

Make your own Weather Barometer

A barometer measures changes in air pressure. During periods of high air pressure, water is forced into the bottle, causing the water levels to increase. When air pressure is low, water can fall out of the bottle and into the glass cup. High water levels (more air pressure) mean clearer and warmer weather. Low water levels (less air pressure) mean stormy and cloudy weather.

For best results, place your barometer outside in an area that won't be exposed to direct sunlight, artificial light, or be tipped over. Watch the barometer throughout the day (or several days!) and observe how the water levels rise and fall. You can use the barometer to predict the weather and pick out your outfit for the day.

Materials needed:

- Glass cup
- Clear plastic bottle
- Ruler
- Permanent marker

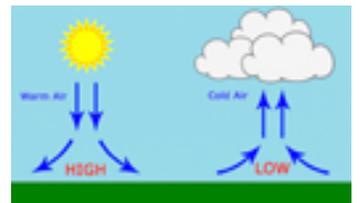
Step-by-step instructions:

1. Starting at the mouth of the bottle, measure and mark every 2 centimeters.
2. Turn the bottle upside down and number the marks you made from the bottom up.
3. Fill the bottle halfway with water.
4. Place the glass cup upside down over the mouth of the bottle.
5. Quickly flip the bottle and cup over so the cup sits upright.
6. Add a few centimeters of water to the glass cup.
7. Watch the barometer throughout the day and observe the water levels rising and falling.



Additional exploration:

- Make weather observations every time you record a barometer reading.
 - > What type of weather corresponds to high barometer readings?
 - > What type of weather corresponds to low barometer readings?
 - > Do your answers change during different seasons?



Discussion questions:

- When the water level rises, is the air pressure high or low? What about when the water level decreases?
- Did your barometer ever seem unsettled (rising and falling a lot)? Why do you think that would happen?
- Does your barometer allow you to accurately predict the weather? Why or why not?

Additional resource:

National Weather Service, Air Pressure

<https://www.weather.gov/jetstream/pressure>