# Weather and climate

## How can we record and measure different weather phenomena?

### Lesson 1: What is the difference between weather and climate?



# Geographical knowledge and concepts



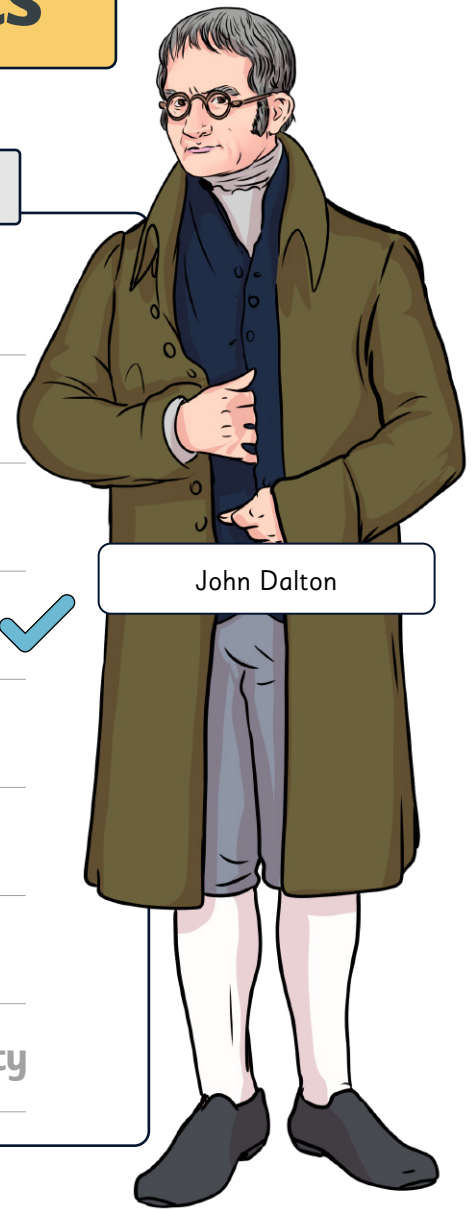
Joanne Simpson

## Geographical knowledge

- Locational knowledge ✓
- Place knowledge
- Human and physical geography ✓
- Geographical skills and fieldwork

## Geographical concepts

- Place
- Space
- Scale
- Physical and human processes ✓
- Interdependence
- Environmental impact
- Sustainable development
- Cultural awareness and diversity



John Dalton

# How can we record and measure different weather phenomena?



Joanne Simpson

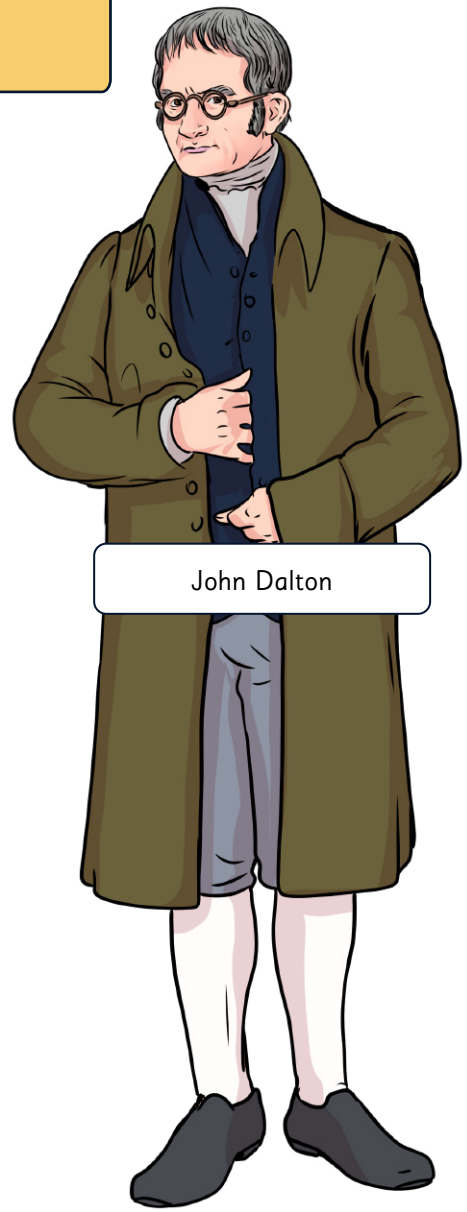
**Lesson 1: What is the difference between weather and climate?**

