nustem

WIND SOCK

Use an empty plastic bottle, some carrier bags, and a piece of string to discover more about the wind.

Overview

Have you ever wondered which way the wind is blowing? Use an empty plastic bottle, some carrier bags, and a piece of string to discover more about the wind.

Printable version

This page will print, but looks a little funky. Click the button for a PDF version which looks a bit better.

What you'll need

- At least 2 plastic bags
- Scissors
- String
- An empty plastic bottle or round container such as a yoghurt pot

Duration

15 to 20 minutes to make, as many hours or days as you want for observing

Suitable for...

Age 3 and up.

Safety notes

More STEM at Home

What you'll need

- At least 2 plastic bags
- Scissors
- String
- An empty plastic bottle or round container such as a yoghurt pot

Duration

15 to 20 minutes to make, as many hours or days as you as you want for observing

Suitable for...

Age 3 and up.

Safety notes

You know your children better than

You know your children better than anyone, and you should judge whether they're ready for this activity. You might want to think in particular about:

- Always take care when using scissors. Once the bottle or container has been cut, the plastic may be quite sharp.
- Remember that plastic bags can cause suffocation.

What to do

Step 1

Stories are a great way to introduce science topics to children. This story is called *Mrs Mopple's Washing Line* and it is written by Anita Hewitt. It shows what might happen to your washing on a very windy day!

Watch the video together and join in with the sound of the wind blowing.

After watching the story you could ask:

What happened to Mrs Mopple's washing?

How did the clothes get onto the animals?

Have you ever seen the wind blow something away?

Now you can make a windsock to find out how hard and in which direction the wind is blowing today.

Step 2

To make your windsock, first wash your plastic bottle or container thoroughly. Carefully cut off the bottom of your container. Then cut across your container to make a ring of plastic about 2cm wide.

Step 3

anyone, and you should judge whether they're ready for this activity. You might want to think in particular about:

- Always take care when using scissors. Once the bottle or container has been cut, the plastic may be quite sharp.
- Remember that plastic bags can cause suffocation.

STEM Career: Meteorologist

A meteorologist studies the Earth's atmosphere and uses scientific principles to observe, understand and be able to explain how the atmosphere effects the planet and everyone on it.

In weather forecasting, meteorologists need to collect data from satellite images, radar, remote sensors and weather stations all over the world.

Meteorologists need to be:

- Collaborative
- Organised
- Curious

Open up a plastic bag by cutting along the side seams. Flatten it out and then cut long strips of plastic from top to bottom that are about 2cm wide.

You'll need about 10 of these altogether.

Step 4

Fold one of the plastic bag strips in half and slide it through your ring.

Step 5

Pull the ends of the plastic strip over the ring. Push the two ends of the strip through the loop you created in the middle of the strip.

Step 6

Pull the ends to tighten the loop around the ring.

Repeat this with the next strip of plastic bag – you could use a different coloured bag if you have one.

Step 7

Continue adding the strips of plastic bag until you have covered the entire plastic ring.

Step 8

Cut about 40 cm of string. Tie both ends securely to your ring at points opposite each other.

Step 9

If you have a garden or yard, hang your wind sock from a pole, tree or washing line where it has space to blow.

If you don't have an outside area, hang it from a window.

If it is a windy day your sock should move.

Look at your wind sock each day to see what is happening to it.

Things to discuss

What happens to your wind sock?

Why do you think this happens?

What do you think wind is?

How could you use your wind sock measure the direction of the wind?

How it works

Wind is the movement of air around our atmosphere. Air moves from places of high pressure (where there's a lot of it) to places of low pressure (where there is less of it).

Wind is extremely useful, we can use it to turn wind turbines which generate electricity for our homes. Birds use the wind to help them fly and some plants use it to spread their seeds over long distances.

As the sun warms the Earth's surface, the atmosphere warms too. Warm air, which is less dense less than cold air, rises. Then cool air moves in underneath and replaces the rising warm air. This movement of air is what makes the wind blow.

