

Focus on: Soil and Rain

This lesson is meant to support the unit on Plants on Earth. It ideally should be done after students explore humus and its capacity to hold water. This lesson will be a little difficult to plan for as it requires 2 different types of rain – a light rain/sprinkle and a heavier/ several hour rain. The lesson itself does not take long, but you will have to schedule it in accordance with the rain.

Clarifying Objectives:

3.L.2.2 Explain how environmental conditions determine how well plants survive and grow.

3.L.2.4 Explain how the basic properties (texture and capacity to hold water) and components (sand, clay and humus) of soil determine the ability of soil to support growth and survival of many plants.

Key Vocabulary:

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

- Survive/ Survival
- Environment /Environmental
- Conditions
- Properties
- Texture
- Capacity to Hold Water
- Components
- Sand
- Clay
- Humus
- Soil

Focus Question(s):

What effect do different types of rainfall have on soil in the garden?

Materials:

School Garden
Garden Gloves
Trowel/hand shovel
Science Notebooks

Activities:

- After a light rain or sprinkle, take students to the garden to explore the soil.
- Examine the soil visually without touching it.
- Discuss.
- Dig into the soil to see what it looks like a few inches down.
- Discuss.
- Repeat this exploration after a heavy, several hour rain.
- Discuss the differences and the impact the different types of rain has on garden soil.
- Record findings in science notebooks.

Guiding Questions:*Before visiting the garden:*

- What do you think happens to soil when it rains? (Many people mistakenly believe the garden gets muddy after all rainfalls.)
- How do you know?
- What makes you think that?

When looking at the soil after the rainfall, but before touching the soil:

- How does the soil look?
- How do you think it feels?
- What do you think the soil will look like if we dig a small hole?

After digging into the soil:

- How does the soil look?
- Does it look the same or different than the soil on top?
- How does it feel?
- Will this type of rain reach the roots?
- Will it help water the plants at all?

After both explorations:

- How was the soil similar or different after each type of rain?
- Which type of rain did a better job of watering the plants?
- How much rain is necessary to thoroughly water the plants?
- Is there anything that can be added to garden soil to help it retain the water? (more humus)