**Lesson 2:** How can we read a weather map?

**Lesson 3:** How can we collect weather data?

**Lesson 4:** How can we present weather data?

**Lesson 5:** How can we analyse our weather data and evaluate our fieldwork?



John Dalton

# Key vocabulary for this lesson



**extreme** – beyond what is usual or what might be expected



**seasons** – the cycle of weather changes over the year

# Locational knowledge





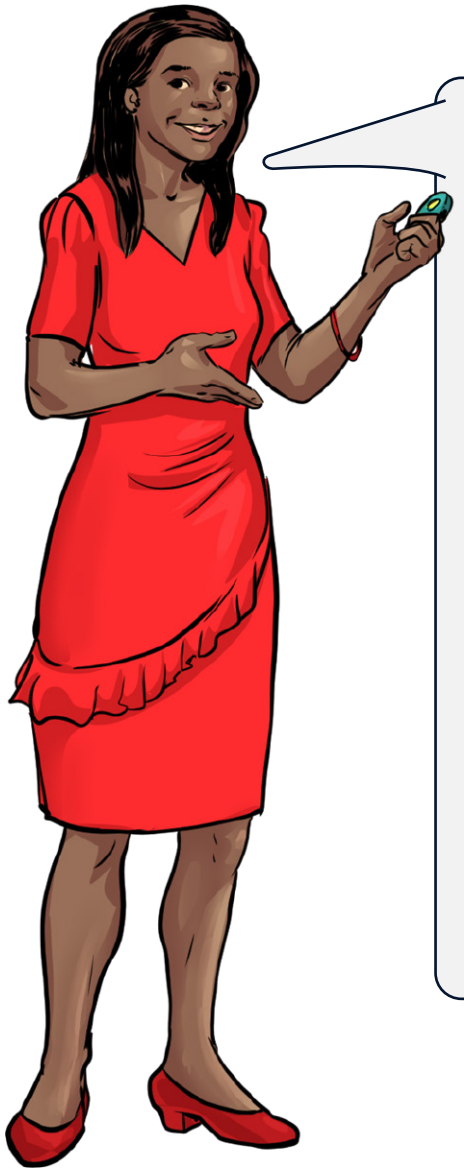
Hello again! It's **Jada**, the **meteorologist**!

I study the **weather** so I can tell people what the day will be like and help them get ready for things such as storms or very hot days. This keeps people safe and helps them plan what to do.

Having knowledge about different **locations** helps us understand what each place is like and why. Today, we will learn about the **weather** and **climate** in different places, and how people are affected by it.

# Let's discuss





Discuss these questions with your learning partner.

- What does '**climate**' mean?
- What does '**weather**' mean?

Use these sentence starters to help you:

- "**Climate** means…"

- "**Weather** means…"

Be ready to **share your feedback** with the class before the **answers** are revealed.

# Let's discuss

answers

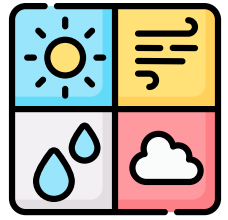




The **climate** is the usual weather over a **long period of time**.



The **weather** is the **daily changes** in conditions outside.

