#WG-1 Weather Globe Barometer

GSC's products are intended for use in labs and classroom settings under the supervision of qualified professionals. The products are not toys and are not intended for children under the age of 13. Adult supervision required.

Warning

How it Works:

Barometers measure changes in atmospheric pressure. If the air pressure is high, there is dry weather, and if the air pressure is low, there is rainy weather. You can track the changing air pressure (barometric pressure) by watching the water line in the barometer rise or fall based on the weather conditions.

The air trapped by the liquid within the glass vessel maintains a steady pressure. When high pressure or dry weather is present, the liquid is forced down the spout. When low pressure or rainy weather exists, the liquid in the spout will rise.

The weather globe barometer has a glass tube that is connected to the globe body at the base of the unit and rises upward above the water lever in the globe, where it is open to the atmosphere. Air is trapped inside the weather globe by the water. If the atmospheric pressure is lower than when the air was sealed inside the barometer, the water level in the spout will rise above the water level in the body of the barometer. If the air pressure is higher than the pressure inside the barometer, the water level in the spout will drop below the water level in the body.

History of Barometers:

The first barometer was created by an Italian scientist, Torricelli, in 1643. Torricelli's invention was often referred to as a weather glass. Weather glasses were commonly used by sailors to predict weather conditions. As time passed, the basic barometer changed very little. Most of the early barometers were based on the use of a glass globe filled with water. Many of the early weather glasses were made from fine hand-blown glass and beautiful hardwood stands.

Filling Instructions:

You will need the following items:

- 1 gallon of distilled water
- 2 bowls large enough to almost completely submerge the unit on its side.
- Food coloring (optional). The food coloring provides better viewing. It can be added to the cold distilled water.

1 - Fill one bowl with enough cold water to almost completely dunk the unit on its side.
2 - Next, fill another bowl with enough very warm distilled water. Submerge the barometer in the warm distilled water until the bubbles subside. This process creates a partial vacuum inside the globe. When submerging the barometer hold it on the side of the glass bulb without the indicator funnel tube.
3 – Immediately submerge the barometer into the cold distilled water and allow it to partially fill.
4 – Repeat these steps at least 3 times or until the unit is half full, each time rotating the globe slightly under water. At this point, the glass body will be half full and the indicator funnel tube will be filled to the top.
5 – Allow the unit to rest for approximately 2 hours. Then empty the indicator funnel tube so the water level is the same as the water level inside the glass body.

Your weather globe barometer is now ready to be used. We suggest placing the weather globe barometer on a plate to catch any water that may escape from the indicator funnel tube. Also, it is best not to place the weather globe barometer in direct sunligh