

Diffusion Rate and Temperature

Instructions

Materials:

Two large flasks
Blue food coloring
Red food coloring
Hot plate
Ice in an ice bucket
Water

Set Up:

1. Place one flask of water in a container of ice to cool the water.
2. Heat the second flask of water on the hot plate.
3. Place the two flasks side by side on the bench and let it sit for a minute to make sure the water in the 2 flasks are completely still. Point this step out to the students to emphasize that there is minimal motion in the flasks.

Demo Procedure:

1. At the same time, add a drop of blue food coloring in the cold water and a drop of red food coloring to the hot water.
2. Observe the slower diffusing rate of the blue pigments in the colder water vs. the faster diffusing rate of the red pigments in the warmer water.