

Warm vs. Cold Water Food Coloring Experiment

By: Adelene Chan

Summary

Explore the basics of an **experiment** and review the **scientific method**. Test how the **temperature of water** affects how easily food coloring mixes in. With just a few simple materials, examine how **kinetic energy**, heat, and particle movement affect how long it takes for the food coloring to mix in. Finally, explore how kinetic energy relates to the **3 basic states of matter**.

Materials

1. 2 cups/glasses (preferably clear and similarly sized)
2. Warm water (from faucet)
3. Cold water (from faucet)
 - a. Recommend adding ice cube
4. Food coloring (2 dark colors: red, green or blue)
 - a. AND/OR try this with mixing sugar, salt, honey!


Procedure

Link to Video:

<https://drive.google.com/file/d/14mVpQHOJ9cBCSoCgyIfjbOqoLoKm8fqK/view?usp=sharing>

Written Out Instructions:

1. Prepare 1 cup of warm water and 1 cup of cold water
 - a. 1 cup of warm water from warm side of faucet
 - b. 1 cup of cold water - TIP: add an ice cube if available to make it even colder
2. Add 1 drop of food coloring to each cup at the same time
 - a. Remove lids from each food coloring and use both hands to squeeze at the same time

- 
3. Observe which drop mixes fastest
 - a. OPTIONAL: Use a stopwatch to time how fast it takes

Materials & Resources

WORKSHEET - Follow Along:

https://docs.google.com/document/d/1AEyplqk-kHMq-RTR_FhpMQ-0OJfRnoIXxZDiDxnryjc/edit?usp=sharing

[What is an Experiment?](#)

[Scientific Method Overview](#)

[Thermal Energy](#)

