

COLOR DIFFUSION LAB

Prediction

In which beaker of water (hot, cold, or room temperature) will the food coloring most quickly diffuse? Explain your thinking.

Experiment

1. Put on your safety goggles before starting the lab experiment.
2. Use the thermometer to measure the temperature of the cold water. Record the temperature in the table below.
3. Add 3 drops of food coloring to the cold water.
4. Start the timer and start slowly stirring.
5. Once the food coloring is evenly diffused throughout the water, stop the timer.
6. Record this time in the table.
7. Repeat steps 2–6 with the room temperature water then with the hot water.

Results

Beaker	Temperature	Time (sec.)
Cold		
Room Temperature		
Hot		

Discussion

What is the relationship between the temperature and the diffusion time (the amount of time it takes the food coloring to evenly diffuse)?

Conclusion

Did your observations support your prediction? Why or why not?