MYSTERY: YOUR SENSES · 10 MINUTES

Fooled Fingers

Wrap one hand around a glass of hot water and the other around a glass of ice water. Then touch the same middle glass with both. One hand says warm and the other says cool. Which one is telling the truth?

What you'll need

- ✓ 3 glasses
- ✓ Hot tap water (not too hot to hold)
- ✓ Very cold water
- ✓ Room-temperature water
- ✓ A thermometer
- ✓ A clock with a second hand
- ✓ Optional: a few ice cubes

Set up

1. Line up three glasses. Fill the right one with hot tap water, the left one with very cold water (add ice if you have it) and the middle one with room-temperature water.

Fool your fingers

2. Wrap your right hand around the hot glass and your left hand around the cold glass. Spread your fingers wide and hold on for exactly one minute.
3. Now put both hands on the middle glass. How does each hand feel: hot, cold or medium?
4. Use the thermometer to check the real temperature of each glass.
5. Switch the hot and cold glasses and try again. Do both hands react the same way?

Safety: Use hot water from the tap, never boiling water.

Tip: Have a helper watch the clock so you can keep your hands still.

Why it works

Your skin has nerve endings that sense hot and cold. They're very good at noticing a **change** in temperature, but not so good at telling the exact temperature.

After a minute on the hot glass, the middle glass feels cool to that hand. After the cold glass, it feels warm. The water is the same; your brain is comparing it to what your hand felt before.

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Record your results

Glass	Right hand felt	Left hand felt	Thermometer
Hot glass			
Cold glass			
Middle glass, round 1			
Middle glass, round 2			

WINTER CONNECTION

This is why a 50°F day feels warm in January and chilly in July. Your body compares the air to what it's used to, not to a thermometer.

Think about it

1. Which hand said the middle glass was warm? Which said cool?

2. Why are your hands a poor tool for measuring temperature?

Watch the video and try 4 more winter mysteries

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