FACTivity

In this FACTivity, you will explore soil just like the student scientists. The question you will answer is what is the soil profile like near my school or home?

Background: If you look in a soil pit or on a roadside cut, you will see various layers in the soil. These layers are called soil horizons. The arrangement of these horizons in a soil is known as a soil profile. Soil scientists, who are also called pedologists, observe and describe soil profiles and soil horizons to classify and interpret the soil for various uses.

Soil horizons differ in a number of easily seen soil properties such as color, texture, structure, and thickness. Other properties are less visible. Properties such as chemical and mineral content, consistence, and reaction require special laboratory tests. All these properties are used to define types of soil horizons.

Soil scientists use the capital letters O, A, B, C, and E to identify the master horizons, and lowercase letters for distinctions of these horizons. Most soils have three major horizons -- the surface horizon (A), the subsoil (B), and the substratum (C). Some soils have an organic horizon (O) on the surface, but this horizon can also be buried. The master horizon, E, is used for subsurface horizons that have a significant loss of minerals. Hard bedrock, which is not soil, uses the letter R.

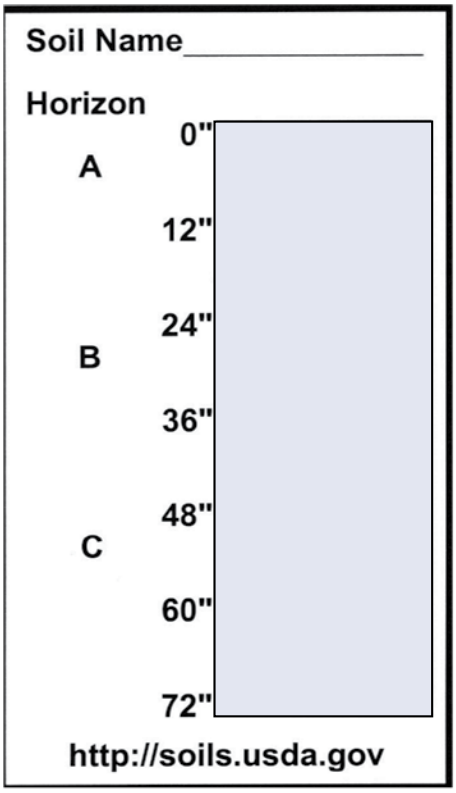
The method you will use is:

1. Get a copy of the soil profile card.
2. Attach some double-sided tape to the card. One inch, carpet tape is preferable.
3. Go out into the school yard and find a place where you can see the layers of the soil. If an area like this is not available, you may dig a small hole down into the ground to reveal the layers of soil.
4. Take a small sample of each layer of soil and pull back the sticky tape for the surface layer of soil. Place some soil on the tape to represent the depth of this first layer of soil.
5. Pull back the tape for each additional layer of soil and repeat the same procedure.
6. Properly dispose of any remaining tape.
7. The soil card can now be placed in an envelope or small plastic bag for protection.

8. You may want to repeat this activity at several different locations and compare the soil depths.

9. You may also want to create a drawing of a hill slope or the landscape to go along with this soil card.

10. After you have finished your soil cards, you can compare your cards with your classmates. Are they similar? Different? Why?



This FACTivity is from The United States Department of Agriculture Natural Resources Conservation Service.

A larger reproducible soil card is on the next page.

PLT

If you are a PLT-trained educator, you may use #70 "Soil Stories" as an additional resource.

For more information about this activity, visit http://soils.usda.gov/education/resources/k_12/lessons/profile/

