



Worm bin

Grade Level: Preschool

Season: Spring or Fall

Larger IGS Unit

Soil, In the School Garden

Essential Question

How do we make compost?

What do worms need to survive?

What's a worm's job?

Objective

Students will explore a worm bin while discussing the process of decomposition and learning how to take care of worms. They will make a small worm bin for their classroom, which they will care for and then have compost that they can add into their garden. This activity is a follow up to the Decomposition Game.

Materials

Established worm bin (borrow from another school if yours doesn't have one, or build your own: <http://compost.css.cornell.edu/worms/steps.html>)

Tennis ball container or clear quart yogurt container

Large pail for mixing

Bedding material: brown packing paper, brown paper bag, newspaper, shredded paper or hay

Spray bottle

Lettuce bits

Sand

Compost/ soil

5 gallon bucket

Black construction paper

Cheesecloth

Intro

Looking at the worm bin, ask students what they notice. Be sure to point out air holes for worms to breathe and show them the lid so that worms can stay dark. Brainstorm a list of what worms need to survive: food, darkness, air to breathe and moisture.

Activity

Take the lid off of the worm bin, and ask students where they think the worms are. Dig down to find them. Are the worms wet or dry? Do they like light or dark? Can we find what they like to eat? Encourage them to pick up the worms and make observations.



What are the worms making in the worm bin? What are the ingredients of compost? Point out worm eggs and baby worms.

Put away worm bin and transition into making a worm container for the classroom. Lay out ingredients and ask students to identify the different elements that will go into the bin. Begin with the bedding (brown/carbon part of the compost), which will make up the majority of the worm bin. If you're using paper, tear it up into small pieces. Put pieces into a 5 gallon bucket.

Rip up the lettuce (green/nitrogen ingredient of compost) for the worms to eat. Explain that worms do not have teeth so they eat soft foods in small pieces. Mix the lettuce and paper while spraying with water. Mixture should be wet but not soaked. There should be no puddles, but none of the pieces should be dry.

Add in a few handfuls of compost and sand. Hand out sand to everyone and have them hold it in their hand. Explain that because worms do not have teeth, they have something called a gizzard in their throat. They need to eat a little bit of sand and rocks, which will go into their gizzard and help to break up the food. Have them rub the sand in between their hands to feel how rough it is and explain that this is what happens in a worms's gizzard to break up food.

Have students pick out two-dozen worms from the bin and add them into their compost. Mix everything up in the pail, pack it into the clear quart yogurt or tennis ball container, cover with black paper and top it off with cheesecloth.

Wrap up/ Assessment

Ask students what they need to do to take care of their worms (darkness, moisture, food). Mark the starting point for the compost (or weight it) and have them check them every few days to see how this is changing and what the worms are doing.

In about two weeks, when the worms have composted the contents of the container, observe any changes to the volume/ weight. Bring the container out to the garden and add the compost in to the planting bed.

Extension

Build a school wide worm bin.