



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.

Students will develop their research skills, learn about innovative technologies and explore different pathways into weather and climate jobs.



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, a full 90-minute session 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

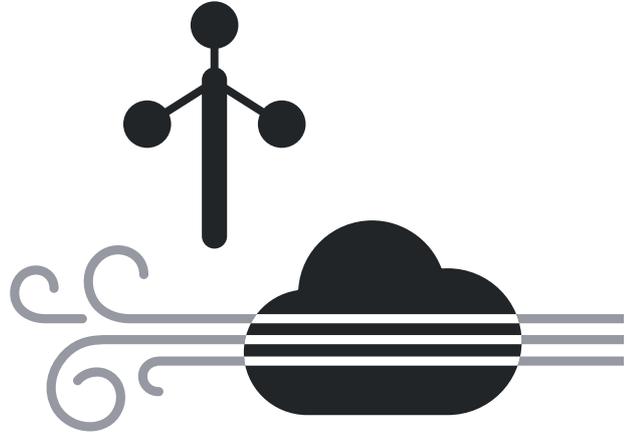
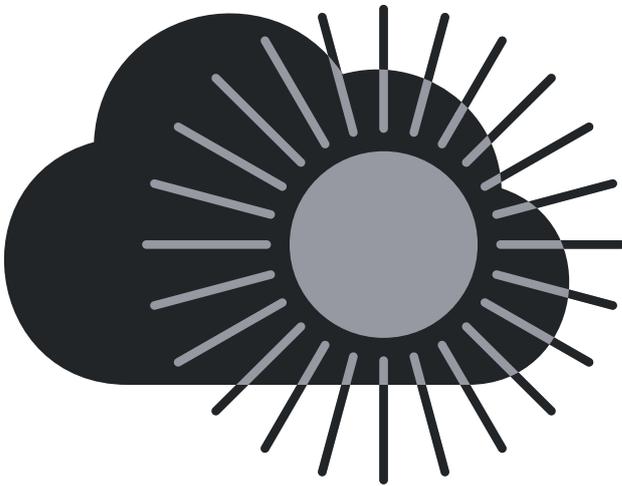
This lesson will enable students to:

- Understand destinations and pathways in weather and climate careers, including the skillsets, qualifications and interests required
- Understand a variety of terms around weather careers and technologies
- Identify and demonstrate different responsibilities, skills and attributes needed to succeed in different weather and climate careers
- Develop an understanding of diversity and its importance to people and businesses

Curriculum links

- **PSHE and citizenship/PSE/health and wellbeing/PDMU** – evaluating personal strengths, interests, skills and links to employment, understanding diversity and its importance
- **Science** – energy and waves, electromagnetism, science technologies
- **Geography** – weather and climate, communicating data
- **English** – written and verbal communication, creative writing and text analysis
- **Art and design/expressive arts** – storytelling, using a range of artistic techniques and media

Activity steps



Icebreaker: Radar fact-finder bingo

01

Provide each student with a 'Radar fact-finder' bingo card. Students will need to write down each of the following terms into a square on their grid:

- Weather radar
- Field services engineer
- Receiver
- Meteorologist
- Precipitation
- Radome

Make sure they don't write them in the order they have been given, otherwise they won't get bingo! This should also ensure that everyone has a unique bingo card.

02

Explain that you're going to read a short factsheet about radar technology. Students 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, as well as the term, students will need to write down the definition. The first person to complete a row on their card shouts 'bingo!'. Alternatively, for a simpler task, ask students to circle the terms off as they hear them and talk through the definitions at the end. Overleaf are some possible answers:



25 minutes



Groupwork



'Radar fact-finder' bingo cards



'Radar factsheet'

Activity steps

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.

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 students extra points if they can also define:

- Geodesic
- Electromagnetic pulses
- Antenna

05

A hand-out of the factsheet can also be given to students 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** Ask students to read the ‘Weather heroes’ cartoon to themselves, or put this up on a screen and read it out to the whole class. You may also want to hand out printed copies to individuals or pairs. You may even want to ask others to volunteer, assigning different characters to each person.
- 02** As the story is read, ask students to circle or write down any scientific or technical terminology they hear. Explain that you don’t expect them to know what all of these words mean. The next step is to go through their lists and debunk the more challenging terms.
- 03** When students 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 students 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.



15 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, students can find their own definitions.

Activity steps

Explore the people and careers behind the story

01 Ask students 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 students 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 does this character's job help them work with their team solve the problem in the story?
- List all the skills they can find in the cartoon and their character's career backstory. How do they demonstrate these skills in their work? E.g. Sophie shows good communication and problem solving by work closely with Aaron to find a solution
- Where do students demonstrate similar skills in their own lives? E.g. Delivering presentations need good verbal communication, using their organisation skills to plan a birthday party or school event, 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

Optional research task

Ask groups to research alternative ways of getting into one of these careers, asking themselves:

- What qualifications are needed?
- What types of skill and attributes are important?
- Which subjects are useful to take for exams?
- Are there different training schemes available?

They can use the following links as starting points for their research:

- <https://icould.com/>
- <https://www.prospects.ac.uk/>
- <https://www.metoffice.gov.uk/about-us/careers/your-career>

Reflect on how many different options and combinations can be explored. Encourage students to use these techniques and questions when searching for other jobs they might be interested in.

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

06 Ask students 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.

07 Ask students to think about how each character differed. Encourage them to think beyond each character's job to focus on their different attributes. Answers could include their age, gender, ethnicity. Explain that workplaces are an opportunity to meet and build relationships with people from diverse background and cultures.

08 Ask students to consider what benefits a diverse workforce can have. For example:

- It can help to bring in different viewpoints, fresh ideas and new perspectives on ways to solve problems*

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

Activity steps

- It helps people feel valued, meaning we are happier, more productive and work together better*
- 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
- It challenges workplace stereotypes and biases e.g. if they had heard this story without seeing Sophie or knowing her name, would they have imagined a woman? Many will say no because historically, STEM careers are associated with men, and there is still a minority of women in these careers (11% of the engineering workforce is female**). By seeing more women in these roles, this can inspire others to make the same choices, and so we can continue to diversify our workforce

09

They could even think about where bringing diversity into their own school work or home life has benefitted them e.g. when they've worked on group projects, debated with someone who had a different point of view, had an exchange student come over or a relative who lives abroad etc.

Finish up by getting students to reflect on:

- Two new transferable skills they've learnt from this activity (e.g. communication, teamwork, problem solving, creativity)
- An opportunity to use the skills they've learnt elsewhere in their work (e.g. to put on their CV, use for an upcoming project or piece of homework)
- One new thing they've learnt about careers in weather and climate that they didn't know before
- One benefit that diversity can bring to us or businesses

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

**Source: <https://www.britishengines.co.uk/blog/10-facts-women-uk-engineering-jobs/>



Individual task



'Weather hero cartoon'
DIY activity