**Bottle Barometer**

You already know that the layer of air surrounding the earth exerts a pressure of more than fourteen pounds on every square inch. More than three hundred years ago Evangelista Torricelli, an Italian physicist, first figured out a way to measure this atmospheric pressure. He balanced a column of mercury with a column of air. You can make a barometer with ordinary tap water that will work like his.

**What to do:** Fill the saucer halfway with water. Pour water into the bottle until it is about three-quarters full. Keeping your thumb on the mouth of the bottle, turn the bottle upside down. Then remove your thumb and quickly put the mouth of the bottle into the saucer of water. Tape a strip of the index card on the outside of the bottle, as it is in the illustration.

**What happens:** The water doesn't pour out of the bottle. Instead, the water level drops slightly and comes to rest. Then, it moves up or down as the air pressure changes.

**Why:** Air pressing against the water prevents it from running out. The water stops moving downward when the water pressure is balanced by the pressure of the atmosphere.

Mark the index card at the point where water settles, and you will be able to chart whether the water goes up or down. An increase in air pressure sends the water upwards. When there is a decrease it drops down. When the water in the bottle drops down, you can expect warmer, wetter weather.