Why is the UK weather so changeable?

Year 7 Term 6

(1) Keywords

Weather	The conditions of the atmosphere, such as temperature, precipitation and clouds. It changes daily.
Climate	The average weather conditions of a location over a period of time. It tells you what the weather is usually like.
Air pressure	The force of air pressing down on an area. When air is rising, pressure is low. When air is sinking, pressure is high.
Microclimate	A climate of a very small area which differs to the climate of the larger surrounding area.
Depression	Rising air causes low pressure as clouds and rainfall are formed. They bring unsettled weather and rain with strong winds.
Anticyclone	Sinking air prevents cloud formation. This high pressure system brings light winds, settled, dry and bright conditions.

Why does climate vary?

The effect of latitude—the further away from the Equator, the cooler the temperatures. In the UK it is warmer in the south.

The effect of altitude—the higher the land is above sea level, the cooler the temperatures. In the mountains it is cooler.

Ocean currents—warmer or cooler currents can raise or lower the surrounding land temperature. The North Atlantic current keeps the UK warmer.

Prevailing wind—The direction of wind can bring either warmer or cold, cooler or drier air. In the UK this is from the south west.

Distance from the sea— Areas near the sea are slightly cooler in the summer and warmer in the winter. It is warmer in Blackpool than Halifax!

Trinity TV

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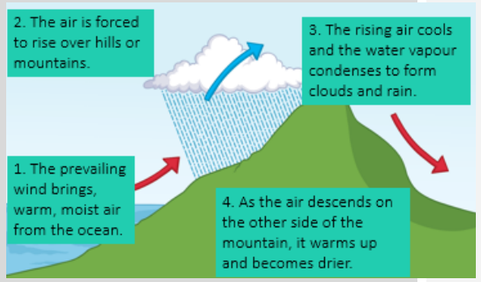
Trinity TV > Year 7 > Topic 6 > Why is the UK weather so changeable?

(2) Why does it rain?

1. Warm air containing water vapour rises.
2. As the warm air rises, it cools.
3. Water vapour condenses onto tiny dust particles in the air, forming a cloud droplet.
4. Billions of cloud droplets join together form a cloud.
5. Cloud droplets join up to make larger, heavier droplets, which fall as rain.

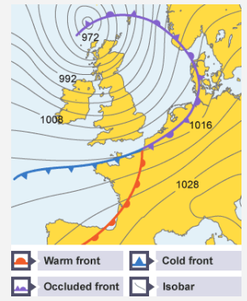
The UK gets relief rainfall in the west where the air rises over the mountains like the Lake District.



As the air descend it warms up and evaporates. The weather here is drier, creating a rain shadow.

(3) How does air pressure change the weather?

- Low pressure is when air is rising. This causes water vapour to cool, condense and form clouds. The weather event this brings is called a depression. There will be lots of clouds, rain and strong winds.
- High pressure is when air is sinking. There is very little cloud formation, therefore in the summer the weather is warm and sunny. It is usually cooler at night. In winter It brings frosty nights. This weather system is called an anti-cyclone.



- It is shown on maps using lines called isobars. On this map there is low pressure over Scotland and high pressure over Spain.

(5) What is the UK climate like?

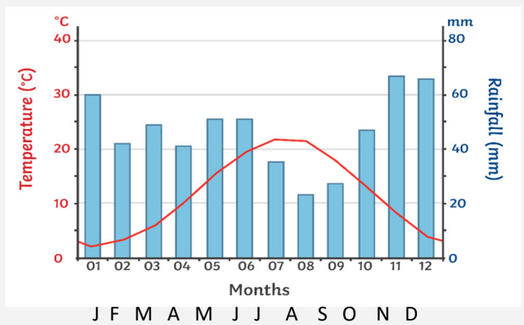
The climate graph shows that UK climate has cooler winter temperatures, higher summer temperatures and fairly constant levels of rainfall throughout the year. (With the exception of a slightly drier period between July and September.)

The average maximum temperature is 22*c in July and the minimum is 6*c December. The maximum rainfall is 67mm in November and the minimum is 22mm in August.

It is warmer in the south because of the effect of latitude.

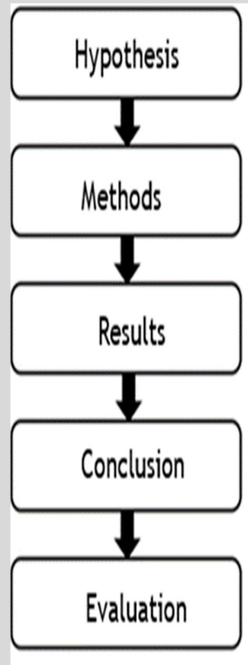
It is wetter in the west because of relief rainfall over the mountains.

The UK climate is described as temperate. This means cool with no extremes.



(6) How do we carry out a fieldwork investigation?

There are five stages to a fieldwork enquiry.



Hypothesis-This is where we test a question or statement "Where is the best place to have a picnic at Trinity Academy?"

Methods-This is where we collect data, we will collect data on the temperature and rainfall at each site.

Results -This is where we present our data using table or graphs, we will draw a plot and bar graph.

Conclusion-This is where you reach a decision, we will decide which site is the best for a picnic

Evaluation-This is where you decide how well your investigation worked and suggest improvements for next time. Could we change the time of day for next time?