

### Material Needed

- Large plastic container (milk jugs, soda bottles, or CD container covers are ideal)
- Masking tape
- Paint and brushes or markers
- Drill, hand or powered
- Saucer or tray
- Water
- Soil or dirt
- Seeds, as desired

### Grade Range

Pre-K  
K-2

### Topics/Skills

Art: Creativity  
Science: Plant Structures and Processes

### Learning Standards

NGSS: [Structures and Processes](#), [Interdependent Relationship in Ecosystems](#)  
CA Visual Arts Standards: [Creativity and Innovative Thinking](#)

### Duration

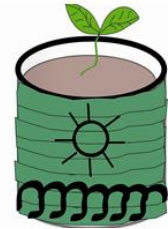
10-20 minutes

### Prep Time

5-10 minutes

## Seed Ease

**Making flowerpots is more fun than watching grass grow!**



Plastic containers, such as the bulk CD container cover shown above, are easy to make into a decorative flowerpot for growing plants or as a functional gift.

### Activity Challenge

Convert a plastic container into a flowerpot.

### Preparation

1. Review the Materials Needed list and gather the required items.
2. **For the Adult:** Drill 6 drainage holes in the bottom (closed end) of the plastic container.

### To Do

1. Wrap masking tape around the outside of the container in a long, smooth spiral for a streamlined look, or overlap short, torn pieces to create an interesting texture.
2. Paint over the tape in solid colors or patterns. Alternatively, use markers to color the tape. The flowerpot is ready!
3. Fill the flowerpot with soil/dirt and plant desired seeds, then add water. If the flowerpot will be indoors, put it on a saucer/tray.

### Observations

- See how long it takes for the plants to grow.
- How might adding more/less water or moving the flowerpot to areas with different amounts of light affect the plant growth?

### Extensions

- Make more flowerpots with different types of containers.
- Add commercial plant food to the container and observe its effect on plant growth compared to water and light only.

### The Content behind the Activity

Repurposing containers is a great way to reduce the amount of material often put into landfills and promotes a sense of resourcefulness among students. It's also a method of incorporating personal expression into a science-based learning experience. Making and decorating the repurposed flowerpots in this activity can be a fun, interdisciplinary exercise, linking art and science. Growing plants in the classroom is a valuable introduction to botany (plant biology).

Some hardy plants that can be grown in the repurposed container include peace lilies, aloe, and coleus. Students can also cultivate small fruits or vegetables, such as cherry tomatoes, strawberries, or herbs, if available. The holes in the bottom of the container are crucial for the roots of the plants to exchange oxygen and carbon dioxide with the air in the soil/dirt. Without holes the container simply traps the water, allowing it to fill the space between soil particles and preventing the needed gas exchange for healthy plant growth. Even if the surface appears dry, the underlying soil can be sopping wet! Roots that are submerged for long periods of time can succumb to root rot, a condition where the plant's leaves wilt and the stem weakens, causing the plant to die. As plants absorb water, especially tap water, they leave behind salts in the soil that were previously dissolved in the water. Excessive salt concentrations in the soil can also compromise the health of plants, so the drainage holes in the container allow unabsorbed water to wash away or dilute the excess salt in the soil.

Growing plants in containers is an important horticultural practice, and dates to ancient Egyptian and Greek civilizations. Portability allows plants to be given as gifts, easily moved indoors to protect them from inclement weather, and to be transported to new locations.

