Color me Carrots

Reference: www.kids-science-experiments.com/colouredflowers.html

Overview: Use fresh garden plants to demonstrate how water flows in a plant.

Subject area: Backyard Science

Grade level: K-2nd

Oregon Benchmarks/Common Core Standards:

- *K-LS1 From Molecules to Organisms: Structures and Processes*
  K-LS1.1: Use observation to describe patterns of what plants and animals need to survive
- *1-LS1 From Molecules to Organisms: Structures and Processes*
  LS1.A.: Structure and Function
- *2-LS2 Ecosystems: Interactions, Energy, and Dynamics*
  2-LS2.1.: Plan and conduct an investigation to determine if plants need sunlight and water to grow.

Objectives: Children will be able to see the pathways where water travels in a plant.

Prep time: 10 minutes

Lesson time: 20 minutes

Materials needed:

- 3-6 carrots with tops (leafy greens), pulled fresh from the garden
- Water
- Knife or scissors
- 1 clear glass jar per carrot (jars need to be big enough to hold a carrot upright)
- At least 3 colors of food coloring

Space needed: Area with a flat, stable surface

Staff needed: 1

Preparation steps: Fill each jar about half full with water

Presentation steps:

1. Add a different color of food coloring to each jar (you can mix colors to create new ones). Add enough to make the water fairly dark in color.
2. Harvest carrots from the garden and rinse soil off. Do not cut off the carrot tops (leafy greens).
3. Have an adult cut the bottom tips of the carrots off and place one carrot in each jar.
4. Leave overnight.

5. Cut open carrots length wise to see the changes in color. Changes will also be noticed in the green leafy parts.
6. Explain that the colored areas in the carrot are the pathways for water to travel to the leafy greens (the carrot top). Note: these pathways are called *xylem*.

Variations: This experiment can also be done using celery from the garden (keeping the leafy greens on) or light colored flowers.