

## Make a Barometer



- [Make a Water Barometer](#)
- [Make an Aneroid Barometer](#)

### Make your own aneroid barometer

**Aneroid barometers do not use fluids (such as water or mercury)**

**You'll need these materials:**

1. An empty food tin (washed!) – the bigger the better. Make sure that it doesn't have a sharp edge where the top was removed.
2. A large balloon
3. A rubber band that will fit snugly around the tin
4. A pin
5. Glue (runny paper glue is best)
6. A drinking straw (the longer the better)
7. Paper

### Instructions

Cut a large piece of the balloon and stretch it over the tin. Hold the balloon in aneroid barometer

place with a rubber band stretched around the tin, over the

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balloon. Make sure that there is a tight seal around the rubber band, with no air leaks. Use a little glue and attach the straw to the piece of balloon over the tin. Then use a little more glue and attach the pin to the other end of the straw (see photo.)

Take a piece of paper and, using a ruler, place some regularly spaced lines on it. Set up the tin and paper as shown in the photo.

*Note that this barometer will be sensitive to changes in temperature as well as to changes in air pressure. It will work best in a place where the temperature stays pretty constant. Small pressure changes could well be masked by temperature changes, but you should be able to observe large pressure changes (for example as a weather system passes through) with it.*

## **Make your own water barometer**

water barometer

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### **You'll need these materials:**

1. An empty 2 litre plastic water bottle.
2. A ruler (30cm)
3. Sellotape
4. 40cm of clear plastic tubing

5. Bluetack
6. Water (with optional food colouring)
7. A pen that will draw on plastic

## Instructions

Take an empty 2 litre plastic bottle. Cut off the top of this bottle. Begin by standing the ruler in the bottle. Tape the ruler to the outside of the bottle. Make sure that the numbers on the ruler are visible through the bottle.

Stand the plastic tube inside the bottle. Tape the tube to the bottle, but make sure that the tube is not touching the bottom of the bottle – raise it by a couple of cm. As tape will not stick well under water, make sure that the tube is mainly secured higher up. It doesn't matter if the tube is not very straight.

Fill the bottle about half way with water. Use the plastic tube like a straw and draw some water half way up the tube. Use your tongue to trap the water in the tube. Quickly move the bluetack onto the top of the tube to seal it. This is the tricky part!

Make a mark on the outside of the bottle to record where the water level is in the tube. Each time you notice a change in the water level, make another mark. You'll notice, over time, that the water level rises and falls. Pay attention to the change in weather as the water level changes and, if possible have a look at <http://www.bbc.co.uk/weather><sup>[1]</sup> to find out what the actual pressure is where you are.

The water in the tube rises and falls because of air pressure exerted on the water in the bottle. As the air presses down (increased atmospheric pressure) on the water in the bottle, more water is pushed into the tube, causing the water level in the tube to rise. When the air pressure decreases on the water in the bottle, some of the water will move down out of the tube, causing the water level in the tube to fall. The change in barometric pressure will help you to forecast the weather. Decreasing air pressure often indicates the approach of a low pressure area, which often brings clouds and precipitation. Increasing air pressure often means that a high pressure area is approaching, bringing with it clearing or fair weather.

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**Source URL:** <http://test-accsys.rmets.org/weather-and-climate/observing/make-barometer>

## Links

[1] <http://www.bbc.co.uk/weather>