Feeding Our Garden

Description
Students will observe soil and the invertebrates that live in the soil and they will feed the garden with compost.

Guiding Question
What is in our soil?

Big Idea
Healthy soil makes healthy plants and people.

Learning Objectives:
- Students will understand that healthy soil is living
- Students will learn that our soil has nutrients that are necessary for healthy plants to grow

Vocabulary:
- Invertebrate - Invertebrates are animals without backbones
- Soil – Living ground or earth that we plant in
- Dirt – Ground lacking nutrients and life
- Nutrients - A substance that provides nourishment essential for growth and the maintenance of life
- Decompose - break down or cause to break down into component elements or simpler constituents
- Compost - decayed organic material used as a plant fertilizer

Materials:
- Compost
- Magnifying glass
- Tray
- Trowel
- Buckets
- Shovel
- 3rd – 5th:
  - Crawler worksheet (*Appendix A*)
  - Clipboards and pencils

Engage (5 mins)
Walk and Talk: Have students make two lines and talk to partner on the walk to the garden: Why is healthy soil important? OR Have them take 1-2 minutes in the garden to talk to partner about this question.

Explain (5 mins)
Today our garden lesson is about what lies beneath our plants. We are going to talk about healthy soil. Does everyone know the word soil? It is like dirt. But dirt is dead and soil is living. On the playground you have dirt because all it is used for is to run around on. There are not many bugs and or living things down there. In our garden we want soil. It is alive and has lots of nutrients. Can anyone remember what the role of the roots is for the plant? (to suck up nutrients & water). So plants eat from the soil through their roots. Think about your empty plate after dinner. If you got hungry again would you go back to your empty plate? (No) You would make more food! So the plants in our garden have been eating from the soil all summer long. And now we need to take care of the soil by feeding it so that it can feed more plants in the next growing season.

We will explore two ways to create healthy soil today. Bugs or- invertebrates help our soil and plants. Define. We will observe how they help the plants get nutrients from the soil.
Another way to make healthy soil is by adding compost. Define. Make connection to school cafeteria. It is nutrient-rich because all the food broke down into compost and all the nutrients in our food are now available in the soil in a way that plants like. You will compare the soil the plants live in now with fresh compost, then spread on the fresh compost to feed the plants.

**Explore (30 mins)**

*Station 1: Compare garden soil with compost (8-10 mins)*

Dig a small amount of garden soil onto a tray next to compost. Students use their senses to observe and describe garden soil and compost. Lead children to understand which one is healthier. Reinforce that one has been depleted by plants eating from it while one is fresh and has lots of nutrients from decomposed food. Which soil do we want to grow food in? *(nutrient rich one)*

*Station 2: Adding compost to plants (8-10 mins)*

Students shoveling and spreading compost around base of plants. Discuss why it helps plant *(adds nutrients, feeds them)*. Discuss why healthy plants help us *(it will be more nutrient-rich)*. Change level of assistance based on grade.

*Station 3: Crawler hunt (8-10 mins)*

Students search for crawlers in the soil. Dig, look under rocks, or pull up a weed. Have students use magnifying glass to see what the creature is doing *(eating? making a tunnel?)* Explain to students that it is good to have crawlers in the soil because they break down organic matter, add more nutrients, and aerate the soil.

**K-2nd grade**: Find one or two crawlers for whole group to observe

**3rd-5th grade**: Use garden crawler sheet to circle what they find.

**Evaluate (5 mins)**

Everyone meets back in the circle. Ask:

→ What did they observe?

→ Do the plants have healthy soil?

→ How do plants get the nutrients from the soil?

→ How do nutritious plants help us?

**Curriculum Connections**

- Science K.LS1.1. Use observations to describe patterns of what plants and animals need to survive.
- Science 4.ESS2.1 Living things affect the physical characteristics of their regions.
- Science 5.P S1.1 Develop a model to describe that matter is made of particles too small to be seen.
- Science 5.LS2.1 Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.
- ELA. Literacy.L.3.3.A Choose words and phrases for effect
Appendix A

Insects In The Garden

Beetle
Bee
Grasshopper

Ant
Butterfly
Ladybug

And Other Critters Too!

Maggot
Spider

Snail/ Slug
Centipede
Worm

Roly-Poly
Larve/Eggs