Student Article Citations

www.semired.org/ash

www.inspection.gc.ca/eng

www.saveqourash.info

www.emeraldashborer.info

www.michigan.gov/eab

www.ohioagriculture.gov/eab

www.elmhurst.edu/~chm/vchembook/184ph

www.invasivespeciesinfo.gov/plants/garlicmustard

http://www.invasive.org/eastern/biocontrol/29GarlicMustard.html

www.invasive.org/eastern/biocontrol

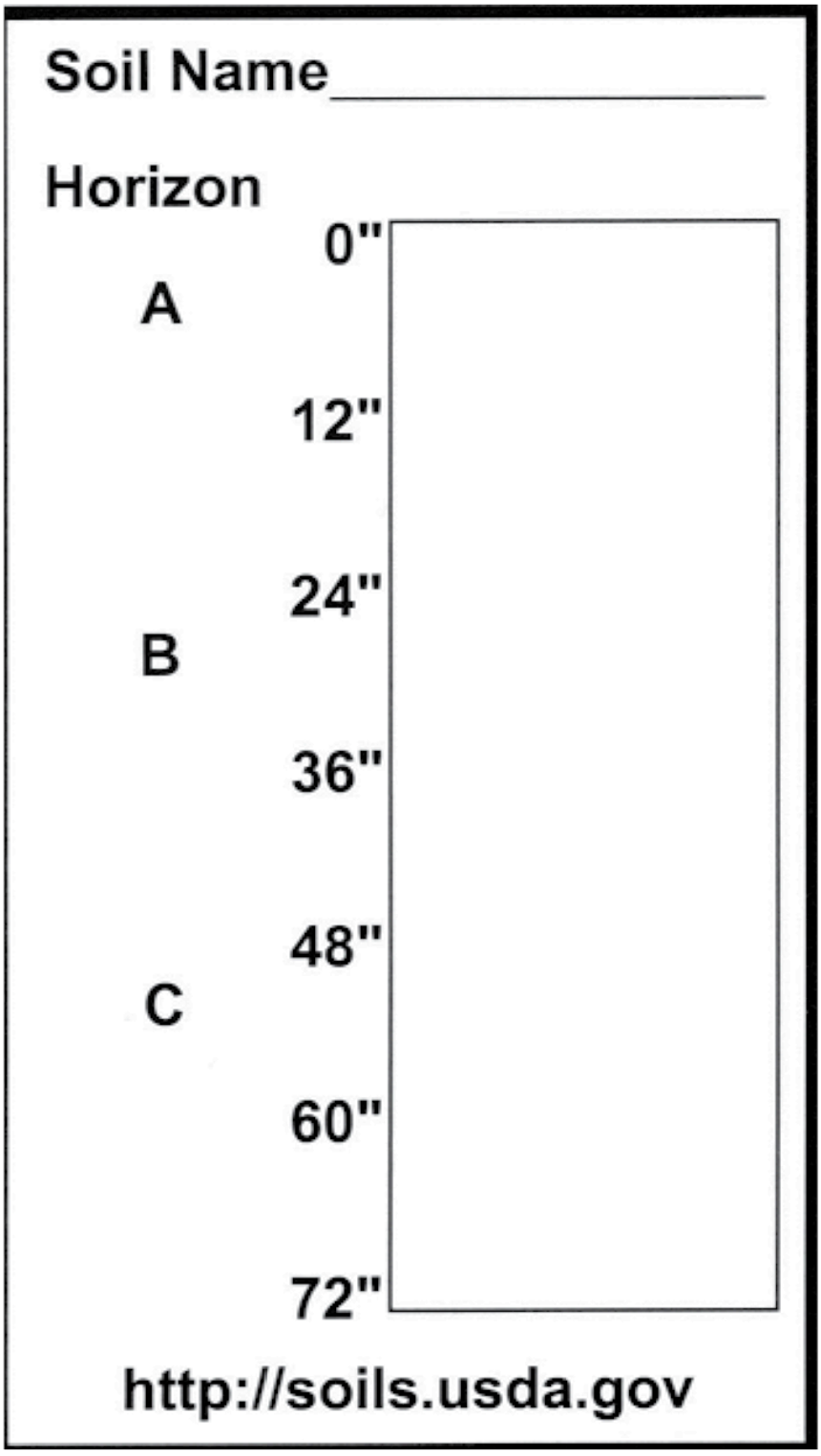
www.wildmanstevebrill.com

http://www.dnr.state.oh.us/tabid/1998/default.aspx

http://na.fs.fed.us/spfo/pubs/pest_al/garlic/garlic.htm

http://www.nps.gov/plants/alien/fact/alpe1.htm

http://www.nps.gov/plants/alien/pubs/midatlantic/alpe.htm


Soil Name_____
Horizon
0"
A
12"
24"
B
36"
48"
C
60"
72"
http://soils.usda.gov