



Weather career stories



Introduction

Overview

Use this lesson to explore exciting stories behind weather and climate careers. It's supported by a graphic novel style cartoon, curriculum-linked activities and worksheets to bring learning to life.

Learners will develop their skills in research, learn about exciting new technologies and explore different careers in weather and climate.



Time required

- Icebreaker — Radar fact-finder bingo: 25 min
- Technical term-busting: 20 min
- Explore the people and careers behind the story: 45 min

The activities can be delivered as a series of lessons or as bitesized, standalone exercises.



Materials required

- 'Weather heroes' cartoon
- 'Radar fact-finder' bingo cards
- 'Career backstory' handout
- 'Radar factsheet' handout
- Different coloured pens

Optional materials

- Internet access (if conducting research task)
- 'Weather hero cartoon' DIY activity (great as an extension or homework)

All handouts and sheets can be found in the resource pack.

Learning objectives

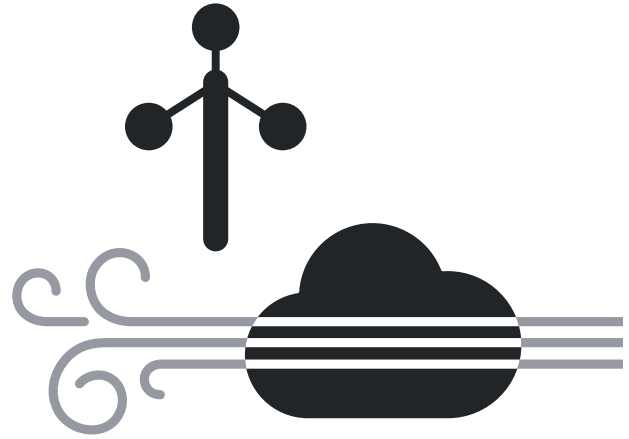
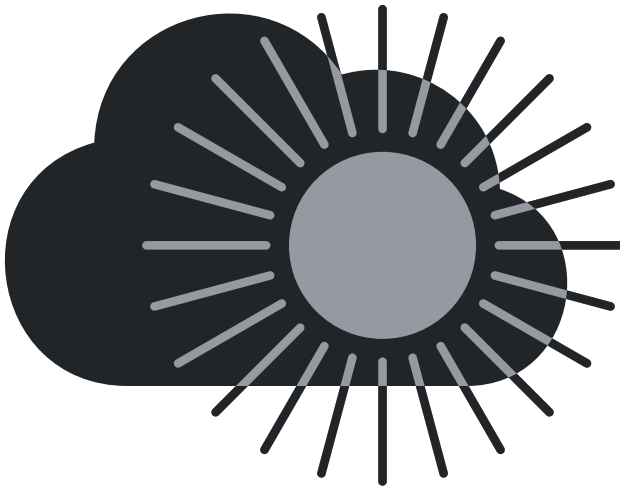
This lesson will enable pupils to:

- Explore different career journeys in weather and climate careers
- Learn a variety of terms related to weather careers and technologies
- Identify and demonstrate different skills and personal qualities needed to succeed in different weather and climate careers
- Explore what is meant by diversity and its importance to people and businesses

Curriculum links

- **Health and wellbeing** – evaluating personal strengths, interests, skills and links to employment, understanding diversity and its importance
- **Sciences** – topical science, water changing state, forces, magnets
- **Geography/social studies** – measuring and recording the weather, exploring climate zones and their effect on living things
- **Literacy and English language** – reading, functional and imaginative writing, talking and listening
- **Expressive arts** – choose and explore media and a variety of techniques, communicate thoughts, ideas and feelings through art and design

Activity steps



Icebreaker: Radar fact-finder bingo

This activity can be used as an assessment tool to check learning. It's worth noting that some of the vocabulary may be familiar, but most terms will be new and likely require some further defining.