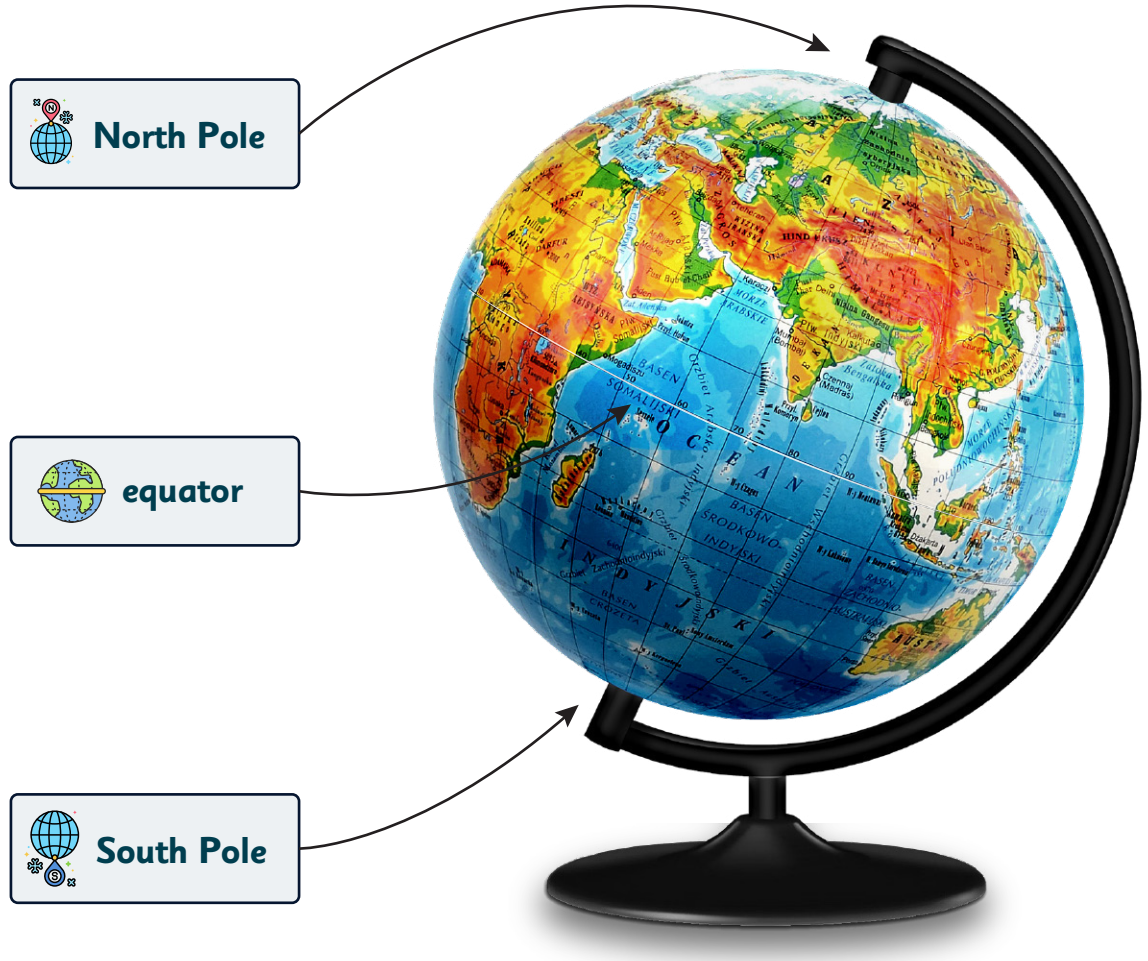


# Why are climates different around the world?



**The Earth's equator** is the imaginary line that runs **around the Earth's centre**.

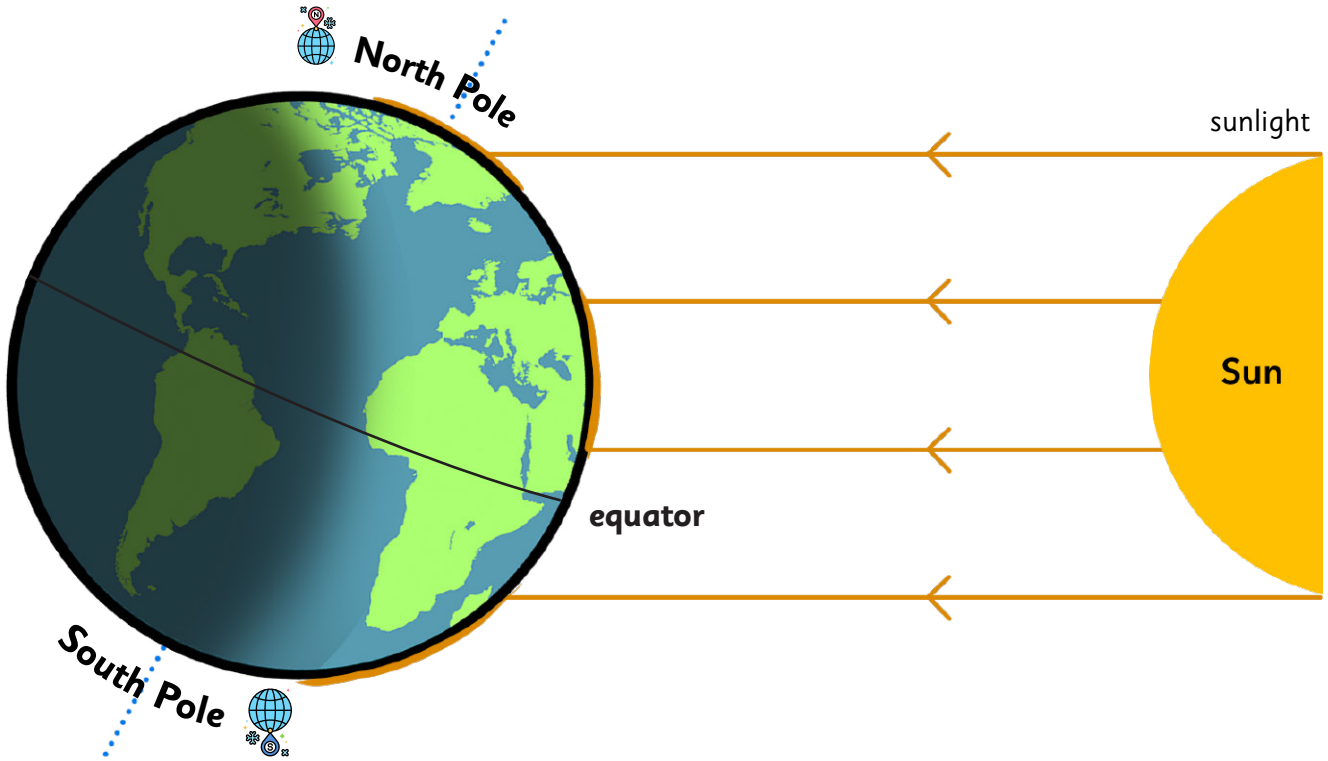
The equator is an **equal distance** between the **North and South Poles**.



