

Yr 7 Geography – Weather and Climate

Why am I learning this?

I will be able to explain factors that cause different types of weather and describe how weather is measured. I will be able to use data to produce climate graphs and draw my own conclusions.

| Key Word | Definition |
|----------------------------|---|
| Weather | Short-term day to day or hour to hour changes in the atmosphere |
| Climate | The average weather conditions of a place over a long period of time |
| Ocean current | Movements of ocean - either warm or cold sea water |
| Prevailing wind | A wind that blows consistently FROM a given direction |
| Altitude | Height above sea level |
| Isotherm maps | Maps that show areas of different temperatures |
| Weather pattern | The type of weather found in an area |
| The Water Cycle | A description of how water evaporates from the sea, forms clouds , falls to the ground and eventually makes its way back to the sea to start over again . |
| Evaporation | When water heats up and turns into water vapour |
| Condensation | When water vapour cools down and turns into water |
| Precipitation | Water that is falling out of the sky eg rain, snow, hail |
| Relief rainfall | Rain caused by warm air RISING over a hill/ mountain |
| Convective rainfall | Rain caused by warm air RISING because it is heated by the sun |

| | |
|-------------------------|--|
| Frontal rainfall | Rain caused by warm air RISING because <u>it meets a front of cold air</u> |
| Climate graph | A graph that shows the amount of rainfall AND temperature for each month of the year in a specific location |
| Air pressure | The weight of the air pressing down on the surface |
| Wind | The movement of air from areas of high pressure to areas of low pressure |

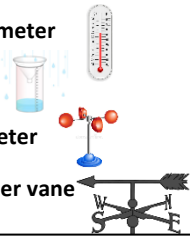
How do we measure the weather?

Temperature – **Thermometer**

Rainfall – **Rain gauge**

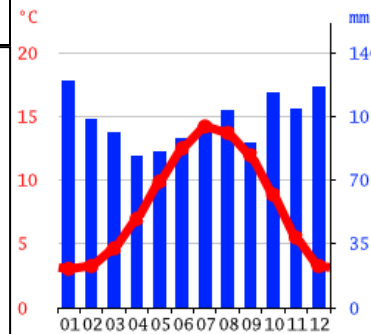
Wind speed – **Anemometer**

Wind direction – **Weather vane**



What is a climate graph?

A graph that shows **TWO** pieces of information - the amount of **rainfall each month** as a **BAR GRAPH** and the **temperature each month** as a **LINE GRAPH** for a specific location. Here is the climate graph for the UK.

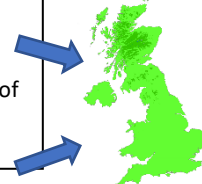
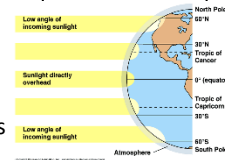


What affects the UK's climate?

Distance from the Equator – areas closer to the Equator are warmer because the Equator is the closest part of the World to the Sun. Areas closer to the North or South poles are furthest from the sun. Therefore, **IN THE SUMMER** the **South** of the UK is warmer than the **North** of the UK

Ocean currents – the 'Gulf steam' brings warm water from the Caribbean to the South West of the UK. **IN WINTER** this keeps the **South West** of the UK less cold than the **North East** of the UK.

Prevailing winds - Winds pick up characteristics of the surfaces they blow over. Wind arriving from the **West** of the UK has travelled across the **Atlantic Ocean** collecting lots of moisture. This moisture falls as rain more in the **West** of the UK. The **East** of the UK gets less rain



How does air pressure affect the weather?

HIGH pressure ↓ = air is **FALLING**. As it gets closer to Earth it gets warmer so no condensation = no clouds = dry weather and blue skies

LOW pressure ↑ = air is **RISING**. Rising air produces clouds and rain (see 'Why does it rain?')

Air pressure is measured using a **barometer**

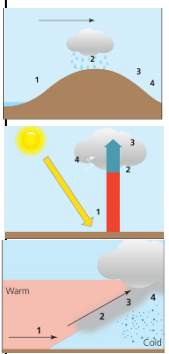


Why does it rain? It rains because warm **air RISES** as **water vapour**.

- As it rises, the water vapour in the air **starts to cool** and **condenses** back to water droplets.
- Water droplets come together and form clouds.
- When the cloud gets too heavy it begins to rain (**precipitation**)

WHY does air rise?

- Warm air meets hills/mountains. The air is forced to rise to go over the hill/mountain = **Relief rainfall**
- The sun heats up the air. Warm air rises (like an air balloon) = **Convective rainfall**
- A block of warm air meets a block of cold air. Warm air rises and cold air sinks underneath. = **Frontal rainfall**



What is a microclimate? A **small area with a climate/ temperature which is different to that of the surrounding area.**

What features can affect a microclimate?

Shelter - Reduces the effect of wind

Surface - Dark surfaces warm up most

Buildings - Give off heat and warm surroundings

Aspect - Direction in which a place is facing