

Bringing data to life

Overview

“What will weather information of the future look like?” In this activity you’ll get to look at the new technologies being used to portray data in exciting, visual ways. You’ll create your own weather station and use it to take readings and record your findings. Finish up by using your creative thinking to present your data in an eye-catching infographic.



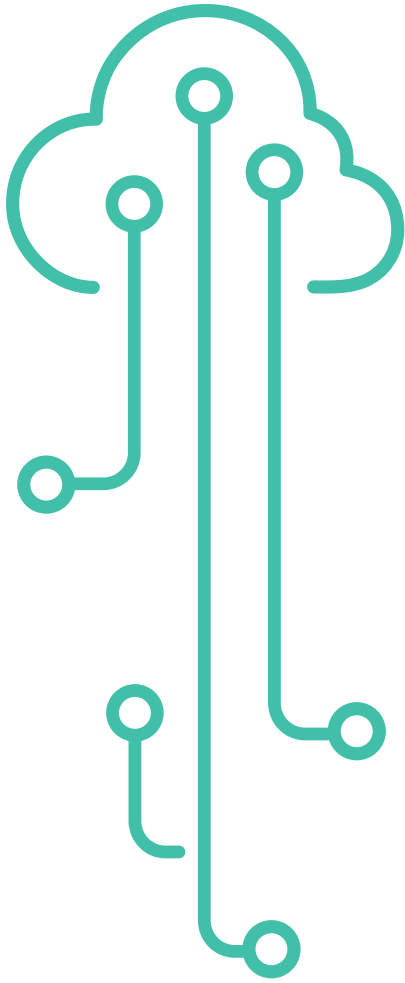
Time required

60 minutes



Materials required

- An empty plastic bottle (2 litre drink bottle would be ideal)
- Scissors
- Sticky tape
- Ruler
- Paper and pencil
- Internet access
- Jelly, 3 or 4 cubes made up as directed
- Excel or Google Sheets (optional)



Activity steps

01 Research

Do some research into the different ways we can measure weather. For example, you might like to think about measuring temperature, rain (precipitation), humidity, wind, atmospheric pressure or cloudiness. What sorts of information or data can you find out? What instruments are used to measure it? How do they work?

02 Design and make your weather station

For this exercise we're going to look at making a rain gauge, and you can find instructions on making other equipment for a weather station [here](#).

Follow these steps using the materials you've assembled to create your rain gauge:

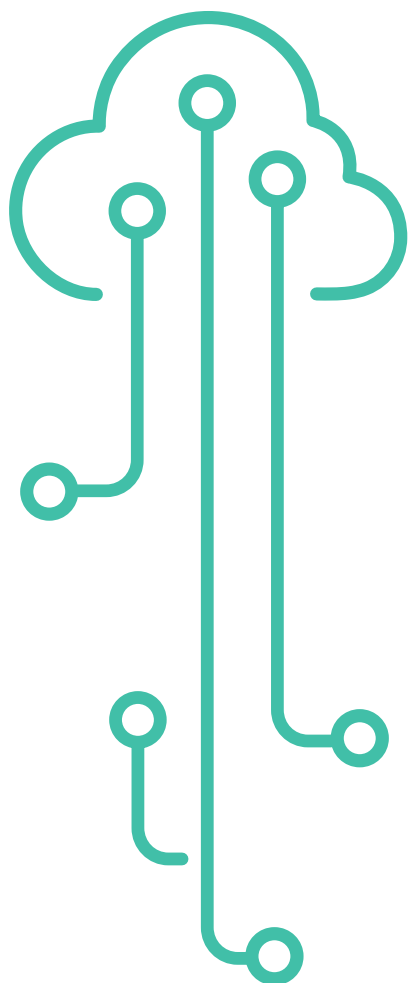
- Cut around the plastic bottle about two thirds of the way up
- Your bottle needs a flat bottom to be able to measure the rainfall properly. Pour a few centimeters of jelly into the bottle to create a flat bottom
- Turn the top part of the bottle upside down and place it inside the bottom part - fix it in place using the tape
- Using sticky tape, attach a ruler up the side of your bottle to make a scale you can read. Make sure to align the zero with the top of the jelly
- Find a place outside to put your rain gauge. It must be open and away from trees
- Dig a hole and bury your rain gauge so that the top is sticking out. This will stop it from blowing down on windy days
- Check the rain gauge every day at the same time, measure the amount of rain collected, and empty the bottle

03 Collect your data

Create a weather log to record your data and check your weather station every day for at least one week, noting down your findings.

This could be done as a table or spreadsheet, a leaflet or written diary; you may also want to use drawings or diagrams to illustrate your findings. This could also help you for the later step when you'll be looking at ways to present your data in interesting ways!

Think about how to ensure your experiment is a fair test e.g. are you collecting your data at the same time every day? Think about how you will present your data before you start collecting, so that you can make sure you are collecting the right information. Look at your research from step 1 to help you.



Tips:

- If you are planning to use computer software for your data visualisation, it will be easier to record your weather log directly into an Excel spreadsheet, so that you don't have to type it all up at the end.
- If you are stuck for ideas on how to present your data, try looking up visualisation techniques online for inspiration. The Met Office Weather Infographics Pinterest board is a good place to start www.pinterest.co.uk/metoffice/weather-infographics/

04 Present your data

Consider different visual ways that you have seen data presented. Which types of graph or chart would work best for the data that you have? Then, present your data in an interesting, creative way. The Met Office uses a lot of maps, as they collect data from all around the country, but you might prefer to use a bar or line graph, or a scatter chart. If you're feeling extra creative, why not think outside the box and show your data using Lego, building blocks or stacked cans?

05 Think about the future

Ask an adult how weather information was presented when they were your age. In what ways is this different to how weather information is presented today? When you're their age, or older, how do you think organisations like the Met Office will be presenting weather data in the future?