

# Make a Rainbow Bouquet

**Overview:** A twist on the foundational activity of placing celery in food dye-treated water to learn about xylem, this activity results in a colorful bouquet of flowers to gift or enjoy while also illustrating the concept of water movement in plants.

Even after they've been separated from the roots of the main plant, stems will continue to draw in water to support themselves for a bit of time (how long they will continue to draw in water depends on the type of plant). Water is initially moved up through xylem cells due to capillary action, and then continues due to the principals of adhesion and cohesion fueled by the process of transpiration.

Use the following activity to observe the movement of water through a plant.



## Materials:

- white roses, carnations or daisies
- small to medium-sized vases or jars
- food coloring
- warm water
- scissors or pruners

**Approximate Time to Complete:** 2 to 4 days

**Location:** Indoor

**Ages:** 3 to 10 years old

**Season:** Any season

## Instructions:

1. Obtain a collection of vases or jars along with some white-blooming flowers, such as roses, carnations or daisies.
2. Fill your vases or jars with warm water and then treat them with different colors of food dye. You can experiment with different colors or by changing the strength of the dye by adding different amounts.
3. Cut the ends of your flower stems at an angle and then place in the colored water.
4. Over the next couple of days, watch as the water moves through the stems and petals, creating a colorful display.
5. Your blooms will continue to get darker over time. Once you achieve your desired bloom color, you can take your flowers out of the dyed water, re-cut the stems and arrange your new rainbow bouquet in a vase of fresh water.
6. If you would like to experiment, try placing a few of the stems in dyed water without re-cutting the ends and compare the speed of water movement to the speed in stems that you re-cut before placement.
7. If you really want to get fancy and create a rainbow flower not just a rainbow bouquet, with an adult's help you can try splitting the stem from the bottom into two pieces and placing the sides in vases with different colors of water.

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