Make Your Own Thermometer

Materials:

- 1 pint jar or water bottle with cap
- 1 straw (preferably clear)
- Clay or play dough
- Water
- Rubbing alcohol
- Food Coloring
- Markers

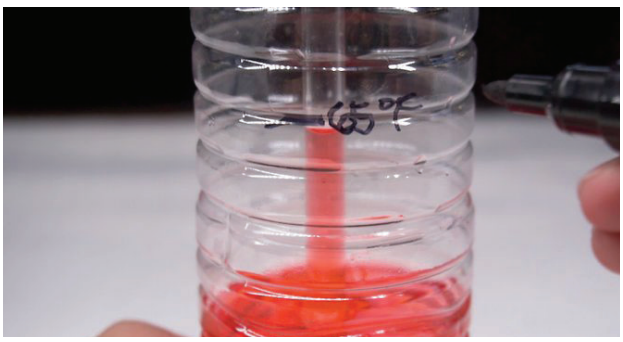
Instructions

1. Fill the jar or bottle with equal parts water and rubbing alcohol about ¼ of the way up the jar or bottle.
2. Add a few drops of food coloring to color the temperature-sensitive liquid. Using red coloring best mimics a standard mercury thermometer.
3. Secure the cap and shake well to mix the liquid and to ensure the food coloring is evenly dispersed.
4. Punch a hole with a pen in the center of the cap, allowing the straw to feed through.
5. Position the straw so that it dips into the liquid but does not touch the bottom of the jar.
6. Use the modeling clay or play dough to wrap around the straw where it enters the cap to create an air tight seal.
7. Use a marker to mark on the jar the water level in the straw at room temperature.

Building the thermometer is only half the fun. Now experiment by moving your thermometer to differently-heated places to watch what happens. Take it outside; place it in a shadow and in the sun light to see how temperature reacts with your thermometer.

How it Works:

Liquids contract and expand depending on the temperature. Rubbing alcohol is more temperature-sensitive than water, so the liquid changes according to temperature quicker than using only water. When it is hotter, the liquid in the jar expands, pushing fluid up through the straw; the opposite is true for the cold.



Activity courtesy of www.jumpstart.com