MAKE A BAROMETER

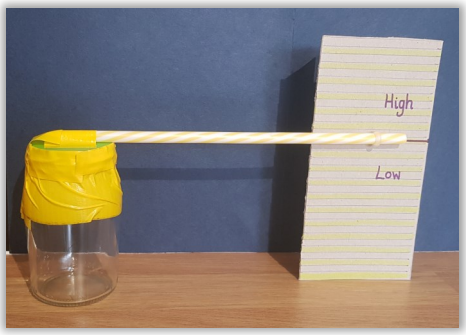
Will it rain today? Will it be fine and sunny? A barometer can measure the changes in air pressure which can help you predict the weather.
Adult supervision required!

You will need

- A glass jar
- Balloon
- Cloth/gaffer tape
- 2 Drinking straws
- A4 card or cereal box
- Ruler and Pen
- Scissors

Instructions

1. Cut the neck off the balloon and stretch the balloon over the jar. Tape it in place.
2. Fold card in half and measure 5mm sections along the whole sheet.
3. Take the 2 straws and cut off the bendy section. Tape the remaining parts together.
4. Tape the long straw to the centre of the balloon. Place the card next to the end of the balloon.
5. Stand the card at the end of the straw. Put a mark on the card in line with the straw. Write the word “High” above the straw line and write “Low” below the straw line.
6. As the atmospheric pressure changes the straw will move up and down. If it moves up the pressure is higher than before and if it moves down the pressure is lower.



Air pressure

There is air over the surface of the planet and it can be affected by pressure. In areas where the pressure is high it keeps water droplets in the air lower in the atmosphere. This stop them from cooling, condensing that would form clouds and eventually rain. So when this cannot happen the weather is said to be fine and clear. When the air pressure is low these water droplets can travel higher up into the atmosphere and form the clouds. This can be measured with this barometer. As the air pressure increases it will push down on the balloon, lifting the straw higher.

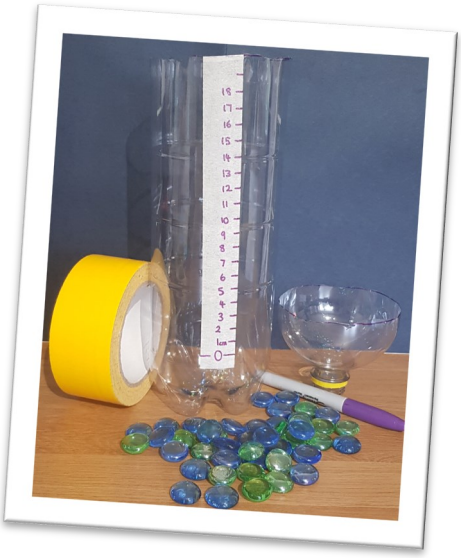
Now try this

Compare day by day and make a notes of what the weather is outside and see if you can see a connection.

Share your outdoor science experiments with us on Facebook, Twitter and Instagram!

MAKE A RAIN GAUGE

Measuring the amount of rain that falls can be an interesting way to monitor the weather. Using simple and recycled materials you can create your own rain gauge.
Adult supervision required.



You will need

- 2 litre plastic bottle
- Scissors or craft knife
- Cloth / gaffer tape
- Ruler
- Glass beads or rocks
- Marker Pen

Instructions

1. Take the bottle and at the top where it starts to become thinner draw a line all the way around.
2. With adult supervision cut along the line.
3. Cover the edges with tape to cover any sharp edges.
4. Add glass beads, marbles or stones to weigh it down and fill in the dimples at the base of the bottle or use a bottle that does not have dimples.
5. Use the ruler and pen to mark 1 cm sections above the glass beads or stones (see picture).

   Top tip: You may find it easier to mark the 1cm sections on tape if you have some and then stick it on to the bottle.
6. Fill with water to up to the 0cm mark.
7. Turn the top section of the bottle upside down and put inside the bottle so that it acts like a funnel. Tape this section if necessary.
8. Place your rain gauge outside.

Try to check your rain gauge at the same time everyday to see how much rain has fallen.
You can record your results daily and empty it out back to 0 or leave it for a week!

Use this with the barometer to monitor the weather and create the start of your own weather station.

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