



Soil Food Web and Worm Bin Building

Grade: 7th

Season: Fall/Winter

Essential Question: Why is decomposition important? How can we build healthy soil?

Objective:

- Knowledge: Students see the web of life in the soil and understand its connection to soil health.
- Skill: Students will be able to build a worm bin.

Materials: good ball of yarn, worm bin, worms, shredded paper, food for worms, spray bottle, decomposer poster, soil food web cards

Introduction:

What happens to leaves that fall on our lawns if we don't rake them up? An old tree that falls in the forest?

- Decomposition (*write the word on the board*)! There is all this life in the soil that breaks down organic matter (all the plant and animal material that was once living) by eating it – their waste becomes new food for plants. Our lesson today is going to be about **who** these organisms are!
- Have you ever seen mushrooms on a log in the forest? What decomposer is that? What else might you find under a log?
- Discuss worms, bacteria, and fungi

Why should we as potato gardeners care about decomposers?

- Make nutrients available for plants (by breaking organic matter into it's component elements)

Activity 1: Setting up worm bin:

What are an animal's 5 basic needs? (*Have students turn to a neighbor to discuss*) Food, water, oxygen, habitat, liveable temperature (*write on board*). How do these apply to worms? Think about where worms live. What is it like? How can we mimic that environment?

- Oxygen: do earthworms breathe? Yes, through their skin
- Moisture and Drainage. How do worms need water?
- Darkness and Bedding: Do earthworms have eyes? No, they have receptor cells that are sensitive to light



- Food
- Temperature: 55- 77 degrees F
- Discuss: What will this worm bin turn into? What will live in here? How will this worm bin help our garden?
- The correct word for worm waste is worm “castings”

Activity 2: Play Soil Food Web Game

- How is a food web different than a food chain?
- What if we kept building this web all day?
- How would this food web be different if it had fewer characters?
- What if a few characters were cut out of the web? (option to literally cut a few characters off with scissors?)
- How does this web affect you? Your health?

Wrap up: Have students make a “Dos and Don’ts” poster for the worm bin or a “How to make a worm bin” brochure

Extensions:

- Cover Crop lesson
- Separating and harvesting worm castings for planting
- Worm casting tea experiments
- Decomposer Tag