

Making a Worm Compost Bin

Preparation Time: 30 minutes
Total Lesson Time: 45 to 60 minutes to set up and then some time periodically over the next several months for observation

Background

Almost all the recipes in this guide generate some sort of food scraps. If your class or school does not already have a worm bin, here is how to get one started. The cycle of gardening, cooking, and eating completes itself when the class maintains a *vermicomposting* system, known commonly as a worm bin. The use of a worm bin not only demonstrates the process of decomposition but also allows students to feed worms the organic waste generated by cooking in the classroom. The compost bin or system is a habitat in which worms are only part of a small but complex food web. The natural by-product of the vermicomposting process—worm castings—may be used as a natural soil or potting mix amendment, thus recycling nutrients and organic matter.

For more information about worm composting, see Mary Appelhof's *Worms Eat My Garbage: A Children's Activity Book* (Flower Press). For suggestions about school or classroom vermicomposting activities, see Mary Appelhof's *Worms Eat Our Garbage* (Happy D Ranch).

Objectives

Students will be able to:

- Help build a worm compost bin.
- Understand how to recycle vegetables and fruit.
- Demonstrate how to compost food waste.

Materials

For the class:

- newspaper
- vegetable or fruit scraps
- 2 pounds red worms (check your local nursery)
- 2 quarts water
- 1 plastic storage container with lid (1 foot by 1 foot by 1 foot)
- large, slotted spoon
- drill with $\frac{1}{2}$ -inch and $\frac{1}{4}$ -inch bits
- 5 buckets

Preparation

1. Save the scraps from recipes that generate fruit or vegetable waste. Be sure to keep scraps covered to minimize odors and flies.
2. Drill holes of varying sizes ($\frac{1}{2}$ inch and $\frac{1}{4}$ inch) in all four sides of the plastic storage container. Holes should be about 4 inches apart from each other.

Doing the Activity

1. Ask students for their ideas about different ways to dispose of food scraps. If they do not mention it, tell them about composting as one way to recycle food wastes and explain about worm composting.
2. Introduce the activity by showing the worms to the students and asking them what kind of home the worms will need.
3. Provide each group of four students with a section of newspaper, a bucket with one pint of water, a large handful of soil, and a large handful of leaves.
4. Have students shred the paper lengthwise into one-inch strips and place them in the bucket.
5. Have each group of students use their hands to mix the paper, soil, leaves, and water.
6. Place the newspaper strips in the plastic container. Add the worms.
7. Place organic garbage (no meat or dairy products) underneath the layer of bedding.
8. Have students wash their hands after construction is completed.
9. After the students have constructed the worm bin, ask them to examine the components of the bin. Who are the inhabitants of the bin? What is their shelter? What are their meals? Where do they spend most of their time? How does this home compare with our homes? After the discussion, ask students to write a story from the worm's perspective about how it might feel to live in a worm bin.
10. Make sure the bin is covered and placed in a cool place, out of direct sunlight (optimal room temperature is 60 to 75 degrees). Add organic material once or twice per week in a different location of the bin. After two to three months, the worms should have digested the bedding and garbage and produced fertile worm castings.