# Why are climates different around the world?

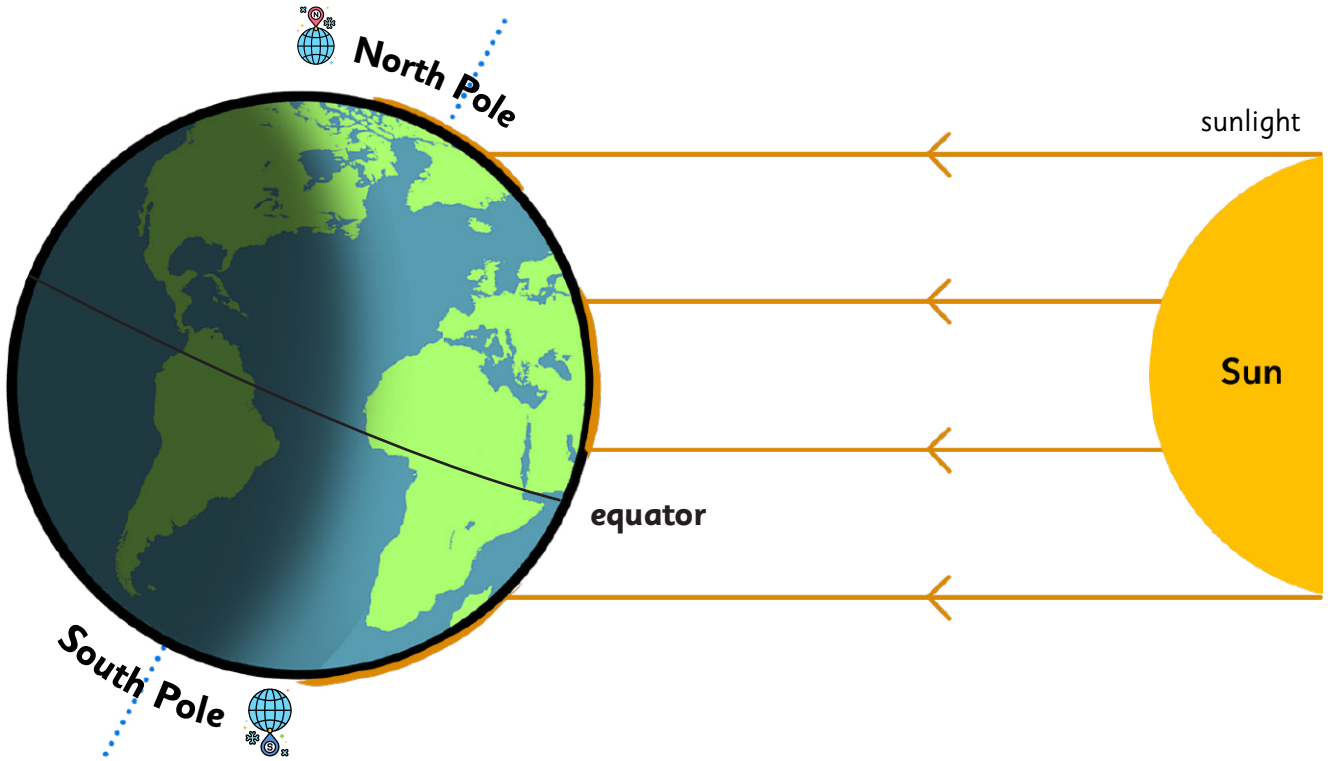


The Sun shines **less directly on the North** and **South Poles** because **they are further from the Sun**, so they are the **coldest places on Earth**.



# Why are climates different around the world?

Physical and human processes




