

# Thermometer Calibration

## Lab Guide

### Task

Check the calibration of the calibration thermometer.

### What You Need

- Calibration thermometer
- Clean container at least 250 mL in size
- Crushed ice
- Water (distilled is ideal, but the key is that the water is not salty)

### In the Lab

1. Prepare a mixture of fresh water and crushed ice with more ice than water in your container.
2. Put the calibration thermometer into the ice-water bath. The bulb of the thermometer must be in the water.
3. Allow the ice-water bath and thermometer to sit for 10 to 15 minutes.
4. Gently move the thermometer around in the ice-water bath so that it will be thoroughly cooled.
5. Read the thermometer. If it reads between  $-0.5^{\circ}\text{C}$  and  $+0.5^{\circ}\text{C}$ , the thermometer is fine.
6. If the thermometer reads greater than  $+0.5^{\circ}\text{C}$ , check to make sure that there is more ice than water in your ice-water bath.
7. If the thermometer reads less than  $-0.5^{\circ}\text{C}$ , check to make sure that there is no salt in your ice-water bath.
8. If the thermometer still does not read between  $-0.5^{\circ}\text{C}$  and  $+0.5^{\circ}\text{C}$ , replace the thermometer.

