Lesson: Capillary Action	Name:
Teacher:	Date:

The Walking Rainbow Experiment Free Experiment Guide – STEM Scholars Hub

Florida State Benchmark: SC.8.P.8.4 – Classify and compare substances on the basis of their physical and chemical properties.
NGSS Standards:

- **5-PS1-3:** Make observations and measurements to identify materials based on their properties.
- **MS-PS1-2:** Analyze and interpret data on the properties of substances before and after the substances interact.

Grade Level: 5th Grade
Subject: STEM / Science

Materials Required

- Clear cups or glasses (6)
- Water
- Food coloring (red, blue, yellow)
- Paper towels
- A tray to hold the cups
- Measuring cup
- Stirring sticks (optional)

Safety Precautions

- Handle liquids carefully to avoid spills. Clean up immediately to prevent slipping.

- Ensure all materials, including food coloring, are **non-toxic**.
- Wash hands after the experiment.

Procedure & Scientific Inquiry Questions

1. Setup: Arrange six clear cups in a row on the tray. Fill the 1st, 3rd, and 5th cups with water.
Inquiry Question: What do you predict will happen when the colored water meets the empty cups?

2. Coloring: Add a few drops of food coloring to the filled cups (red, yellow, and blue).
Inquiry Question: How might the different colors mix as they travel?

3. Paper Towels: Cut strips of paper towel. Place one end in the colored water and the other end in the adjacent empty cups.
Inquiry Question: Why does the water move along the paper towel? What forces are acting here?

4. Observation: Watch the movement of colored water along the paper towels over several minutes.
Inquiry Questions:

- How high does the water travel along the paper towel?

- Do the colors blend? Where do new colors appear?

- What patterns do you notice in the movement of water?

5. Discussion & Analysis: Discuss capillary action and diffusion.

Inquiry Questions:

- How does capillary action help plants move water from roots to leaves?

- What role does diffusion play in mixing the colors?

- How would the results change if you used a thicker or thinner paper towel?

Clean-Up

- Dispose of used paper towels and excess food coloring safely.
- Rinse cups and return them to their proper place.
- Wipe down the workspace to leave it clean for future use.