



how to measure humidity using a whirling psychrometer

The whirling psychrometer contains two mercury-in-glass thermometers with a scale of minus 5 to plus 50 degrees Celsius, in 0.5 degree increments. The end of the 'wet-bulb' thermometer is covered with a damp cloth dipped in water. The other thermometer is the 'dry-bulb'.

- ◆ Fill the plastic, lidded water bottle at the end of the instrument with water and wait 5-10 minutes for the cloth sleeve around the wet-bulb thermometer to become damp.
- ◆ Pull down the handle so it locks into place, and swing the instrument around above your head about 30 to 50 times.
- ◆ Record the wet-bulb and dry-bulb temperatures.
- ◆ Repeat the process and compare the temperature readings. Repeat until the readings are consistent.
- ◆ Calculate the wet-bulb depression – the dry-bulb temperature minus the wet-bulb temperature.
- ◆ Determine the relative humidity (%) using the table (reverse page). Read down from the wet-bulb depression and across from the dry-bulb temperature.

do's and don'ts

- ✓ Be aware: The thermometers contain mercury. A guide to cleaning up a mercury spill is included in Section 3: Notes and information for activities.
- ✗ Don't swing the psychrometer around too close to your head or to others.
- ✓ Reading the mercury thermometers can be tricky. Tilt the instrument back and forth, and be patient.
- ✓ Empty the plastic container of water before putting the instrument away.



CAUTION: THESE THERMOMETERS CONTAIN LIQUID MERCURY