The Earth is round and **tilted at an angle**, so the Sun's rays **don't fall evenly on the land and oceans**.

Places on the **equator** are the **hottest places on Earth**. They are the **closest to the Sun** and get the most **direct sunshine**.

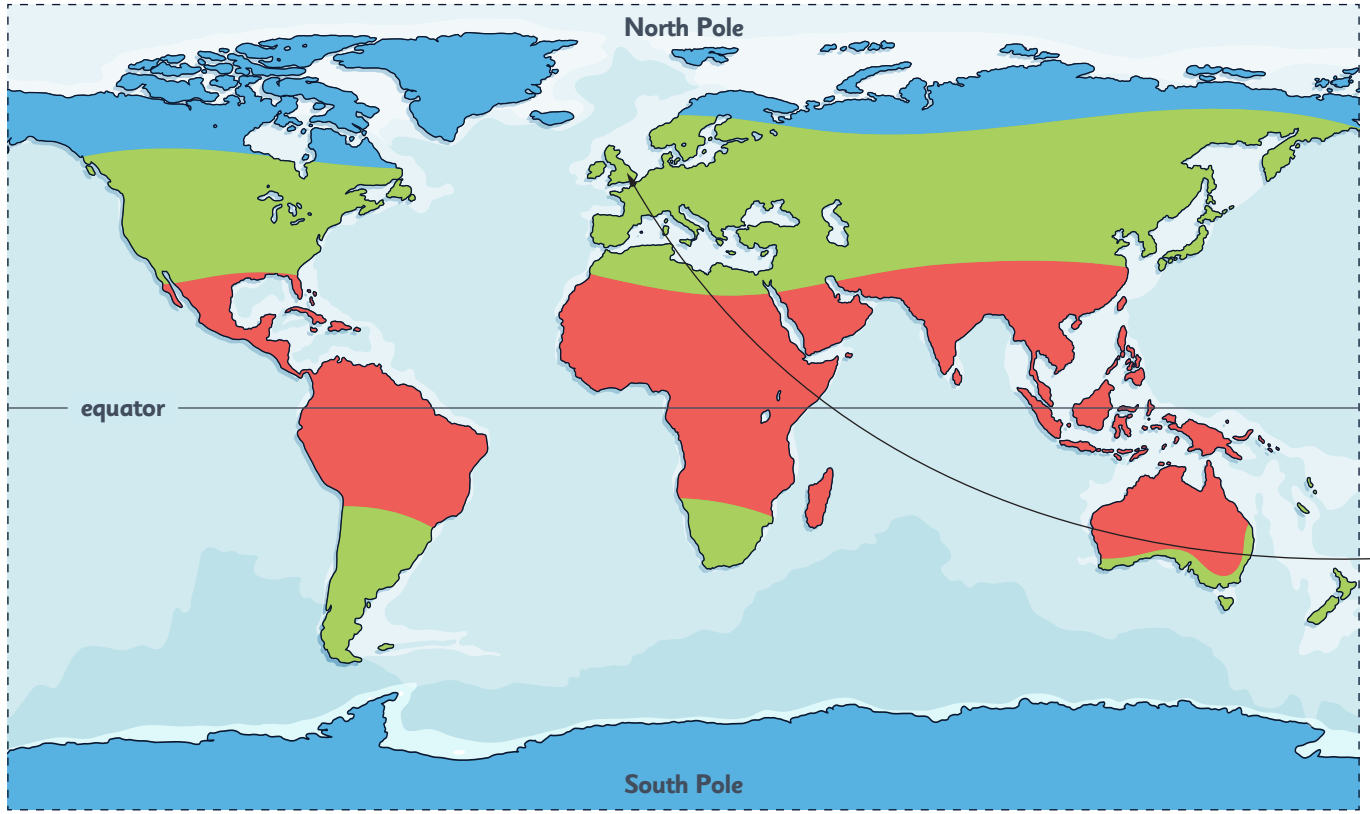
# What type of climate does the UK have?

