

Blooming Flower

Georgia Standards of Excellence

S1L1. Obtain, evaluate, and communicate information about the basic needs of plants and animals.

- a. Develop models to identify the parts of a plant—root, stem, leaf, and flower.
- b. Ask questions to compare and contrast the basic needs of plants (air, water, light, and nutrients) and animals (air, water, food, and shelter).

Objective: Observe the action of capillary action in plants by experimenting with a paper flower. The capillary effect is the movement of a liquid along the surface of a solid caused by the attraction of molecules of the liquid to the molecules of the solid.

Materials:

- 6-inch Styrofoam dish
- Water
- A paper blooms cutout (attached)
- Scissors
- Colored pencils



Discussion:

Flowers that open and close can do so in one of two ways. Some flowers grow new cells each day on the inside to open the flower and on the outside to close the flower blossom. Other flowers open and close by expanding cells on the inside and outside of the flower by pumping water in and out of the cells. Light, temperature and even internal clocks can trigger these changes in flowers. When we put the paper in water, the water fills the particles of the paper causing them to swell. This swelling causes the simulation pedals to open.

Procedure:

1. With the colored pencils color the large and small pedal stencils
2. Carefully cut around the colored pedals.
3. Separately fold the large pedals and small pedals toward the center so they overlap.
4. Place the smaller folded pedal in the middle of the larger pedal.
5. Fold the larger pedal around the smaller folded pedal so it covers the smaller one.
6. Place some water in the small dish
7. Carefully place the large pedal (with the smaller on encased) pedal up in the water.
8. Observe what happens to the flower's pedals over time.

9. Try using crayons and/or Expo markers to see how it is different.

What is Happening?

The water gradually rises up through the tiny fibers in the paper. As the paper gets wet, it begins to swell. As the paper swells it causes the pedals to open up like a real flower.