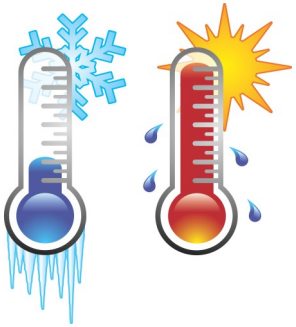
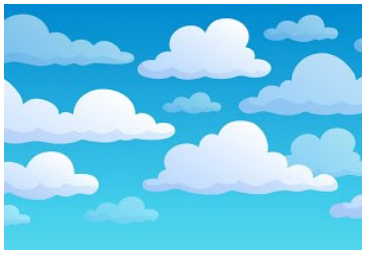
Darwin

Weather Observations

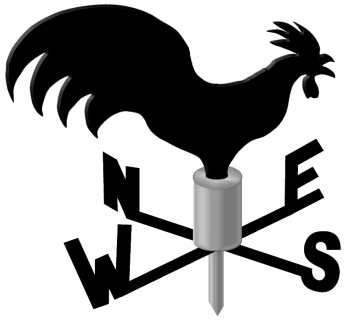
Our weather changes every day. Scientists called Meteorologists take lots of different measurements to predict and record weather patterns all over the world. Using the pictures below can you make a list of what they measure?











Met Office

The Met Office is the UK's National weather service. One of their main jobs is to provide predictions of the weather called a weather forecast. Visit their website and search for the weather forecast for where you live. What other weather measurements do they include on their forecasts?



https://www.metoffice.gov.uk/

What is the difference between Weather and Climate?

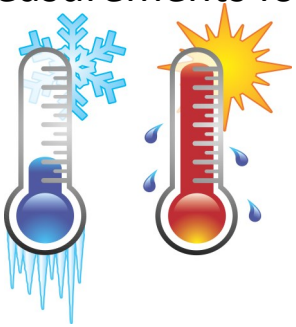
Weather describes the conditions happening at a place and a point in time. For example could be hot or cold, dry or wet, cloudy or sunny. Weather is short term, it lasts hours, days or weeks.

Climate is the average weather conditions over long periods of time. Usually 30 or more years.

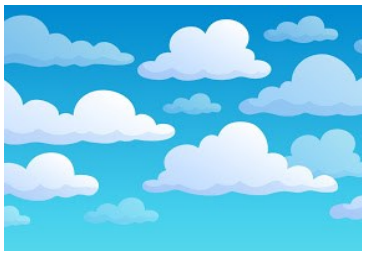
Main Sponsor
DRAGONLNG
ENERGY IN WALES

Task: Keep a Weather Diary

Your task is to make a Weather diary for where you live. In the diary you are going to include measurements for:



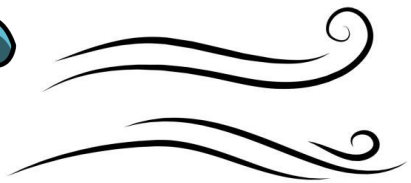
Temperature



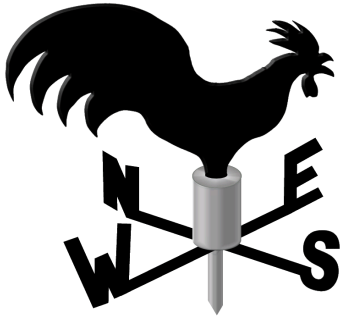
Cloud Cover



Rainfall



Wind Speed

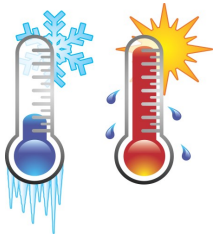


Wind Direction

You will need to take your measurements at the same time every day. The standard time that is used at Met Stations around the UK is 10.00am in British Summer Time. Before you begin, read and think about these questions:

1. Can you think of a method you could use to take the measurements? Think about what equipment you could use and what units you could measure in. There are lots of ideas on the next pages.
2. Where are you going to take your observations? It could be in your garden, next to your front door or at an open window.
3. How are you doing to present your measurements? You could make a table for your results or draw a graph. Think about how you could use drawings or symbols to illustrate your findings. There are lots of examples online if you search 'weather diary' on the internet.
4. How many days are you going to keep your diary for?

Measuring Temperature



Equipment: Thermometer

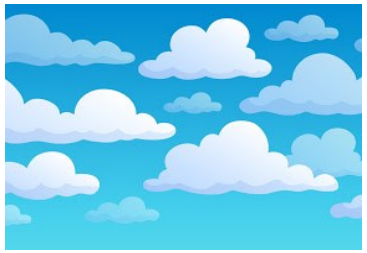
Units: Degrees Centigrade, °C

Think carefully about where you should put the thermometer outside and how long you should leave it before taking a reading. If you don't have a Thermometer you could use the Met Office weather forecast to find out the temperature.

