Soda Bottle Worm Farm/Composter

Construct a worm farm to observe worms at work.

Materials: • 2-liter soda bottle • plastic tray for drainage • shredded newspaper • grass, shredded leaves, • fruit or vegetable scraps • one dozen red worms (red wrigglers) from a local gardening store or bait shop • scissors, nail, pliers, flame • black construction paper

Measure 8 inches up from the bottom of a soda bottle and cut off the top. The top should be able to slip over the bottom. Using pliers, heat the nail to burn several small drainage holes in the bottom of the bottle. Wrap a sleeve of black paper over the entire bottle. Prepare bedding for the worms by shredding black and white sheets of newspaper into 1-inch strips. Soak in water and squeeze out excess. Mix in pieces of leaves, grass, and soil. Fill the bottom portion of the bottle to the top with bedding. Fluff the bedding to avoid clumps. Add worms to the bottle. Do not use earthworms or night crawlers. Put the top portion on the bottle and cover with black paper to keep out light. Place a plastic tray under the bottle to collect excess water. Give the worms a few days to adjust to their new home. During this time they will develop a big appetite. Have students cut fruit and vegetable scraps into thin slices. Bury the scraps at least 1 inch deep. Never add meat or dairy. Maintain the worm farm by adding water whenever the bedding begins to dry out. When the worm population gets too high, some of the worms should be removed. Worms may be placed in a new farm or returned to the soil outdoors.

- Worms eat fruit and vegetable scraps; bread and other grains; tea leaves; coffee grounds; and egg shells. Worms eat basically what humans eat, except they are much less picky!
- If you can process your scraps before you introduce them into the compost bin, you'll find that your worms will eat them quicker. Worms go through smaller-sized food more quickly than they can larger-sized or whole food. In this respect, they are also like humans.
  - Sprinkle the surface with water every other day. You want your bedding to have the dampness of a wrung-out sponge.
  - Add more cardboard, shredded newspaper, hay, or other fibrous material once a month, or as needed. Your worms will reduce everything in your bin quickly. You will start with a full bottle of compost or paper/cardboard, and soon it will be half full. This is the time to add fibrous material.
• Don't feed your worms too much. If your bottle starts to smell, it could be because you are feeding your worms more than they can process. When this happens, the bedding can also heat up, killing off the worms.
• Don't feed your worms any combination of the following. These foods are difficult for the worms to digest:
  • Excessive citrus — no more than 1/5 of the total worm food
  • Meats or fish
  • Fats or excessively oily scraps
  • Dairy products (eggshells are fine)
  • Cat or dog feces
  • Twigs and branches
• Don't allow your worm bin to heat up past 90 degrees. You will cook your worms -- something no one should smell.
• Large amounts of green feeds (grass, alfalfa, etc.) heat up quickly and should be added lightly.