01 Ask pupils to work together and give each team a 'Radar fact-finder' bingo card.

02 Explain that you're going to read a short factsheet about radar technology. Teams will need to listen carefully – every time they hear a term that is on their bingo card, they should circle it.

03 Read the factsheet again. This time, ask teams to write notes under each word as they hear the information. The first group to complete a row on their card shouts 'bingo!'. They must be able to verbally explain each term in order to validate their win. Alternatively, for a simpler task, ask pupils to circle the terms as they hear them and talk through the definitions at the end. Below are some possible answers:

Weather radar

Sends out electromagnetic pulses which detect objects in the sky, like raindrops, and can tell how big they are, where they are and how fast they are falling.



25 minutes



Groupwork



'Radar fact-finder' bingo cards



'Radar factsheet'

Activity steps

Radome

A large structure that surrounds the radar to protect it from damage. It looks like a giant golf ball!

Receiver

A device in the radar that 'listens' to the echoes transmitted back to the radar to capture important weather data.

Field services engineer

Engineers whose job it is to maintain and fix radars.

Precipitation

Water that is falling out of the sky, this could be rain, drizzle, snow, sleet, or hail.

Meteorologist

People who forecast the weather, helping people stay safe.

04 If working with a more advanced group, you could also run a bonus round, giving pupils extra points if they can also define:

- Geodesic
- Electromagnetic pulses
- Antenna

05 A hand-out of the factsheet can also be given to pupils afterwards, should they want a refresher on these terms at a later point.

06 Explain that some of these terms will be found in the cartoon they're about to read.



Radar factsheet

Activity steps

Technical term-busting

- 01** Put the 'Weather heroes' cartoon up on the screen or interactive whiteboard so that you can read and share ideas as a whole class. You may also want to hand out printed copies to individuals or pairs. Depending on ability, you may even want to ask pupils to read it out loud, assigning different characters to each person.
- 02** As the story is read, ask pupils to circle or write down any scientific or technical words they hear. Explain that you don't expect them to know what all of these mean. Next, ask them to read through it again and circle any other words they don't understand. You could do this in pairs to see if some already know the terms and are able to help their partner with defining them.
- 03** When pupils have compiled their lists, talk these through as a group. Start with the technical terms. The glossary below can be used to prompt discussion and help pupils understand the more difficult terminology, including examples of what they mean within the context of the story:

Apprenticeship

A paid work opportunity that allows you to train and progress towards a qualification while working.

Sophie got into her job at the Met Office through an apprenticeship. She was able to go straight into the job after college, so that she could earn money while training to be a qualified engineer.

Bridge

A frame made out of scaffolding that allows engineers to safely work at height within a radome.

Sophie has to climb up to the bridge in order to fix the radar's receiver (refer back to the radar factsheet for more information on receivers). The receiver is high up within the radome, so the bridge is there to make sure she stays safe as she works on it.



20 minutes



Groupwork



'Weather heroes' cartoon (large print version available in resource pack)

Activity steps

Code

An arrangement of rules or instructions that tells a computer to perform different tasks.

Aaron's job involves looking at the code that controls the radar, alongside the data it is recording, to see what is broken. By using different coding techniques, he can figure out exactly what the problem is.

Data

A collection of values that are collected through observation and can then be converted into information as text or visuals.

The radar records data about the precipitation, but to be useful the data needs to be turned into information about the incoming snowstorm.

Snowstorm

A very heavy fall of snow that is blown by strong winds for a sustained period of time. It can include snow, sleet, ice and freezing rain.

Sophie is fighting the clock to fix the radar before this extreme weather event gets too near! Because of the risks it can bring to people's safety, it's very important that the radar is able to transmit data back to Met Office HQ, so that they can pass information on to prepare the emergency services.

Alternatively, if they have access to the internet, pupils can find their own definitions.

Activity steps

Explore the people and careers behind the story

01

Ask pupils to read the 'Weather heroes' cartoon and circle any job roles (if they completed the previous activity, get them to use a different colour).

