



TURN OVER A NEW LEAF

Contact Information

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Grades

K-1

Objectives

Students will be able to: 1) understand the needs of plants; 2) identify materials needed to make compost (enrich soil); and 3) design a mini-compost pile.

Method

Students experiment with seeds to understand the needs of plants. Students collect natural materials to use in making a mini-compost pile.

Materials

Seeds, plastic sandwich bags, cotton balls, soil, small plastic fruit boxes (strawberries), compost materials (leaves, grass clippings, twigs, prunings, straw, wood chips, etc.), newspaper, paper plates, spoons, cups

Vocabulary

Composting

Procedure

1. Discuss the needs of plants. Ask students what most green plants need to grow? (sunlight, water, air, nutrients from decaying plant and animal matter, material for plant roots) What makes soil good for plants? (nutrients, water, matter for the roots) Have you ever seen a plant die? What types of things cause a plant to die?
 2. Demonstrate seed germination and the needs of a plant by having each student conduct the following experiment:
 - a) Place a seed and a water soaked cotton ball in a plastic sandwich bag.
 - b) Seal the bag and place it in a windowsill that receives sunlight.
 - c) Make sure each bag is marked with the student's name.
 - d) Germination (sprouting) should occur in a few days (select seeds which germinate quickly).
 - e) Proceed with the other parts of this activity while waiting for the seeds to sprout.
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3. Show students samples of different soil types (sand, silt, loam, clay). Discuss good soil and poor soil. Introduce the term COMPOSTING. Explain that composting is a way to improve the physical properties of soil (texture and aeration). Composting is a natural (biological) process during which organic material, such as leaves, grass and selected kitchen wastes, are turned into a soil-like product. Yard and kitchen waste make up over 25% of our trash and garbage. This waste is often thrown away and buried in a landfill. Composting can transform yard and kitchen waste into a rich, organic soil additive and save valuable landfill space.
 4. Collect compost materials by asking students to bring them from home or from the school grounds and cafeteria. Each student should have their own plastic fruit box (strawberries). Have each student follow these steps in making a mini-compost pile:
 - a) Cover work area with newspaper.
 - b) Layer kitchen and yard waste with soil in the plastic fruit box until the container is 3/4 full. Add water (the moisture content should be about 50%).
 - c) Set the completed compost pile on a paper plate in a spot which receives approximately equal amounts of sunlight and shade each day.
 - d) Keep the compost pile moist but not soggy. Turn the compost pile once a week (use a spoon).
 - e) Test whether the compost is ready. Decomposition will occur in about 2-3 weeks, depending on the materials in the pile and how often it is turned. The compost is ready for use when it is dark red, brown, or black, and when the materials have broken down into small or fine particles.
 5. Have each student prepare a mixture of the composted material and soil in a cup and plant a seed. Leftover composted material can be taken home by family. Prepare a cup with soil only, plant a seed, and use it as a control to compare growth of student's plants. Observe plant growth.
 6. Discuss the need to compost kitchen and yard waste to save nutrients for plants, produce good soil and to save valuable landfill space.
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Source: Waste In Place, 1990 Keep America Beautiful, Inc.