Extension ideas: Is there a difference in temperature in shaded and non shaded areas?

How does temperature change through the day?

Measuring Cloud Cover



Equipment: A view of the sky

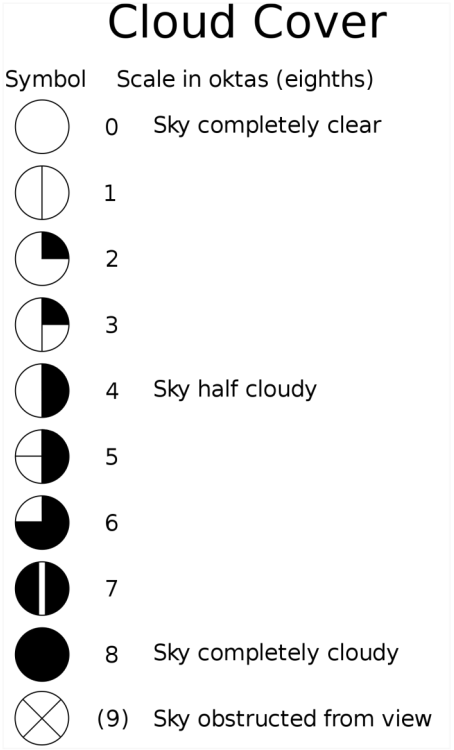
Units: Oktas

Cloud cover is measure in Eighths (values out of eight) called Oktas. One way to do this is to imagine a Pie in the Sky! Slice your pie into Eighths how many Eighths contain cloud?

You could use paper or card to make your own Okta grid:



https://www.bbc.co.uk/bitesize/guides/



https://en.wikipedia.org/wiki/Okta



Measuring Rainfall

Equipment: Large plastic bottle (2ltr), scissors, ruler, modelling clay or plasticine

Units: mm



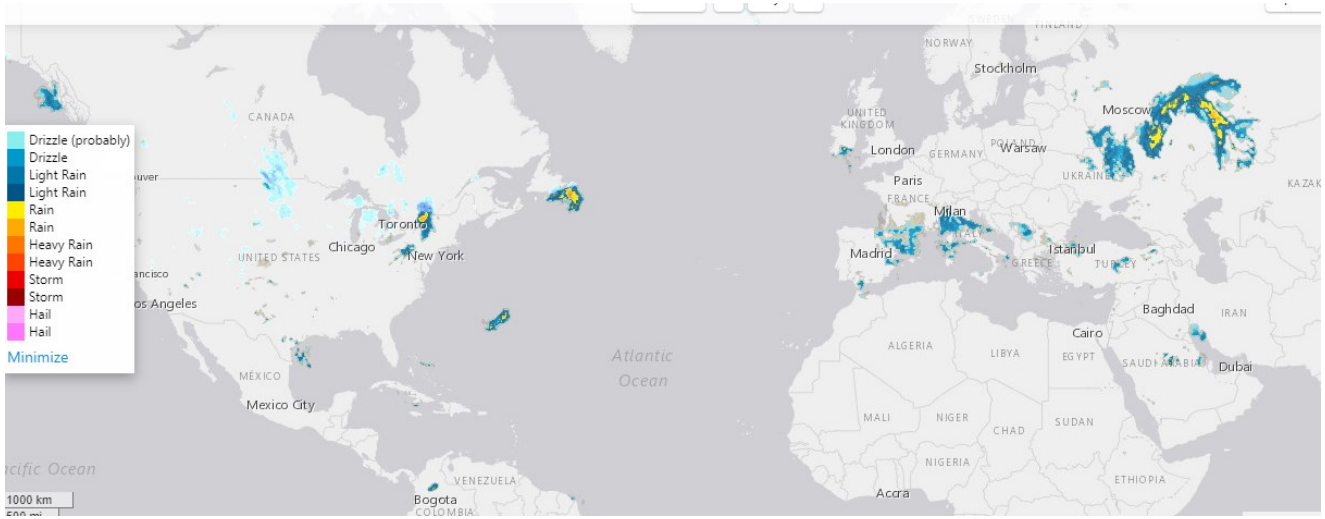
Click on this link and watch this Youtube video from the BBC on how build a rain gauge:

https://www.youtube.com/watch?v=BdeKdT0nwow

Scientists can use radars to scan the sky for clouds and precipitation. This can be used to create real time rainfall maps that everyone can view!

