

Dyed Flowers Experiment

Have you ever wondered how the water carries nutrients from the roots of your plants to the bud or flower? Plants are made up of different cells that all work together to provide nutrients for the plant. Plants need water in order to complete photosynthesis which, in simple terms, is turning Carbon Dioxide into Oxygen. This process provides food for the plant to grow. Water is also used to help support the plant so it stands up. Water takes nutrients from the soil to the leaves where photosynthesis can take place. Water travels through the plant on tubes called *Xylem* by *Capillary Action*. As one water molecule goes up it brings the ones below with it. Once it gets to the top, the water escapes through *transpiration*. That's how water is moved through the plant and is what you will be observing through this experiment.

Key Terms: Xylem, Capillary Action, Transpiration

Objective: Observe how water travels through a plant to the leaves by seeing the effects of colored water in the petals.

Materials

- 3 White Carnations with long stems
- 3 bottles of food coloring in assorted colors
- 3 clear 16 oz plastic cups
- Water
- Scissors

Directions

1. Fill each plastic cup with water half full
2. Add 3 drops of food coloring into each cup, making each cup a different color
3. Carefully cut each stem into thirds, one for each cup. You can do 2 colors and split the stem in half.
4. Place each stem in different color water cups making sure the flower won't fall
5. Wait various amounts of time to observe your flowers petals.
6. Record the color of the petals and what you notice in your plants.
7. Predict what you will see at your next observation.
8. Extra Point opportunity: try other experiments to see how the flower color changes. Record your findings.

Time	Observation	Prediction
30 minutes		
1 hour		
12 hours		
1 day		

Extra Experiment- complete for up to 4 extra points:

1. What happens if you add more than 3 drops of food coloring?
2. How many days would it take to have a fully colored flower?
3. Do other types of flowers work?
4. Do other colored flowers work?

Once you have completed this activity, fill out the [Post Activity Evaluation Form](#).