DIY THERMOMETER

This DIY thermometer is an AWESOME science activity for kids of all ages!

INSTRUCTIONS:

STEP 1: Add red food coloring, 1/4 cup water, 1/4 cup alcohol and a tablespoon of oil into a mason jar and mix.
STEP 2: Stick the straw through the straw hole and tighten the lid onto the jar.
STEP 3: Mold a piece of playdough on the lid around the straw, which will hold the straw about 1/2" from the bottom of the jar.
STEP 4: Place your DIY thermometer outside in the cold, in your fridge, or inside the house, and look at the difference in how high the liquid rises in the straw in different temperatures.

SUPPLIES:

Mason jar with straw lid
Clear straw
Playdough or modeling clay
Water
Rubbing alcohol
Cooking oil (any kind)
Red food coloring

THE SCIENCE

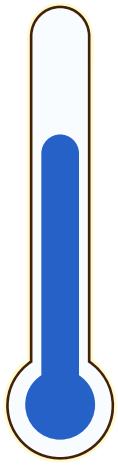
Many commercial thermometers contain alcohol because alcohol has a low freezing point. As the temperature of the alcohol increases, it expands and causes the level within the thermometer to rise.

The level of the alcohol corresponds to the printed lines/numbers on a thermometer indicating the temperature. Our homemade version does a similar thing.

However with your homemade thermometer you aren't actually measuring temperature, just seeing temperature changes.

DIY Thermometer Observations

Use this worksheet to process and evaluate your work.



What happens? Does the fluid rise up the straw and stay there?

Why do you think it is important to color the liquid?

Why do you think the straw should not touch the bottom of your bottle?

What is the hottest spot in your home? What about the coolest?

What did you learn?


PYREX
meijer
First Aid Antiseptic
70% Isopropyl
Rubbing
Alcohol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