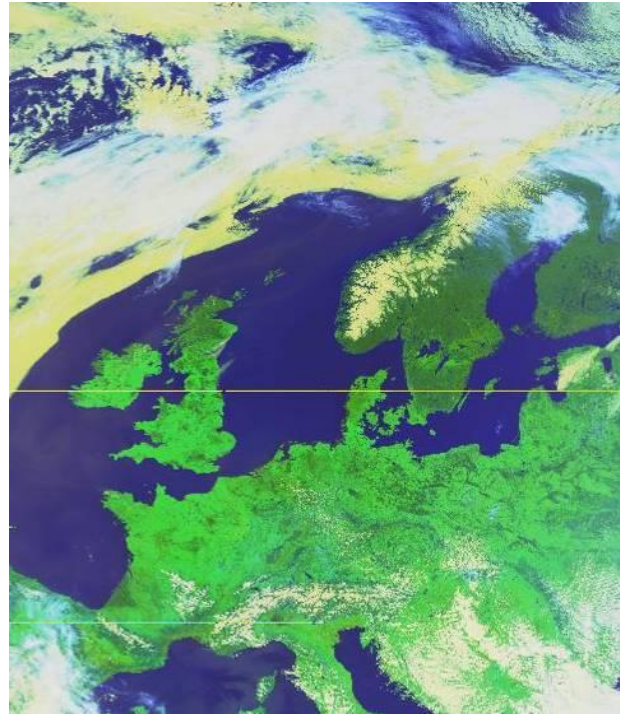


Year 9 Weather

Britains weather and High and
Low pressure systems.

Weather in the UK



These icons indicate that teacher's notes or useful web addresses are available in the Notes Page.



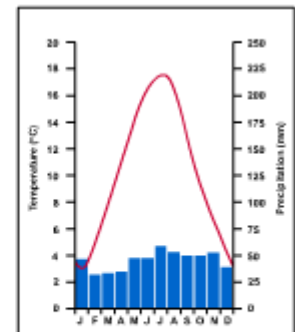
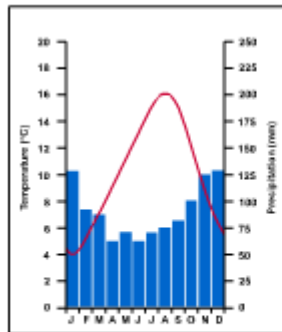
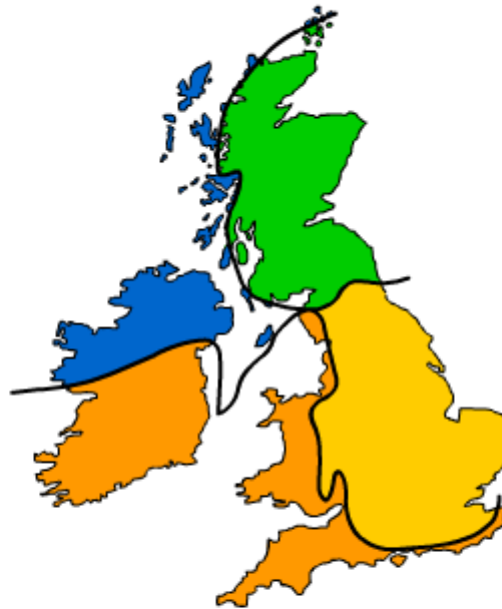
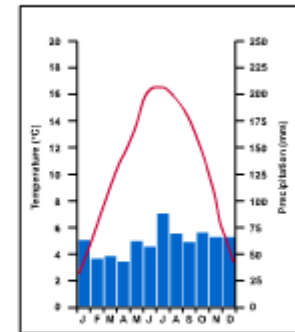
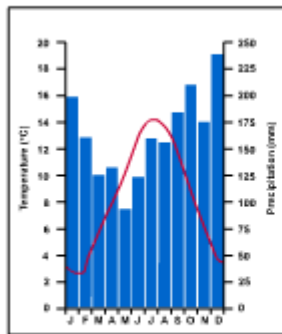
This icon indicates the slide contains activities created in Flash. These activities are not editable.

For more detailed instructions, see the *Getting Started* presentation.

