Can you Dig it?

Core Standards:

4.1.K.A: Identify similarities and differences of living and non-living things within the immediate and surrounding environment.

4.1.K.D: Observe and describe what happens to living things when needs are met.

4.3.K.B: Recognize the importance of conserving natural resources.

4.4.K.D: Identify tools and machinery commonly used in agriculture.

4.5.K.B: Identify common pests in our homes, gardens and neighborhoods.

AL.3.K.C1: Use materials and objects to represent new concepts.

AL.3.K.B1: Create an object to serve a functional purpose.

Materials Needed:

Soil Seed balls Soil Web Game

Worms Seeds

Behavioral objectives:

Students will learn about soil and the importance of microbes that live in the soil. They will learn how to keep soil microbes healthy so that we can have healthier food. They will play a soil food web game and make a seed ball to take home to plant!

Introduction:

Introduce myself

Handwash pledge

Teaching Procedure/ Sequence:

Anticipatory set: I will hold a clear container with soil and earthworms. I will ask students to tell me what they know about soil.

Development**:**

The ABCs of Soil Health

A is for Abundant

- There are more microbes in one teaspoon of healthy soil than people on earth!
- Millions of species and billions of organisms – bacteria, algae, microscopic insects, earthworms, beetles, ants, mites, fungi and more.
- These species break down organic matter (compost) into rich, dark, stable soil.

B is for Bacteria

- Soil bacteria are key for soil fertility and plant health
- Bacteria are tiny, one celled organisms only to be seen with a special microscope
- A teaspoon of productive soil generally contains between 100 million and 1 billion bacteria.

C is for Cover Crop

- Cover Crops feed the soil throughout the year, prevent erosion and build organic matter.
- Cover crops prevent weeds and build organic matter in the soil.
- They can even provide a source of food for livestock.

D is for Diversity

- Growing a variety of plants builds stronger soil by providing a diverse diet for micro-organsims.

E is for Earthworm

- Earthworms are a farm's architects for building healthy soil.
- Earthworms consume 2 tons of dry matter per acre per year, partly digesting and mixing it to form healthy soil.
- They decompose dead and decomposing organic matter.

F is for Fungus

- There are billions of soil fungi.
- Fungi are microscopic cells that grow as long threads of strands and push their way between soil particles, roots and rocks. Which helps water to get through the soil.
- They also decompose organic matter in soil.

Soil Food Web Game

- Students will be in pairs and participate in a soil food web.

<u>Closure:</u>

To end our lesson on soils, you will make your own seed-ball to take home to plant in your yard or in a pot!

Seed-balls

- These seed- balls are made with potting soil, clay and water. You can press them into the ground or into a pot, add water and watch them grow!

Adaptations for students with special and individual needs:

Lessons will be adapted as per student's IEP. Students will be assisted in any manner necessary.

Evaluation of student learning:

Student learning will be evaluated during the soil food web game and in lesson questioning.

Self-evaluation of teaching: