

Soil Painting

Grade: First through Fifth Grade

Subject: Science & Visual Arts

Objectives: Students examine soil. Students learn that food, clothing and shelter come from soil.

Standards:

- Learns elements of design: lines, patterns, color.
- Experiments with elements of design through various mediums.
- Compares and contrasts the Earth layers.
- Uses microscopes for observations.
- Distinguishes how soil affects plants.

Supplies:

- 2 – 2.5 cups of various soil samples
- Re-sealable plastic freezer bags
- Rolling pin
- Sifters – 3 different mesh sizes (the smallest mesh would be close to a tea leaf strainer)
- Paper plates
- Plastic cups
- Stir sticks
- Water
- 5 oz Clear Acrylic Medium
- Water color paper (this is thicker than normal paper and withstands the wetness of the paint)
- Fine point permanent black markers
- Variety of paint brushes

Background:

Without soil, we would have no food, no clothing, and no shelter. From gardens and farms we get vegetables and the grains we use to make cereal and bread. Fruit grows on trees and vines that grow in the soil. Trees also give us lumber. The wood can be used to make paper, paints and other products.

The food we feed our animals comes from the soil, too. Cows eat grass, hay, silage and grain to produce milk and meat. Plants grow in the soil. Besides food, animals also supply us with leather and with by-products used in paints, camera film, pet food, rubber, crayons, lotions, soaps, leather, medicines and much more.

Soils come in a wonderful range of hues, from black to yellow to deep red. Soils are important for the beauty their many colors add to our landscapes. Most of us overlook this natural beauty because we see it everyday. For many years, soil colors have served as pigments in bricks, pottery and art work. The color and texture of soil painting is a fascinating and creative opportunity for students of all ages.



Procedure:

1. Ask students to scoop a half-cup of soil from where they live and bring it to school in plastic bags.
2. Use a rolling pin to break down the large clumps of soil.
3. Pour the contents of the bag into the sifter with the largest mesh.
4. Sift the soil through onto a paper plate. Put the large particles that are separated off to the side.
5. Pour the contents from the paper plate into the shifter with the medium mesh.
6. Sift the soil through onto a paper plate and set aside the large particles.
7. Pour the sifted contents from the paper plate into the shifter with the smallest mesh.
8. Sift onto a paper plate and set aside the large particles.
9. Pour the finest particles of soil onto the paper plate into a plastic cup you will need ½ cup of powdered soil.
10. Add enough water to make a “mud brownie.” Stir until combines.
11. Add 1-3 tsps acrylic medium (3 tsp = 1 ounce). Stir until combined and smooth. You want the consistency of craft paint.

A pictograph (cave drawing) is an easier drawing for younger students. Older students could develop a landscape drawing. In landscape drawings, use geographical terms to describe objects and include them in the fore ground, middle ground and background. Use drawing techniques to add perspective. Add shading and other small details before painting. Using a pencil, start with a basic drawing. Have students define the details of their project with ink pens. Black ink shows through the soil paint. Using a variety of brushes, add color to your drawing with the paint samples.

Additional Activities:

Place all bags on a table and compare the colors and textures of the soil. Wet a small amount of soil and have students work it between their fingers. They should feel for grittiness (sand), smoothness (silt) and slickness (clay). Have students look at the soil through a microscope or magnifying glass. (Science)

Put handfuls of different soil in separate clear containers. Fill the containers with water and shake until the water is cloudy. Set the containers aside and compare them after an hour or two. The largest soil particles will sink first, and then fine particles will float to the top. The film on top is called humus. Good harden soil will have several different particle sizes. (Science)

Take cuttings from two or three easy-to-grow houseplants (philodendron, aloe vera, spider plant), and place them in water until they begin to grow roots. Place cuttings from the same plant in different soil types – one in good potting soil, one in sand and one in clay. Have students watch the progress of the difference plants over a period of time and chart which plant do best in which kinds of soil. (Science)

Have students map the soils on a color wheel and discuss the hue locations. (Art)

Have students draw pictures and outline them in glue, then sprinkle soil on the glue for color. (Art)

Additional Resources:

<http://www.nrcs.usda.gov/feature/lewisandclark/paintingwithsoil.html>



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