

All About Energy Conservation

Investigation Data Sheet



Recycling Through Composting

Composting is an easy, natural way of recycling kitchen scraps and yard wastes, by changing them back into usable soil. Over four weeks, tiny bugs and worms do much of the work for you.

Objective

Make a compost bin to recycle organic materials.

Materials

- 6 feet of wire fencing
- 4 twist ties or fasteners
- a thermometer
- a watering container
- yard waste
- kitchen scraps
- dirt
- a stick or other object for stirring the compost pile

Safety Notice: All applicable laboratory safety rules must be followed. Students should not perform any experimental activity without the teacher's supervision and express permission. Students must follow safety guidelines and wear appropriate protective gear.

Procedure

1. Set up your compost bin in a convenient outdoor area. Arrange the wire fencing in a circle and tie the fencing together with twist ties or fasteners.
2. Add alternating layers of yard and garden waste and food scraps from your kitchen. The kitchen scraps can be things like fruit and vegetable peels, eggshells and coffee grounds. Do not use meat scraps or dairy products like cheese or butter, because they might attract unwanted animals. When adding yard and garden waste, use mostly dry and brown plant materials.
3. Top off the pile with a layer of dirt. This dirt contains the bugs and worms that will be the first creatures in your new compost pile.

4. Add a sprinkle of water if the pile seems dry.
5. Composting works because worms, bugs and even tinier creatures eat the waste you put in the bin. While they are busy munching, growing and moving around, they give off heat. You can measure the heat they give off and monitor the changes in your compost by taking its temperature. Measure the temperature of the pile and record it in the table below.
6. Allow your compost pile to sit for a total of about four weeks. After two weeks, return to the compost pile to measure the temperature of the pile and to see if anything has happened. Record the temperature and your observations in the table below.
7. Continue to monitor your compost pile for two more weeks. Stir the pile every week and make sure that it is not too wet or dry. It should be damp, but not soggy. After about a month, you have compost. It's dark and crumbly and has an earthy smell. Record the temperature of the pile and any observations in the table below. Use this compost in your garden instead of going to the store to purchase soil or fertilizer.

Conclusions

- Did the temperature of the compost pile change over time? If so, what caused this change to take place?

- How do yard waste and kitchen scraps become dark, rich compost?

- How does making a compost pile help to conserve energy?

	Temperature	Observations
Day 1		
After 2 weeks		
After 4 weeks		