



## NOURISHING AND NURTURING SOIL WITH COMPOST

### Let's Make Compost Cake

Select a permanent compost area for the garden that can be observed throughout the year. The area should be a minimum of three square feet. Begin collecting compost materials.

1. Review the nutrient cycle and ask students if they think it is possible to create a nutrient cycle in the garden. Create a list of materials that decompose with the class.
2. Demonstrate building a miniature compost cake with samples of browns, greens and soil (or old compost). Stress the importance of size, ingredients and moisture.
3. Go to the garden and equip students with shovels, tools and a wheelbarrow. Have students use their spading forks to loosen the ground where the compost pile will be.
4. Divide students into three groups: browns, greens and soil. Begin with a browns layer of stalky material to allow drainage. Groups rotate, adding layers of browns, greens and soil repeatedly until the pile is at least three feet tall. Browns and greens layers should be 4"-6" thick, soil layers should be 1"-2" thick.
5. Water each layer as it is added to the pile. Maintain a rectangular shape and keep the pile's corners square. Each layer must become a solid base for the next, or the pile may collapse and the heat needed for decomposition will be lost.
6. Instruct students to measure and record the dimensions and temperature of the pile. Have them draw the compost cake and make predictions about how the appearance will change over time. Check your pile monthly and make sure it is moist enough, adding water during dry periods.

#### Objective:

Students will observe the process of decomposition and the nutrient cycle by creating a compost cake.

#### Materials:

- Compost materials
- Shovels and spading forks
- Wheelbarrow
- Water access and hose with spray nozzle
- Meter or yard stick
- Compost thermometer

#### Vocabulary:

**Browns:** carbon-rich materials such as dead plants, leaves or straw.

**Decomposition:** the process by which tissues of dead organisms break down into simpler forms of matter.

**Greens:** nitrogen-rich materials such as grass clippings, fresh plant matter or food scraps.

This lesson has been adapted from Life Lab curriculum by California Foundation for Agriculture in the Classroom. For additional educational resources, visit [www.lifelab.org](http://www.lifelab.org). Reprinted with permission from National Gardening Association, [www.kidsgardening.org](http://www.kidsgardening.org).

#### California State Board of Education Content Standards

**Grade 4:** Science: 2a, 2b, 3d, 6b, 6c  
Math: Measurement and geometry 1.1

**Grade 5:** Science: 6a, 6f, 6g  
Math: Measurement and geometry 1.3

**Grade 6:** Science: 3d, 5a, 5b, 5e, 7h

This lesson can be easily adapted to meet the educational standards for a variety of grade levels.

