Lesson: Capillary Action	Name:
Teacher:	Date:

The Walking Rainbow Experiment

Introduction

The Walking Rainbow experiment is a visually captivating, hands-on activity that demonstrates key scientific principles like **capillary action** and **diffusion**. Using simple materials such as cups, colored water, and paper towels, students can observe how liquids move through narrow spaces and how colors mix to create vibrant secondary colors.

Understanding Capillary Action and Diffusion

At the core of this experiment is **capillary action**, the process by which liquid moves through narrow spaces against gravity, caused by adhesive forces between the liquid and the surface. In this activity, the paper towels act as the medium that draws colored water upward, carrying the pigments along.

As the colored water travels, **diffusion** occurs. Molecules move from areas of high concentration to areas of low concentration, allowing colors to blend where two liquids meet. For example, red and yellow combine to form orange, while yellow and blue produce green. This illustrates how molecules interact naturally, creating a walking rainbow effect.

The Science Behind the Colors

Each color represents different wavelengths of light, and observing how colors mix introduces students to **basic chemistry concepts** such as solubility, concentration, and molecular movement. This experiment shows how substances behave in mixtures, reinforcing abstract scientific concepts with a clear visual demonstration.

Conclusion

The Walking Rainbow experiment is more than just a colorful display; it is an engaging way for students to explore **the properties of liquids, capillary action, diffusion, and color mixing**. By observing how water travels and colors interact, students develop a deeper understanding of scientific phenomena while enjoying a hands-on, interactive learning experience.

References:

1. Fetter, C. W. (1999). *Contaminant Hydrogeology*. CRC Press.
2. Krajcik, J. S., & Czerniak, C. M. (2013). *Teaching Science through Inquiry*. Routledge.
3. Novak, J. D. (2002). Meaningful Learning: The Essential Component of a Successful Science Education Program. In *Learning Science: The Science of Learning* (pp. 1-12).