Soil Dissection

Field Biology

With ONE partner, collect a small amount of soil (about ½ gallon; roughly the top of a shovelful) from the bank of the creek by the bridge or the forested area past the tennis courts. Make sure you are in an area that's not too grassy, rocky or trampled. Bring your soil back to the classroom and using one of the small plastic containers, inspect it carefully. Both you and your partner should examine the soil; don't make your partner do all the dirty work. INDIVIDUALLY write down the answers to questions 1-8; then using a computer, INDIVIDUALLY type your answers to questions 1-8, type up some estimates for questions a-d, and send your completed work to dan.bregar@corvallis.k12.or.us.

1. What is the physical texture of the soil? Loose, grainy, mucky, oozy, etc.?
2. What size particles do you see? Large rocks, gravel, pebbles, sand, silt?
3. What color is the soil? Dark or light, brown, orange, red, gray, black?
4. What does the soil smell like? Earthy, musty, sulfury, nothing?
5. How moist is the soil? Damp, dry, wet?
6. Can you squeeze the soil into ribbon by using your thumb and forefinger (you may need to add some water to the soil to do this)?
7. What types of organic material and living organisms can you see in the soil? Leaves, twigs, bark, bugs, worms, etc.?
8. Does the soil leave a stain or residue on your hands?

Based on your answers to the above questions, estimate the following:

a. Is the soil mostly sand, silt, clay, or some mixture?
   Sand – gritty, visible particles
   Silt – mushy, tiny (difficult to see w/out a microscope), but not gluey
   Clay – sticks together (gluey) – you can make a pretty long "ribbon" in #6

b. Is the soil a wetland soil or an upland soil?
   Wetland soil – smells sulfury and yucky
   Upland soil – smells earthy or musty

c. Is the soil highly biologically active?
   Look at the types of organic material – lots of roots, bugs, bark, etc. means high biological activity

d. Is the soil high in organic material?
   Dark (almost black) soils indicate high organic material. Red, light brown, or whitish soils are low in organic material. (Here we're talking about decomposed organic material as opposed to large chunks of bark, leaves, etc.)