



# Got to Rot\*

## Activity E.q

GRADE LEVELS: 4-6

### OBJECTIVES:

The student will be able to:

- Define composting
- Show that composting reduces the volume of vegetation waste and turns it into a usable product.

### MATERIALS:

Activity Sheet: Compost Data Sheet

One 2-liter soda bottle or gallon milk jug

Grass clippings, vegetable and fruit peels, weeds, coffee grounds (Do not use meat or fat waste. Bacteria could develop.)

Thermometer

Tray to hold waster

Black felt-tip marker

### PROCEDURE:

1. Begin lesson with the following discussion:

Because there is a scarcity of space for landfills, we must find another way to reduce the amount of solid waste. One way of doing this is by composting. Composting is collecting organic material such as grass clippings, leaves, kitchen scraps and manure, putting them in layers and aerating them so they will decompose into fertile humus (a brown or black material formed by the partial decomposition of organic material in or on soil). When composting takes place, the action of aerobic and anaerobic bacteria on the waste results in a significant reduction of volume. When the reactions are complete, compost is dark and crumbly with much of the original appearance no longer visible.

2. Ask students how they would construct a compost pile in the classroom and determine the change in volume of the solid waste.

3. Obtain a 2-liter soda bottle or gallon milk jug. Using a hammer and nail, put five holes equally spaced around the sides, 3 cm from the bottom.

4. In the container, place vegetables and fruit peels, grass clippings, weeds and coffee grounds. Pack tightly. Measure the height of the compost pile in cm. Record data on Activity Sheet A. Using a felt-tip marker, mark this level on the container.

5. Moisten thoroughly with water. Then add enough water to moisten twice a week.
6. Place the container on a tray so the water flowing through can be collected and observed. Mark observations on data sheet.
7. Mix compost twice a week.
8. Once a week before adding the water and mixing, insert a thermometer into the compost. Take for three minutes. Record the temperature on the data sheet.
9. Each week record the level of compost pile. (Mark the level on the container with the felt-tip marker and record on the data sheet). Also, record the color and the texture of the compost pile on the data sheet.
10. Determine the actual volume loss each week and the percentage loss.
11. Continue activity for six months.
12. Analyze the results of the data sheet.
13. Discuss the importance of composting in solving the solid waste problem by reducing volume.
14. Are there other benefits obtained from composting? (Plant nutrients in gardening)

**Related Activity:**

Prepare a compost pile at home.

\* Adapted from Du Pont: Solid Waste Management Curriculum K-6