

Weather and climate

What is the difference between weather and climate?

Weather describes the day-to-day conditions of the atmosphere. Weather can change quickly - one day it can be dry and sunny and the next day it may rain.

Climate describes average weather conditions over longer periods and over large areas.

Measuring weather - What do we measure?

Temperature - s measured in Celsius (°C) using a thermometer.

Precipitation, e.g. rainfall - s measured using a **rain gauge**. This is a funnel inside a graduated container. The depth of the rain in millimetres can be read from the side of the container.

Wind direction - s reported by the direction it is blowing **from**, according to the compass. Wind blowing from the west is travelling eastwards so is called a westerly wind, not an easterly wind.

Wind speed - can be measured using an anemometer. The strength of the wind is measured on the **Beaufort scale**.

Air pressure - air is light but because there is so much of it above us, it exerts a pressure on us. Air pressure is measured by a **barometer**. The units used are millibars. The greater the reading, the higher the pressure.

Cloud cover - s measured in units called oktas. Each okta represents one eighth of the sky covered by cloud.

High pressure system (anticyclone)- air falls so no clouds are formed - summer = fine weather winter = cold and crisp weather.

Low pressure system (depression) - air rises so clouds and rainfall are formed. They bring unsettled weather.

Knowledge Organiser

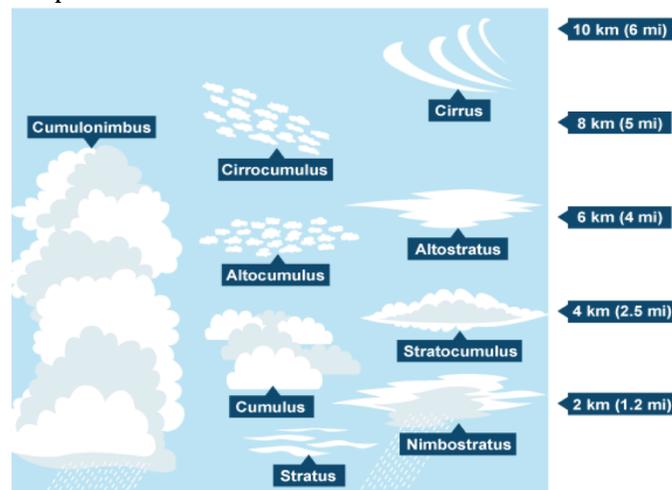
Geography - Year 7 HT3

Synoptic chart symbols

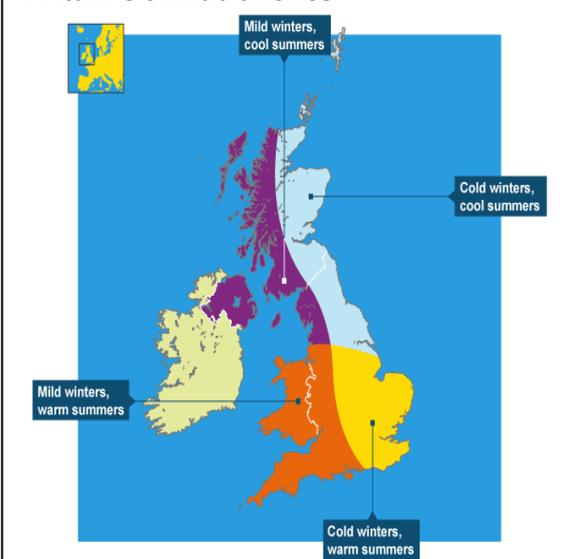
Symbol	Precipitation	Symbol	Cloud cover	Symbol	Wind speed
	Drizzle		Clear sky		Calm
	Rain		One okta		1-2 knots
	Heavy rain		Two oktas		5 knots
	Snow		Three oktas		10 knots
	Mist		Four oktas		15 knots
	Fog		Five oktas		20 knots
	Thunderstorm		Six oktas		50 knots or more

Cloud types

Clouds are characterised according to their height and shape



Britain's climatic zones



Rainfall - 3 types

1 **Relief rainfall** - warm air is forced to rise over a mountain. As it rises it cools, condenses and rains.

2 **Convection rainfall** - When the land warms up, it heats the air above it. This causes the air to expand and rise. As the air rises it cools and condenses. If this process continues then rain will fall.

3 **Frontal rainfall** - when a cold polar air mass meets a warm tropical air mass they do not mix. The cold air is heavier and forces the warm air to rise. As the air rises its cools and condenses - rain occurs along these fronts.

Britain's weather: mild climate. It is in the **temperate climatic zone** and the sea affects the weather. This means that Britain gets cool, wet winters and warm, wet summers.

