

Lesson # 1

Soil Out My Backdoor

Overview:

The following lesson acts as an introduction to the Soils Unit. The students will discover and explore the five soil forming factors.

Objectives:

The students will explore soil and soil properties through observation and manipulation.

Key Concepts: Sampling soil, classifying soil
Subject: science, earth science
Duration: 1 class periods
Setting: In the classroom
Season: Spring - fall
Interdisciplinary Connections Mathematics, language arts, social studies

Environmental Education @ the Cove River Site, and other coastal Connecticut settings.



Produced by the Graduate Students in Environmental Education EVE 546 Spring 2009



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Introduction:

Soils vary in their properties depending on where they have been sampled on a landscape and from what depth they were sampled. Begin this unit by discussing ways in which we use soil. Also discuss with the students different properties of soil; texture, smell, color, etc. For homework, ask the students to bring in a soil sample to class in a one liter plastic bag. The soil should come from their back yard or a park or lot close to where they live. Students should use their science lab notebooks to document their collection methods.

- see appendix A for more background information.

Materials:

Newspapers

One liter plastic bags

Local map and photos of the Cove River research site

Magnifying glass (one per student)

Soil samples

Engage:

Are all soils alike?

Begin this activity in a circle on the floor. Converse with the students on whether it was easy or hard to gather their soil samples. What part of their yard did it come from? Ask the above question to the class and generate conversation about soils. Brainstorm the uses and function of soil in our lives. Also get initial thoughts on properties of soil from the students. You can record their ideas on chart paper.

Explore:

1. Students spread out their soil samples for a close examination. They can use the magnifying glass for a closer look. Students should notice as many qualities about soil as possible (look, feel, smell, debris, heavy or light, etc) and record observations in lab notebooks.
2. Ask students to browse around the class and locate someone with a soil sample similar to their own. The similarities should be recorded in lab notebooks.
3. The students should also find a sample that is very different from their own and record those differences. Ask students to think, as they are observing the many samples, about what factors cause samples to be like/different.

Explain:

4. Meet as a class to discuss observations of soil characteristics.
5. Discuss the five soil forming factors with the class. Students should contribute ideas to the discussion, on which factors contributed to the characteristics of their own samples.

Elaborate:

6. Introduce students to the Cove River site through photos, maps, and a brief historical overview. Discuss future plans of field work at the site.

Evaluate:

Science lab notebooks serve as a wonderful tool for both teacher and student to keep track of observations and thoughts during field work as well as experiments in the classroom. The lab notebooks should be used in every class session.