

## Getting Hot

This activity is designed for all age levels and any season. It shows how temperatures can differ depending on time of day and the amount of sunlight.

The objective is:

- to become aware of the differences in temperature depending on the amount of sunlight present
- to become aware of heat trapping substances

Background:	<p>The temperature that is given in a weather report may not seem accurate. Our location, the amount of sunlight that we are receiving, can make a difference in the temperature.</p> <p>Heat trapping substances, like blacktop or bricks, can increase the temperature dramatically. This can affect our comfort.</p>
Skills:	<p>The children should be able to read a thermometer and make deductive conclusions.</p>
Age:	<p>Grades 1 – adult</p>
Material	<p>Four thermometers – preferably all identical, paper and pencil to keep a log.</p>
Activity:	<p>Ask the children if they are warmer when they are playing on the playground or when they are under a tree. If they are warmer when the sun is out or when it is cloudy. Have them hypothesize about how much of a temperature difference there might be between the different areas.</p> <p>Have the children decide where they want to place the four thermometers. Each should be a different climate. For example, in the sunshine on the grass, under a tree, on the south wall of a building, on the north wall of a building. You may also want to vary the height of two thermometers in a similar location.</p> <p>Ask the children which thermometer would show the highest temperature and the lowest temperature.</p> <p>After an hour, check the temperatures in all four locations. If you can, check the temperatures several times a day over a one week period. Log the time, temperature, and location of the thermometer for every reading.</p>

Discussion:	<p>Was the temperature the same on every thermometer? Why not? Did the temperature change at different times of the day? What can affect the temperature?</p> <p>If you placed a thermometer in the sun on the grass and on asphalt, the thermometer on the asphalt should be higher. Use this to discuss items that hold heat. What if you were standing on the asphalt. Would you be hotter or colder than the person on the grass.</p> <p>This is an excellent place to discuss solar energy with older children.</p>
Variations	<p>Try this in winter. Bury one thermometer in the snow and put another one on top of the snow. Speculate on which would be colder. The thermometer in the snow should be a few degrees warmer because snow is an insulator.</p>
Brownie Try-It	<p>Earth and Sky – Hot and Cold</p>
Junior Badge	<p>Weather Watch - #2</p>