

Temperature Affects Density - Activity Sheet

Question to investigate: _____

DEMONSTRATION

You saw a bottle of hot water placed upside down over a jar of cold water. The hot water stayed on top of the cold water without mixing.

1. Why did the hot water stay on top of the cold water?
2. Why do you think the hot and cold water mixed when the cold water was placed on top?



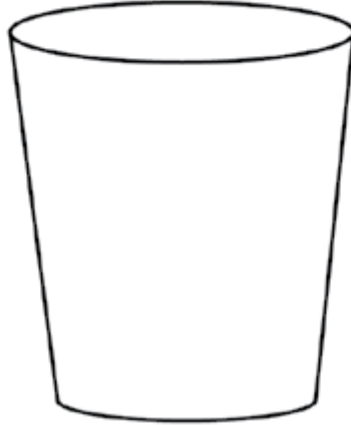
ACTIVITY

Procedure

1. Fill one dropper with blue cold water. Poke the end of the dropper about halfway into the colorless room-temperature water.
2. While observing from the side, very gently squeeze the dropper so that the cold water slowly flows into the room-temperature water.
3. Fill another dropper with yellow hot water poke the end of the dropper about halfway into the room-temperature water.
4. While observing from the side, very gently squeeze the dropper so that the hot water slowly flows into the room-temperature water.
5. Record your observations on the activity sheet.



3. Draw what you observed in the cup of room-temperature water after adding blue cold water and yellow hot water.



Be sure to label the areas of cold and hot water.

Is *cold* water more, less or the same density as room-temperature water?

Is *hot* water more, less or the same density as room-temperature water?

4. Use what you know about density to answer the following questions.

Why does cold water sink in room-temperature water?

Why does hot water float on room-temperature water?