Calibrating the Soil Thermometer

Lab Guide

Task

Calibrate the soil thermometer.

What You Need

☐ Dial or Digital Soil Thermometer	☐ Water
□ Calibration thermometer (determined to be accurate to ± 0.5° C using the ice bath method described in the <i>Atmosphere Investigation</i>)	☐ Wrench that fits nut on soil thermometer
	☐ Science Notebook
☐ 500-mL beaker	

In the Lab

- 1. Pour about 250 mL of water at room temperature into a beaker.
- Place both the calibration thermometer and the soil thermometer into the water.
- 3. Check that the water covers at least the lower 4 cm of both thermometers. Add more water if needed.
- 4. Wait 2 minutes.
- 5. Read the temperatures from both thermometers.
- 6. If the temperature difference between the thermometers is less than 2° C, stop; your soil thermometer is calibrated.
- 7. If the temperature difference is greater than 2° C, wait two more minutes.
- 8. If the temperature difference is still greater than 2° C, adjust the soil thermometer by turning the calibration nut at the base of the dial with the wrench until the soil thermometer reading matches the calibration thermometer.