Physical and human processes

Locational knowledge

This map shows the world's hot, cold and temperate areas.

**Climate key:** hot temperate cold




Places the **same distance** from the **North** or **South Pole** often have a **similar climate** because they get a similar amount of **sunlight**.

**The United Kingdom**

**New word alert!**

**temperate** – moderate temperatures and relatively mild weather

# How does climate affect weather?

Physical and human processes

Locational knowledge

## Hot climates

Places near the **equator** tend to have the **same or similar weather** **all year round.**



Hot weather can be **damp**. Another word for this type of weather is **humid**.



Hot weather can mean there is **little or no rain all year**. These hot, dry places are called **deserts**.

**New word alert!**

**humid** – when the air feels warm and damp

It can **rain a lot** in some hot places. These places are called **tropical** and often have **rainforests**.

Grammarsaurus

# How does climate affect weather?

Physical and human processes

Locational knowledge

## Temperate climates

Places in **temperate** areas do not tend to have '**extreme**' climates.

The **temperatures** in these areas are described as **mild**. They are not extremely hot or extremely cold.



These areas lie **between** the **equator** and the **poles**.

They have **four seasons** and a **moderate amount of rainfall** all year round.

### New word alert!

**temperature** – how hot or cold something is

### New word alert!

**mild** – of limited severity; not extreme

Grammarsaurus

# How does climate affect weather?

Physical and human processes

Locational knowledge

## Cold climates

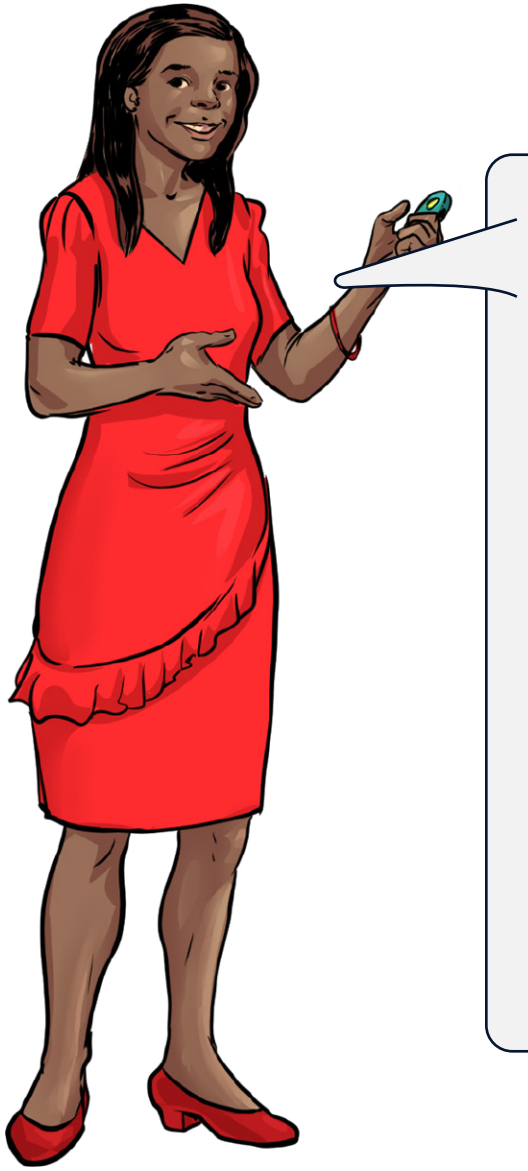
These areas are **close** to the **North** and **South poles** . The **closer** a place is to the **poles**, the **colder** it is.