The Rain Viewer website lets you view live rainfall all over the world!

www.rainviewer.com



Measuring Wind Speed

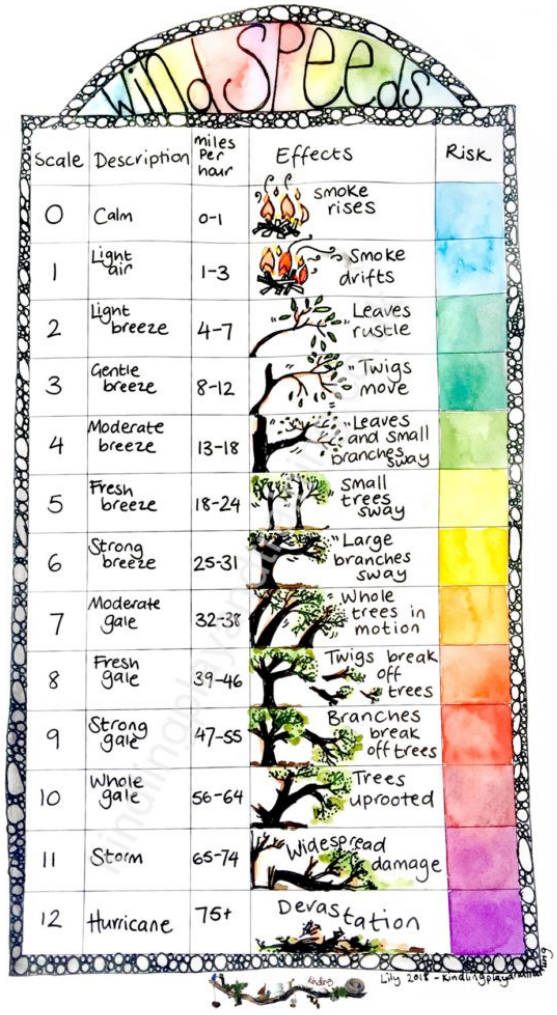
All over the world the speed of the wind can be estimated by using The Beaufort Scale. The scale goes from 0 to 12.



1.Look at the trees and bushes around your home. How much are they moving? If they aren't moving try to imagine smoke rising from a chimney, would the smoke rise straight up or drift away?

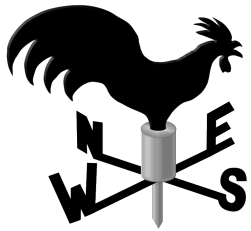
2. Compare your observations to the effects described on the

Beaufort Scale Chart



Measuring Wind Direction

Meteorologists record the direction wind is travelling from.



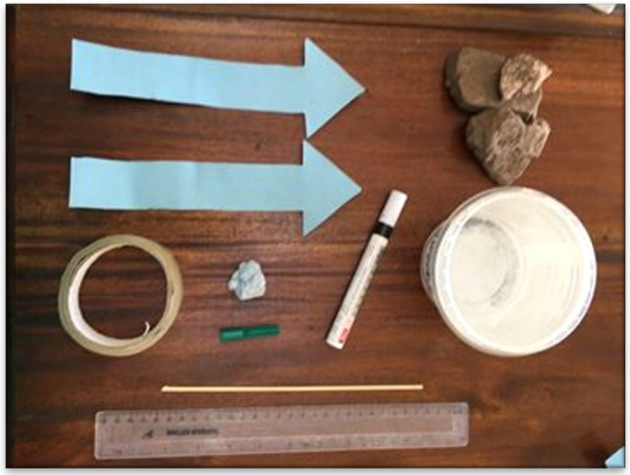
1.Stand so you can feel the wind in your face. The way you are facing is where the wind is coming from. You could use a compass to work out which way you are facing.

2. Wind Vanes are another way of measuring the wind direction. The next pages have instructions for making your own wind vane!

Find out more about what the wind is doing all over the UK today: https://www.xcweather.co.uk/

How to make your own wind vane

1. Gather your equipment:



- ✓ 2 x thin cardboard arrows about 25cm long
- ✓ Sticky tape
- ✓ Sticky Tac or Plasticine
- ✓ Pen lid (biro or felt tip)
- ✓ Marker Pen
- ✓ Yoghurt pot with lid or a small old plastic bottle
- ✓ Small rocks or uncooked rice to fill the pot or bottle
- ✓ Wooden skewer (very think straight stick or a knitting needle is ok)
- ✓ Ruler

2. Tape the pen lid to the centre of one of the arrows.



3. Tape the second arrow over the first arrow. It should now look like one arrow with the pen lid stuck in the middle.



4. Fill the yoghurt pot with stones or uncooked rice. You need enough to stop it being knocked over too easily. Put the lid on.



5. Turn the pot over. On the base mark North, East, South and West. Stick the lump of sticky tac or plasticine in the centre.



6. Put the wooden skewer in the sticky tac. Mould the sticky tac around the base of the skewer so it is secure.



7. Place the arrow on top of the skewer. The pen lid should go over the skewer. Test your vane, it should spin when you push the arrow.



8. Find a suitable place your for wind vane. Turn the base of the vane so North is in the correct direction. You can use a compass to find out which way north is, ask an adult for help if needed. The vane will work best somewhere high and open. If there is a steady wind, the arrow will point to where the find is coming from.