

Thermal Expansion of Liquids

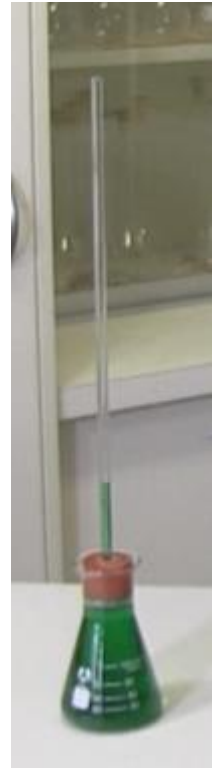
Name: _____

Aim: To observe thermal expansion in water.

Equipment: conical flask, rubber stopper, glass tubing, food dye, white-board marker, hot plate or Bunsen burner.

Method:

1. Pour water into a conical flask until it is nearly full.
2. Add a drop of food dye to the water.
3. Poke a glass tube through a rubber stopper.
4. Place the rubber stopper onto the conical flask and gently push down until the water rises a short distance up the glass tube. (You may need to pour out some of the water.)
5. Mark the level of the water with a white-board marker.
6. Heat the water.
7. After about 5-10 minutes, remove the conical flask from the heat source (by holding it near the neck which shouldn't be too hot) and continue to make observations as the water cools.



SAFETY WARNING: A hot hot plate looks the same as a cold hot plate, so please be careful!

Questions:

1. Describe what happened when the water was heated and what happened when it cooled down.

2. In terms of the movement of water molecules, what is the difference between hot water and cold water?

3. Describe how a thermometer works.