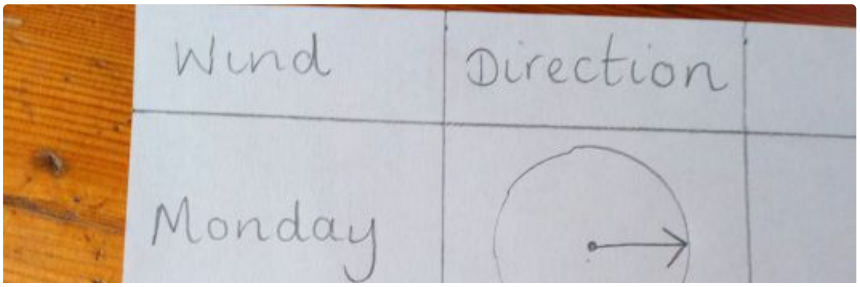
Other things to try

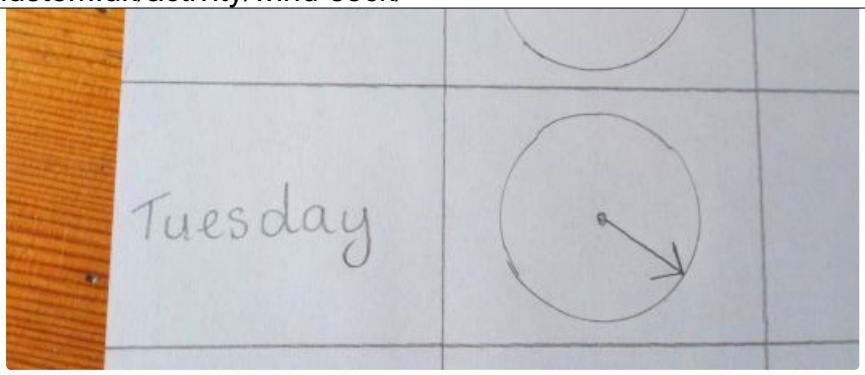
Recording the direction of the wind

Draw around a cup or bottle to make a circle. If you have a pair of compasses you could use that instead.

Draw a dot in the middle to show where your string is tied to the washing line, post or window.

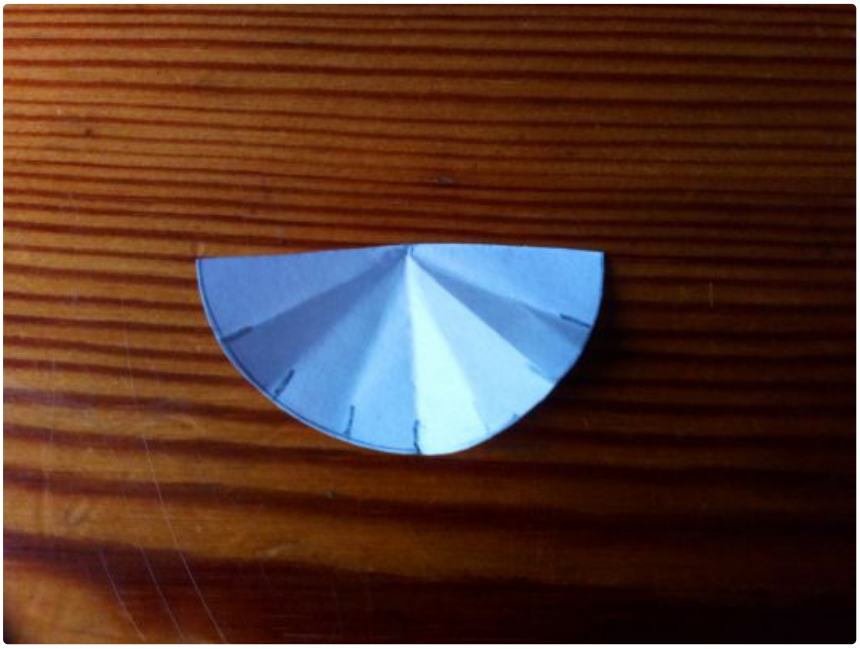
Imagine you are looking at your windsock from above. Draw an arrow to show the direction that the plastic strips are blowing.



