

Homemade thermometer

Overview and Objective

We're going to make a homemade thermometer that will actually rise and drop according to the temperature of its surroundings. It will move, just like mercury in a standard thermometer.

Watch it rise and fall right before your eyes!

What you will need:

- A large marble-sized piece of modeling clay
- Food coloring
- ~1/2 cup Water
- ~1/2 cup Rubbing alcohol
- 1 clear straw
- A plastic bottle
- A thermometer (for reference)

Process:

1. Open plastic bottle and pour in equal amounts of water and alcohol until the bottle is $\frac{1}{4}$ full (around $\frac{1}{2}$ cup each).
2. Add a few drops of food coloring and mix well.
3. Insert the straw, making sure the bottom does not touch the bottom of the bottle. Secure it in place with a piece of modeling clay.
4. Make sure the modeling clay creates an air tight seal at the top of the bottle around the straw.
5. To do a quick test of the thermometer, put the bottle into a bowl filled with hot water and see what happens!



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Observations:

Did you notice the water moving up the straw when heated up?

Test this outside and see how your temperature effects the water line.

Where else could you test?