

Two-Liter Bottle Terrarium

Overview:

Use a two-liter bottle to create a small terrarium while teaching about plant lifecycles and the water cycle.

Links to Iowa Core:

Life Science (Grades K-2): Students will understand and apply knowledge of life cycles of plants and animals. Students will understand and apply knowledge of the basic needs of plants and animals and how they interact with each other and their physical environment.

Life Science (Grades 3-5): Students will understand and apply knowledge of organisms and their environments, including:

- Structures, characteristics, and adaptations of organisms that allow them to function and survive within their habitats.
- How individual organisms are influenced by internal and external factors.
- The relationship among living and non-living factors in terrestrial and aquatic ecosystems.

Life Science (Grades 6-8): Students will understand and apply knowledge of the interdependency of organisms, changes in environmental conditions, and survival of individuals and species. Students will also understand and apply knowledge of the cycling of matter and energy in ecosystems.

Earth and Science (Grades 6-8): Students will understand and apply knowledge of the water cycle, including consideration of events that impact groundwater quality.

Time: About 30 minutes

Materials:

- Two liter bottle
- Seeds or seedlings
- Soil
- Pebbles
- Activated charcoal and moss (optional)

Procedure:

1. Cut the two liter bottle about six inches from the bottom.
2. Layer the materials as follows: pebbles (1-2 inches), charcoal (1/2 inch), moss (1 inch), and soil (1 inch from top).
3. Plant your seeds or seedlings (beans tend to be fast growing and hardy plants)
4. Now slide the top portion of the bottle into the bottom. It may help to cut a slit in the bottom portion.
5. Make sure your terrariums get the proper amount of water and sunlight.

How it works:

Once your terrarium is constructed, it will have its own water cycle. Excess water collects around the pebbles on the bottom. Heat causes the water to evaporate into the air, and it condenses onto the top of the bottle creating little droplets which fall down like rain. As water drips through the soil, the moss acts as a screen holding the soil in place, and the charcoal acts like a filter, cleaning the water.

