing you found in your soil.

ENRICHMENT:

Scientist Connection - a soil scientist studies types of soil. A soil scientist could work for the Soil Conservation Office.

A scientist who studies the effects of man on the earth's crust is a geologist. A geologist may work to identify rocks and minerals, to develop plans for landfills, or for oil companies.