Lesson: Capillary Action	Name:
Teacher:	Date:

Walking Rainbow Science Experiment Free Worksheet – STEM Scholars Hub

Explore how water moves and colors mix in the Walking Rainbow experiment! This activity will help you understand important science ideas like capillary action and diffusion.

In the Walking Rainbow experiment, cups are filled with water dyed red, yellow, or blue. Empty cups are placed between them, and paper towels link the cups. Over time, water climbs the paper towels and moves into the empty cups. The colors mix, creating new shades, thanks to two main science concepts: capillary action, which helps the water move up the paper towel, and diffusion, which helps the colors blend.

Fill in the Blank: Fill in the blank with the correct words.

1. The process that allows water to move up the paper towel is called _____.
2. _____ is when molecules move from an area of high concentration to an area of low concentration.
3. The paper towel must touch both cups so water and _____ can travel between them.
4. The movement of colored water along the paper towel demonstrates the property of _____.
5. If you use a wax-coated paper towel, water _____ move through it.

Word Bank: diffusion, capillary action, color, absorption, will not

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Multiple Choice Questions: Choose the correct answer from the choices for each question.

1. Which of the following explains how water moves up the paper towel?
   a) Evaporation
   b) Capillary action
   c) Photosynthesis
   d) Condensation
2. Which colors are typically used in the Walking Rainbow experiment?
   a) Red, green, and blue
   b) Red, yellow, and blue
   c) Yellow, green, and purple
   d) Blue, orange, and purple
3. What would happen if a wax-coated paper towel was used instead?
   a) Water would move faster
   b) Water would not move
   c) Colors would mix faster
   d) Nothing would change
4. What scientific process causes the colors to blend in the empty cups?
   a) Evaporation
   b) Capillary action
   c) Diffusion
   d) Filtration
5. If the colored water did not move, which could be a possible reason?
   a) Paper towel is coated or non-absorbent
   b) Water was too cold
   c) Cups were too far apart
   d) Food coloring is non-toxic

Open-Ended Questions: Answer the following questions in complete sentences.

1. Define capillary action in your own words.

   _____

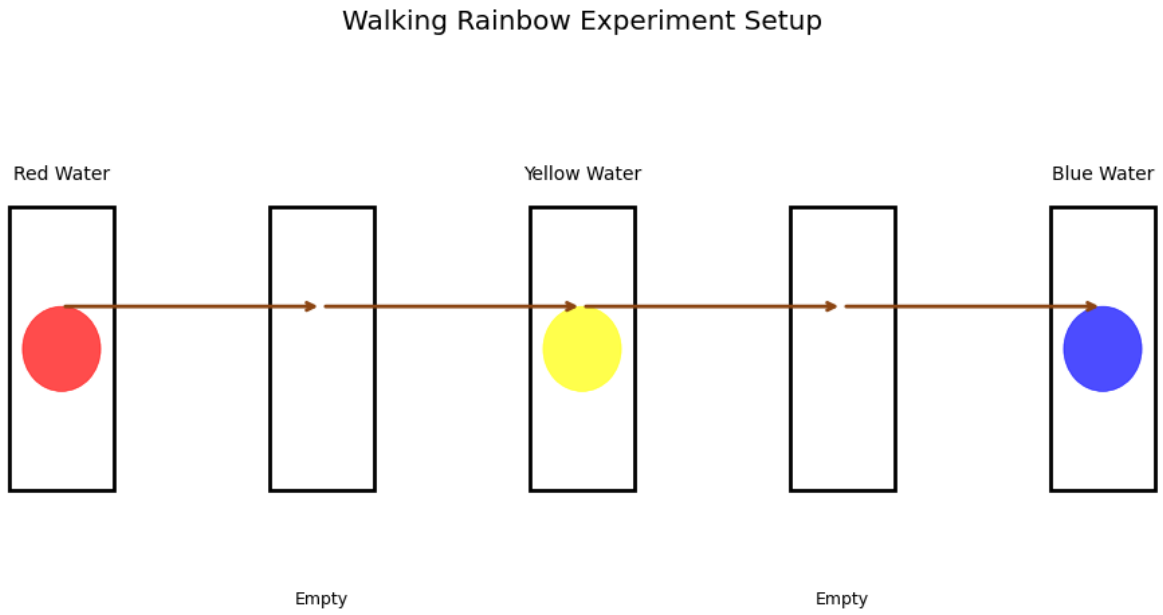
2. Explain why the paper towel must touch both the colored and empty cups.

   _____

3. How does this experiment relate to how plants absorb water?

   _____

Walking Rainbow Experiment Diagram



ANSWER KEY

Fill in the Blank:

1. capillary action
2. diffusion
3. color
4. absorption
5. will not

Multiple Choice:

1. b) Capillary action
2. b) Red, yellow, and blue
3. b) Water would not move
4. c) Diffusion
5. a) Paper towel is coated or non-absorbent

Open-Ended (example responses):

1. Capillary action is when a liquid moves through a tiny space, like water moving up a paper towel, because of the attraction between the liquid and the surface.
2. The paper towel must touch both cups so that water and color can travel from the colored cup to the empty one.
3. Plants use capillary action to move water from their roots up to their leaves, just like how the paper towel moves water in this experiment.