

Soil Sample Bottles

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When starting a garden, one of the first things garden books suggest is to analyze the type of soil in the garden. For this test the three soil classifications are clay, loam, and sandy. The soil type, determines the amount and type of organic matter that needs to be worked into the soil.

The idea is to take a soil sample from the garden, put it in water, shake it up, and then let it sit. After about between 12 - 24 hours layers should appear in the bottom of the jar. Sand will be the bottom layer. Clay will be the top layer. Silt will remain suspended. Floating on the top will be all of the organic material, aka compost. The size of the layers determines the type of soil in the garden.

When working with pre-school students, this test can be done in soda bottles. (Soda bottles are sturdier than water bottles and the lids are deeper which makes them harder to remove by the children.) In the soda bottles the samples can be tested over and over by the children and they can see if the results change. Another benefit of doing these samples in soda bottles is that after the aerobic and anaerobic processes have stopped the sides of the bottles sink in. This gives the teacher another talking point about how soil is alive with microorganisms that keep the nutrients moving and the plants alive.

When I did this I took samples from our two gardens, the sandbox, our “mudbox”, and a planter I set up for my one-year-old class. Each of the samples has a different layering signature and the water, after everything settles, is a different shade.

MATERIALS:

Soil to sample
Soda Bottles with lids – one for each sample
Water
Trowel

INSTRUCTIONS:

1. Clean out the soda bottles so there isn't any sticky soda left in the bottle.
2. Remove the label
3. Choose where you want to take your sample(s)
4. Dig a small hole
5. Along the edge of the hole dig a thin slice of the soil.
6. Remove the lid of the bottle
7. Pour the soil into the bottle
8. Add water to within two inches of the top of the bottle
9. Screw the lid back on tightly (You can hot glue it on for security)
10. Shake to bottle
11. Let it settle and see the layers that form.



These are the gardens some of my samples came from.



Sand box



Mud box



My planter for the one-year-olds



Planter 1 Planter 2 Sandbox Mudbox One-year-old Planter