

Color Bridges

Watch Water “Walk” to Create Colored Bridges



How can water move up and down on its own and blend colors together?

Activity Challenge

Make water climb over paper bridges by itself. Use capillary action in a colorful way. This activity is like RAFT’s STEAM Activity sheet called Capillary Colors.

Preparation

1. Select an absorbent material, such as a paper towel or napkin.
2. Select a workspace that can get a little wet.
3. Collect 3 to 4 colors of food coloring or water-based markers. Dried out markers may still work.
4. Collect 5 to 7 watertight, open mouth, containers such as plastic cups or mason jars.

To Do

1. Line up the containers side by side in a line.
2. Fold, or cut, the paper strips to be about half the width of the containers and long enough to reach the bottom of 2 containers that are placed side by side. The paper strips will look like an inverted “V” shape when inserted in the containers. See picture below for reference.
3. Fill the first empty container, one quarter to one third, full of water. Then fill every other empty container (first, third, fifth) the same way.
4. Add a drop of food coloring, or dip a marker, into the containers that have water. Each container should hold a different color. If using markers, swirl the marker around until the water absorbs the color.
5. Insert one end of a folded paper strip into the first container and the other end into the next container.
6. Repeat until every container, except the first and last ones, hold two ends.
7. Watch as the water “walks” or moves up and down the paper strips.



Materials Needed

- Paper napkin, paper towel, coffee filter or facial tissue
- Food coloring or water based colored markers
- 5-7 containers to hold water (clear sided is best). Plastic cups work well.

Grade Range

K-2 with adult assistance
3-5

Topics/Skills

Science: Liquid flow; Forces;
Plant Cells

Learning Standards

NGSS: [From Molecules to](#)
[Organisms: Structures and](#)
[Processes](#)

Duration

15 minutes

Prep Time

5 minutes

Observations

- Note how far, and how fast, the water moves up and down the paper strips.
- Note what happens when the colors meet in the in “between containers”, the ones not filled with water.

Extensions

- Repeat using different colored markers.
- Repeat the activity using different types of paper for the strips. Are there any differences in how the water moves along the paper?
- Add food coloring to water and place a flower in the water. Observe what happens.

The Science behind the Activity

Water is composed of many tiny identical pieces called molecules. The water molecules are attracted to each other and to the molecules in things like the paper, and the container, used in this activity.

Look carefully at the surface of water in a container and notice that the surface is slightly higher where it touches the container’s sides. Water molecules can group together like links in a chain. The chain of water molecules is pulled up the side of the container creating a curved surface.

The fibers in paper can also pull on, attract, the water molecules. The water molecules are pulled up along the paper fibers, wetting more and more of the paper. That movement is called capillary action.

The moving water can carry the dissolved color molecules from the food coloring or markers. The color molecules are pulled along with the water up and through the paper strip into the dry containers. When two different colors meet in the dry containers the colors can mix creating a new color.