

Calibrating the Hydrology Thermometer

Lab Guide

Task

Calibrate the alcohol-filled thermometer.

What You Need

- Alcohol-filled thermometer
- 100-mL distilled water
- 500 mL beaker
- 400-mL crushed ice

What to Do

1. Stir together 100 mL of water and 400 mL of crushed ice in the beaker to make an ice-water bath.
2. Let the ice-water bath sit for 10 to 15 minutes so that it reaches its lowest temperature.
3. Put the bulb of the thermometer into the bath. Gently move the thermometer around in the ice-water bath.
4. Leave the thermometer in the water for three minutes.
5. Read the temperature without removing the bulb of the thermometer from the water.
6. Let the thermometer stay in the water sample for one more minute.
7. Read the temperature again. If the temperature has not changed, go to Step 8. If the temperature has changed since the last reading, repeat Step 6 until the temperature stays the same.
8. The thermometer should read between -0.5° and 0.5° C.
9. If the thermometer does not read the proper temperature, notify your teacher. These thermometers do not have an adjustment and must be replaced if they do not read temperature with the expected accuracy ($\pm 0.5^{\circ}$ C).