

What is Soil Made of?

Created by: Judene Presley	Date:
Subject: Science	Grade Level: 4 th - 6 th
Time Required: 30 minutes	Standards: Standard: 4 Earth and Space Systems

Overview	Students will examine different kinds of soils found where they live and to discover if the same kinds of soils exist in rangeland.
Goal(s) & Objective(s)	Students will learn about the soil where they live, understand what soil is composed of, and compare the different kinds of soil and water run-off with a soil sample taken from rangeland.
Prerequisites and Materials	<p><u>Soiled Art Lesson (optional)</u></p> <p>Materials:</p> <ol style="list-style-type: none"> 1. Potting soil 2. Sandy soil sample 3. Clay soil sample 4. Soil sample taken from rangeland in the area 5. Soil sample with compost added
Teaching Activities: <i>Instructional Approaches/Strategies</i>	<p>Introduction:</p> <p>As a whole class demonstration, the teacher will show the class the different types of soil and let them feel it. Ask the students the following questions:</p> <ul style="list-style-type: none"> • How are the different soils alike and how are they different? • Which soil would be the better to plant flowers in? How did you determine your answer? • Which soil would retain the most water? Why do you think it would? • Which soil would erode the fastest and why? • What kind of soil do sagebrush and other rangeland plants grow in? Do you find the same kinds of soil in the rangeland as you do where you live? Can this be determined from one soil sample? <p>Procedures</p> <p>The teacher can demonstrate or have areas in the classroom where the samples are set up and students in groups of 5 or 6 can do the experiment on their sample of soil and bring the information back to the class. If this method is used you would have 1 student pour the water, 1 or 2 students keep time, 1 student write down the time and what they observed, 1 student clean up and 1 student report to the class.</p>

	<p>3. Soil samples are put in containers and water is slowly poured over the soil types.</p> <p>4. Note the time it takes to absorb into the soil. Record the time from when the water is poured and when the water is absorbed or no longer seen on the top of the sample. If experiment is done by the students, have them bring back what they discovered and share with class.</p> <p>3. Did their observations support their answers to the questions the teacher had asked earlier?</p> <p>Closure</p> <p>Discuss what are the ingredients of “good” soil. Using an illustration of a soil profile, talk about the composition of the different layers of soil (see attached example of soil profile). Did they find these components in the soil taken from the rangeland? Is there a reason just certain plants grow on rangeland?</p>
Assessment:	<ul style="list-style-type: none"> • Create a soil profile- either by drawing & coloring it or with construction paper (attached)

Resources:

- <http://www.pssac.org/SoilTeachingUnit/SoilUnitIntro.htm>
- http://www.bbc.co.uk/schools/ks2bitesize/science/materials/rocks_soils/read4.shtml
- <http://42explore.com/dirt.htm>
- <http://www.google.com/search?q=soilrprofile>

