LEARNING ACTIVITY:

How Can You Test Your Soil?

Grade Level: 5-9

We walk around on soil all the time, but how often do we think about what's in it? If you have ever looked closely at soil, you probably saw that it is made up of various types of particles and has various materials mixed in with those particles (rocks, twigs, water, air, worms, insects, and much more). Those things you can see.

But did you know that soil also contains things that we can't see and can only measure with chemical tests? These things — acids, bases, nitrates, phosphates, and potassium — are chemicals that affect what types of plants will grow well in the soil. As a citizen scientist, you can use a soil test kit to find out how much of each type of chemical is in your soil.

Materials

- Soil test kit
- Local soil samples in plastic baggies
- Notebook to record results
- Water supply
- Paper towels
- Plastic gloves

Procedure

1. Get samples of soil from various places in your yard or around your school (with your parents', guardians' or teacher's permission). You don't need much — about half of a small zip-closing plastic baggie of each type will do. When you collect your samples, record in your notebook where you found the soil and what kinds of plants, if any, were growing in it.

2. Put on the plastic gloves. Follow the directions on the soil test kit to test your soil samples. Most kits from garden centers will measure your soil's pH (how acidic or basic your soil is), as well as nitrate, phosphate, and potassium content. Be sure to wash your hands and clean up when you finish.

3. Record the results of the tests in your notebook. Did all the soil samples have the same results for each test? If not, how could you explain that? Ask the people responsible for caring for the places where you got your soil if they are adding anything to the soil. How could what they were adding affect the soil?

4. If your soil test kit has a list of plants that grow best in various soil types, compare this to the types of plants you found growing in your soil. Are these plants likely to do well in this soil? If not, how could the soil be changed so that the plants would do well? What would you need to add to it?

Soil Science Society of America

Source: Soil Science Society of America, 2006. Adapted with permission.