02

Get volunteers to call out what they found, or use the list below to help prompt the class. Explain to students that the characters in this story are based on real people working at the Met Office! If you have time and access to the internet, you may want to use the links below to briefly show them the real people behind each character:

- Field Services Engineer – [read Tess's story](#)
- Manager in Upper Air Observations – [read Caroline's story](#)
- Radar Software Engineer – [read Ben's story](#)

Based on each role in the story, can pupils guess what these jobs involve?

03

Explain that you're now going to delve into the backstory of each character's career. Split the class into groups of 3-4. Give each group a different 'Career backstory' card and ask them to read it in their groups.

04

Ask each group to spend a few minutes discussing and recording answers to the following questions:

- How do each of the characters help to solve the problem? Why do you think that working as a team was important here?
- Draw a mindmap for each of the three careers. What are the different personal qualities and skills that they need? You may even want to group pupils and give each a different career to focus on
- Where do pupils demonstrate similar skills and qualities in their own lives? Ask them to describe three examples. E.g. Delivering presentations need good verbal communication, using their organisation skills to plan doing chores or homework, developing teamwork through a sport or after-school club



45 minutes



Groupwork



'Weather heroes' cartoon



'Career backstory' worksheet

Tips for further support

For students needing further guidance, you may also want to help them shape their story, e.g.:

- The different job roles they could feature
- Location e.g. in an office, outside etc.?
- The challenges their characters might face
- The top skills that their characters will have to overcome the challenge
- The different people they will work with

Activity steps

05 Finish by encouraging pupils to consider who they would ask to help them with certain tasks and situation, and how a combination of qualities, makes a team stronger.

Optional research task

Ask pupils to think about the different journeys into these careers, reflecting the examples shared in the backstories, e.g. apprenticeships, university, Open University, etc. What are the benefits of each method? E.g. doing an apprenticeship means you can learn and earn at the same time, Open University gives you more flexibility and options to study and change careers etc. Encourage pupils to use these techniques and questions when thinking about other jobs they might be interested in.

06 Come back together and ask each group to share a few of their answers.

07 Ask pupils why collaboration was important in this story. Could the challenge have been solved by just one of the characters? Explain that in many workplaces, it's important for different teams to work together, to bring a combination of skills and expertise. Explore the term 'diversity', how this means recognising and celebrating the things that make us different and treating these unique qualities with respect. You may want to reflect on examples they will have seen of this in their own lives e.g. in their friendship groups or as part of other learning tasks at school.

08 Ask pupils to consider what benefits a diverse range of unique qualities can bring to a business. For example:

- It can help to bring in different viewpoints, fresh ideas and new perspectives on ways to solve problems*
- It helps people feel valued, meaning we are happier, more productive and work better together*
- It can help us network and build stronger relationships with others e.g. if travelling abroad or going to a new place where we'll meet people from different countries, nationalities, cultures and ethnicities

*Source: <https://www.cipd.co.uk/knowledge/fundamentals/relations/diversity/factsheet#6428>

Activity steps

09 Reflect back on the end of the story, where it explains how the team's work to fix the radar meant that the emergency services could better prepare to keep people safe against the snowstorm. Use this as an opportunity to discuss pupils' own experiences of extreme weather events in their lives and/or local area. How did it affect them? How did the emergency services and community respond to the event? Before discussing this topic, ensure that that it will not be upsetting or triggering for pupils who are more vulnerable and/or have had a negative experience relating to extreme weather.

10 Finish up by getting pupils to reflect on:

- One transferable skill they're going to work in the future learnt from this activity (e.g. communication, teamwork, problem solving, creativity) and where they might develop this skill (e.g. to put on their CV, use for an upcoming project or piece of homework)
- One new thing they learnt about careers in weather and climate that they didn't know before
- One benefit that working as part of a team can bring

Take this further using this DIY activity to get pupils coming up with their own weather hero cartoon strips – perfect as an extension or homework!



Individual task



'Weather hero cartoon'
DIY activity