



MAKING A THERMOMETER WITH ALCOHOL IN A STRAW

Name: _____

Date: _____

Age/Grade: _____

You will build a simple thermometer using alcohol in a straw and observe how the liquid moves with temperature changes.

QUESTION

How does temperature affect the level of alcohol in a straw thermometer?

HYPOTHESIS

When the temperature increases, I think the alcohol in the straw will _____.

When the temperature decreases, I think the alcohol in the straw will _____.

MATERIALS

- Clear plastic straw
- Rubbing alcohol (70% or 90%)
- Food coloring (optional)
- Modeling clay or airtight putty
- Clear plastic bottle with a tight cap (water bottle works well)
- Tape
- Ruler or measuring tape
- Bowl of warm water
- Bowl of ice water

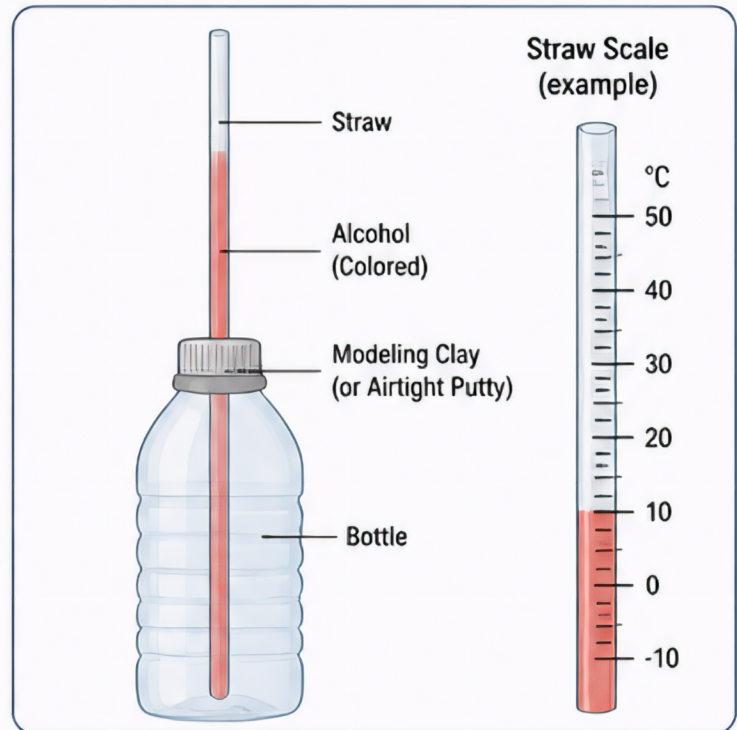
PROCEDURE

1. Add a few drops of food coloring to the rubbing alcohol in the bottle.
2. Fill the bottle with rubbing alcohol until it is about 2–3 cm from the top.
3. Insert the straw into the bottle so that the bottom of the straw is in the alcohol.
4. Seal the straw tightly in the bottle cap using modeling clay or airtight putty so no air can leak.
5. Make sure the straw is standing straight up.
6. Use tape and a ruler to make a scale on the straw. Mark it in 10-degree steps (you can label from -10°C to 50°C).
7. Place the thermometer in different temperature environments and observe the alcohol level.

OBSERVATIONS

Record the alcohol level at different temperatures.

Environment	Estimated Temperature (°C)	Alcohol Level on Straw (°C Scale)
Ice Water	_____	_____
Room Temperature	_____	_____
Warm Water	_____	_____



SAFETY FIRST

- Do not drink the rubbing alcohol.
- Keep away from open flames and heat sources.
- Ask an adult for help when needed.
- Wash hands after the experiment.

CONCLUSION

What did you learn from this experiment?

My hypothesis was (circle one): Correct Not Correct
Explain why.