The poles have **extremely low temperatures** – less than freezing for most of the year, so there is a lot of **ice** and **snow**.

Places near the **poles** tend to have the **same or similar weather** **all year round**.

# Stop and jot

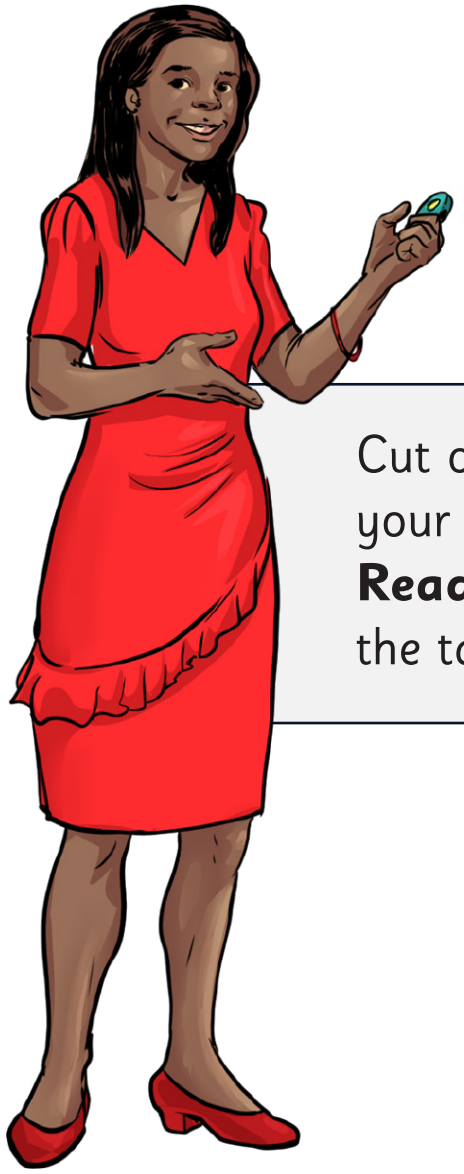


With your **learning partner**, take turns saying as many **words** as you can to **describe the weather** in one minute.

Write your words on a **whiteboard**.

When you have finished, **share your words** with the class to create a **bank of weather words**.

# Activity



Cut out the statements on your **activity worksheet**. **Read** and **sort** them into the table.



## Activity

Cut out the weather and climate statements. Sort and stick them into the table. One has been done for you.

| weather | climate |
| --- | --- |
| | It often snows in winter. |

## Activity

Cut out the weather and climate statements. Sort and stick them into the table below.

| weather | climate |
| --- | --- |
| | |

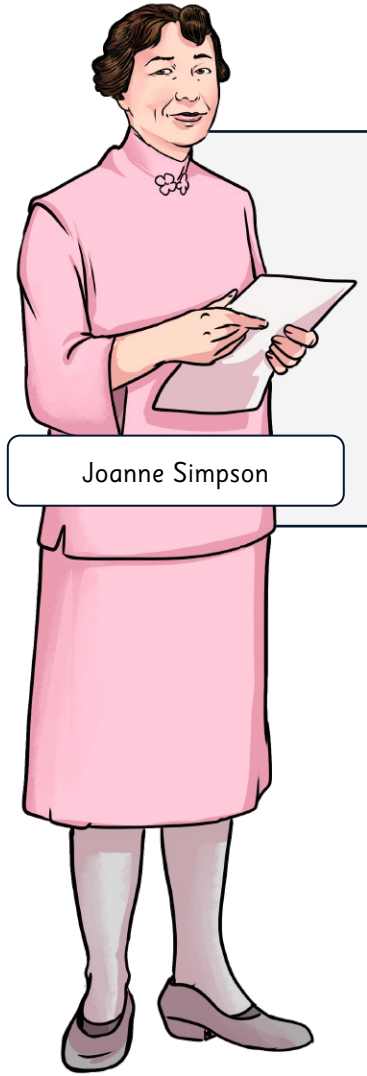
## Activity

Cut out the weather and climate statements. Sort and stick them into the table. Explain the difference between weather and climate.