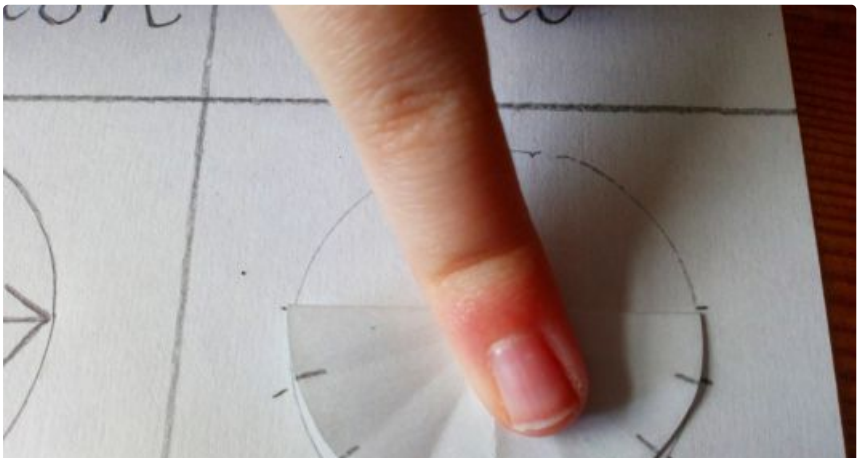


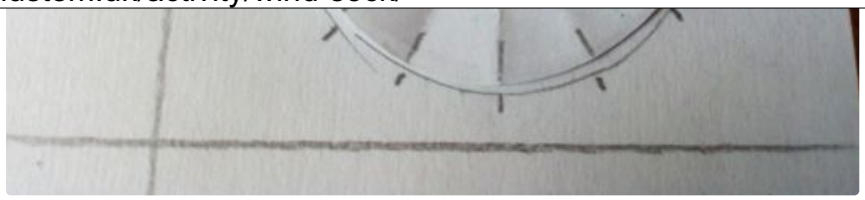
Recording the speed of the wind

The speed of the wind is how “hard” we feel it blowing. The harder it blows us, the faster the wind speed is. You need to look at your windsock from one side to see how much the wind is blowing it.

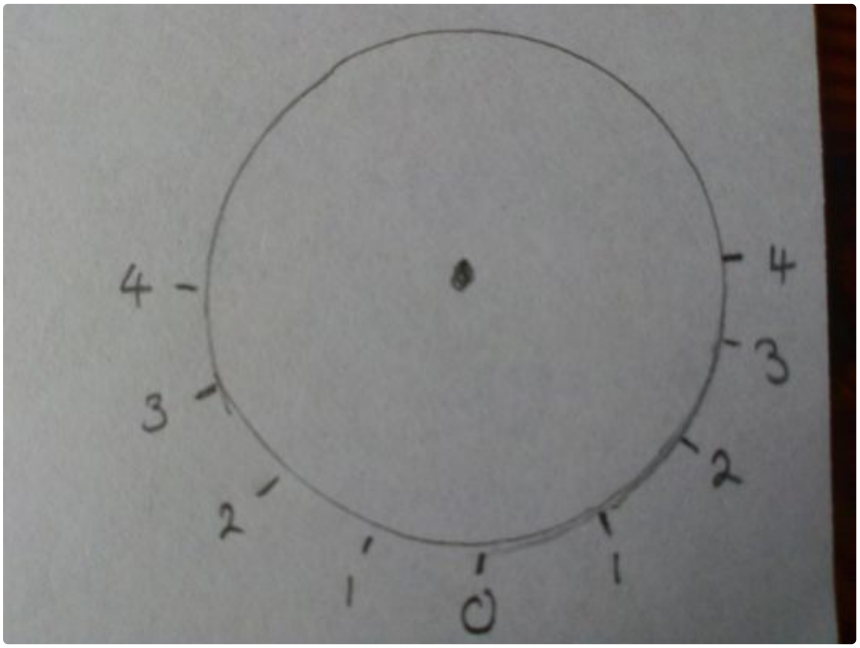


Draw around your cup or bottle onto a piece of scrap paper and cut it out. Fold your circle in half and cut it in half. Fold this semicircle in half, in half again and in half once more until you have 8 sections. Mark each section with your pencil.





Label the bottom of the circle with 0. If your windsock is here, there is no wind blowing. Number each section up to number 4. This is where your windsock will be if the wind is blowing strongly.



Look at your windsock and record the angle it is being blown at with an arrow on your recording sheet. There was not much wind when this photograph was taken, so the arrow is pointing to less than one.