

## Focus on: Soil – Supporting Growth

This lesson is meant to connect the first grade soil learning objectives in the unit on Earth Systems, Structures and Processes with the real world application in the garden.

### Clarifying Objectives:

1.E.2.1 Summarize the physical properties of Earth materials including soil that makes it useful in different ways.

1.E.2.2 Compare the properties of soil samples from different places relating to their capacity to retain water, nourish and support the growth of certain plants.

### Key Vocabulary:

Definitions can be found at <http://learnersdictionary.com>

- Summarize
- Physical Properties
- Earth Materials
- Rocks
- Minerals
- Soil
- Water
- Compare
- Capacity
- Retain
- Nourish
- Support Growth

### Focus Question(s):

Why is the soil an important part of our garden? How do we take care of the soil that takes care of our plants?

### Materials:

- School Garden
- Science Notebooks
- Garden Gloves
- Trowels
- Gallon Sized Storage Bags
- Sharpie Marker
- Copies of the Soil Report

### Activities:

1. Have students explore the garden and investigate the soil.
2. Ask: *Why is soil important in our school garden?* Have students meet in groups to discuss. Then share ideas as a group. (It helps our plants to grow; it provides nutrients (food) to plants; it holds the roots of the plants helping the plants to stand up; it holds the

### Guiding Questions:

- Why is soil important in our school garden?
- Why do plants need soil?

<p>water so that plants can use it; it gives animals a home) If students don't come up with these ideas, question them or give them hints to come to the realization.</p> <ol style="list-style-type: none"> <li>3. Explain to students that the plants use nutrients from the soil just like we get nutrients from food. Every year we have to test the soil to see if it is healthy for the type of plants we will grow the next year. Farmers and gardeners all over North Carolina test their soil too.</li> <li>4. Today we have the job of collecting soil for all of our raised beds to send to scientists in Raleigh so they can test our soil and tell us how we can make the soil healthy.</li> <li>5. Listen closely so you will know how to get samples of soil. First be careful not to hurt the plants growing in our beds. Second, we don't want to just get the soil on top. We have to dig down deep into the soil where the roots grow to get our samples. Third, we don't want to leave holes in the dirt. Leave the garden like you found it. Fourth, be sure to get soil samples from all different beds.</li> <li>6. Everyone will get one small scoop of soil and only one!!! When you get your SMALL scoop of soil, bring it to your teacher or me – whoever is on your side of the garden. When we turn in the soil samples, they will test the soil on the left side of the garden separate from the soil on the right side of the garden.</li> <li>7. Pass out trowels and have the students collect their samples. Monitor to make certain they are doing it correctly and putting their samples in the correct bags.</li> <li>8. After the soil is collected. Give pairs of students the soil reports from the previous year. (You may want to partner up stronger readers with students who need more help reading.) Allow students to look at the report.</li> <li>9. Have to students look at the highlighted part of the report where it talks about lime. Ask the students if they know what lime is? (No, it is not the fruit!) Tell the students that Lime is actually a rock called limestone. Soil is partially made out of this rock. Did you find LOTS of rocks in our soil? (No.) Well when we add lime to our garden, it is actually a powder. (Show students the bag of powder.) A company takes the limestone and grinds it down into a powder and that is what we mix into our garden to keep the plants healthy. Because it is a powder, it is hard to see. The soil report tells us how much lime we need to add. Without the soil report, we might add too much or not enough lime. I'm sure glad scientists can help us to know how much to add!</li> <li>10. Does anyone have any questions?</li> </ol>	<ul style="list-style-type: none"> <li>- What would happen if we didn't have any soil?</li> <li>- What is soil?</li> <li>- What is soil made of?</li> <li>- Why do we need a soil report?</li> </ul>
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