| weather | climate |
| --- | --- |
| | |

What is the difference between weather and climate?

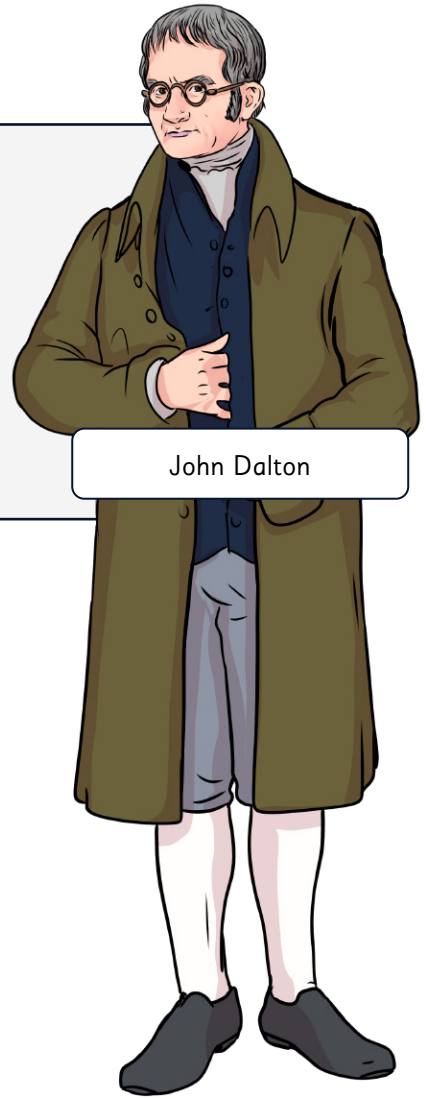
# Challenge




**Discuss** the following question with your **learning partner**.

**If a place has hot weather today, that means it has a hot climate.**

**Do you agree or disagree?**

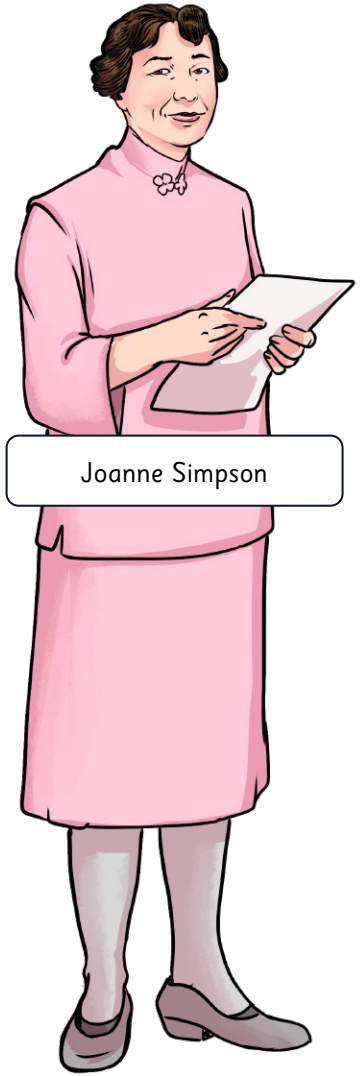



Be ready to **share your feedback** with the class before the **answers** are revealed.

Use the following sentence starter to help you.

**"I agree/disagree that if a place has hot weather today, it means that it has a hot climate because…"**

# Challenge answers




**Weather** is what happens **each day**, and it can change quickly. **Climate** is what the weather is usually like in a place **over a long time**.

A place might have **hot weather today**, but that **doesn't always mean it has a hot climate**.

For example, some places can have a **hot day**, even though they usually have a **cooler climate**.

