

Weather Scope

A. Use a Thermometer to measure Temperature

Overview

Temperature is measured with a *thermometer* usually made of a glass tube with colored alcohol. As the air gets hotter, the level of the liquid rises and, as the air gets cooler, the level falls. The temperature of the air is always changing. Air temperature is a very important part of weather measurement. It is recommended to begin by giving each group a thermometer and let each student practice reading the indoor temperature. Students should look straight at the thermometer at eye level.

Make a Thermometer




A. Introduction: You will learn how a thermometer works by making it however you will need a commercial thermometer to record the outside temperature.






B. Materials

- Rubbing Alcohol
- Water
- Cylinder shaped clear jar or bottle (bottles with a narrow neck work best)
- 1 straw
- Modeling clay
- Food coloring



C. Procedure

1. Remove the jar's label.	
2. Remove the top from the jar make a small hole (just big enough so the straw can fit in).	
3. Pour equal amounts of cold water and rubbing alcohol into the jar/bottle, filling it to about 1/4 of the container.	
4. Add two - three drops of food coloring.	

	
5. Close the bottle and make a small hole in the lid (just big enough to insert the straw).	
6. Place the straw in the jar/bottle so that the bottom of the straw is submerged in the liquid but not touching the bottom of the container.	
7. Seal the top of the bottle with the modeling clay so that it has a tight seal and so the straw stands upright.	
8. Test your thermometer a. Grasp the jar/bottle with your hands and hold on for 5 five minutes. What happens b. Place your thermometer in a pan of cold water. What happens? c. Place your thermometer in a pan of hot water. What happens?	

Use a Thermometer to measure Temperature

A. Materials

- Purchased thermometer (unfortunately the thermometer you just made will NOT be able to provide accurate measurements)

B. Procedure

1. Go outside and wait two minutes before you take a reading. This is to allow the thermometer to adjust to the outside air temperature.
2. When recording the temperature, please keep the following in mind
 - Take outdoor reading away from the building.
 - Take the reading out of direct sunlight (in the shade if possible).
 - Hold the thermometer close to eye level; it should never be on the ground.
 - Do not allow rain or snow to fall on the thermometer.

