Horizon Sampling

Field Guide

Task

Collect soil samples of each horizon.

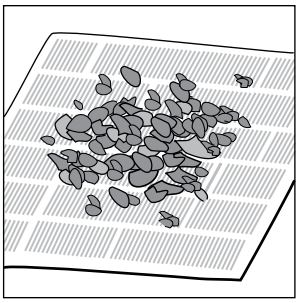
What You Need:

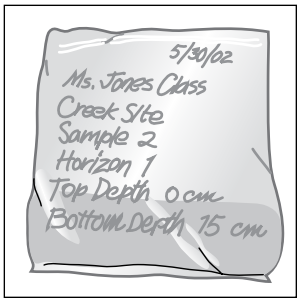
- ❑ Trowel, shovel or other digging device
- ❑ Latex gloves
- ❑ Sealable bag or container
- ❑ Marking pen
- ❑ Sheets of paper or paper plates for drying
- ❑ #10 Sieve (2 mm mesh openings)

In the Field

Collecting Soil Samples

1. Dig out a large soil sample from each soil horizon. Avoid the area of the soil face that was tested for carbonates and avoid touching the soil samples so that pH measurements will not be contaminated by acids on your skin.
2. Place each sample in a bag or other soil container
3. Label each bag with the site name, horizon name, and top and bottom depths.
4. Bring these samples from the field and into the classroom or laboratory.
5. Spread the samples on separate paper plates or sheets of paper to dry in the air. You can place the soil near a window where it will receive light from the sun to make the drying go faster.
6. Put on latex gloves so the acids on your skin do not contaminate the soil pH measurement.
7. Put the #10 (2 mm openings) sieve on top of clean sheets of paper and pour the dry soil sample into the sieve.
8. Carefully push the dried soil material through the mesh onto the paper. Do not force the soil through the sieve or you may bend the wire mesh openings. Rocks will not pass through the mesh and will stay on top of the sieve. Remove the rocks (and other pieces of debris) from the sieve and discard. If no sieve is available, carefully remove the rocks and debris by hand.
9. Transfer the rock-free, dry soil from the paper under the sieve into new, clean, dry plastic bags or containers.
10. Seal the containers, and label them the same way that they were labeled in the field (horizon name, top and bottom horizon depth, date, site name, site location). This is the soil that will be used for lab analyses.
11. Store these samples in a safe, dry place until they are used.





Frequently Asked Questions

What do the numbers and letters describing the soil color mean?

For GLOBE, the universal Munsell notation is used to identify the color of the soil.

The system is made up of 3 symbols representing the *hue*, *value*, and *chroma* of the soil color.

The **hue** is described by the first set of number and letter symbols in the Munsell system. Hue represents the position of the color on the color wheel (Y=Yellow, R=Red, G=Green, B=Blue, YR=Yellow Red, RY=Red Yellow).

The **value** is the number before the slash in the Munsell system. Value indicates the lightness of a color. The scale of value ranges from 0 for pure black to 10 for pure white.

The **chroma** is the number after the slash in the Munsell system. Chroma describes the "intensity" of a color. Colors of low chroma values are sometimes called weak, while those of high chroma are said to be highly saturated, strong, or vivid. The scale starts at zero, for neutral colors, but there is no arbitrary end to the scale.