The British Climate



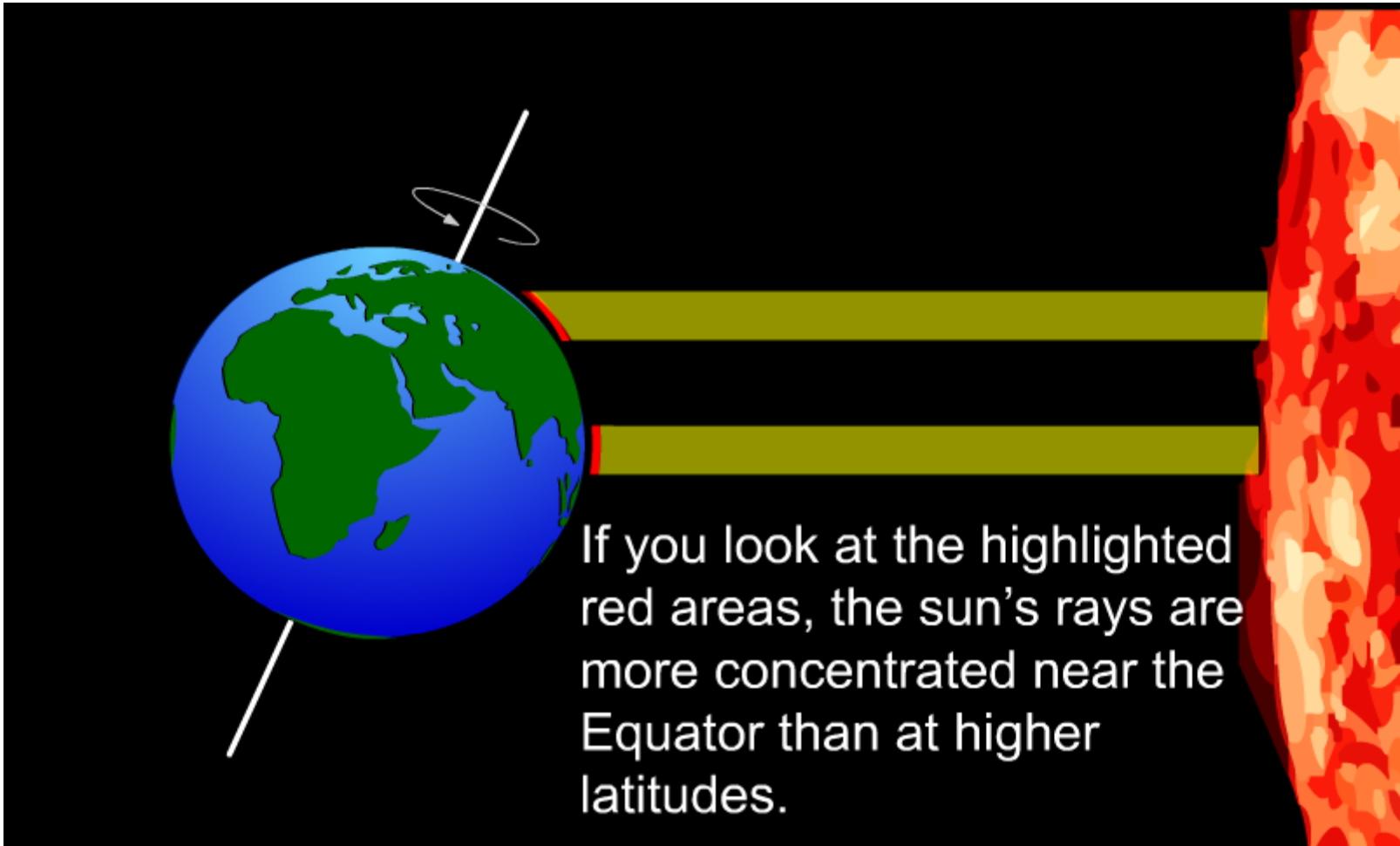
The British Isles has a **temperate** climate.
This means that it is not too hot, not too cold, not too dry
and not too wet!



- **Why is the South of Britain warmer than the North?**
- Why are temperatures in January warmer on the West coast?
- Why is there more rainfall in the West?
- What is high and low pressure?
- Why is the weather in the UK so changeable?



Why is the South of Britain warmer than the North?



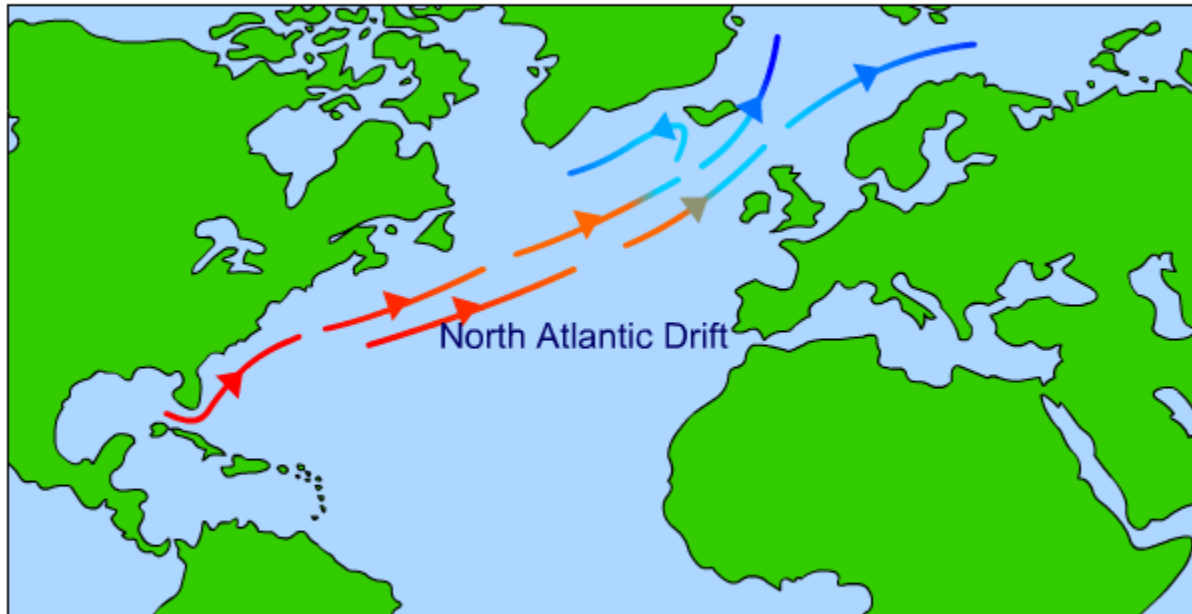
- Why is the South of Britain warmer than the North?
- **Why are temperatures in January warmer on the West coast?**
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Why is it warmer in the West in January?



The **North Atlantic Drift** is a warm ocean current that brings higher temperatures to the west of the UK. The North Atlantic Drift starts its journey in the Gulf of Mexico.



- Why is the South of Britain warmer than the North?
- Why are temperatures in January warmer on the West coast?
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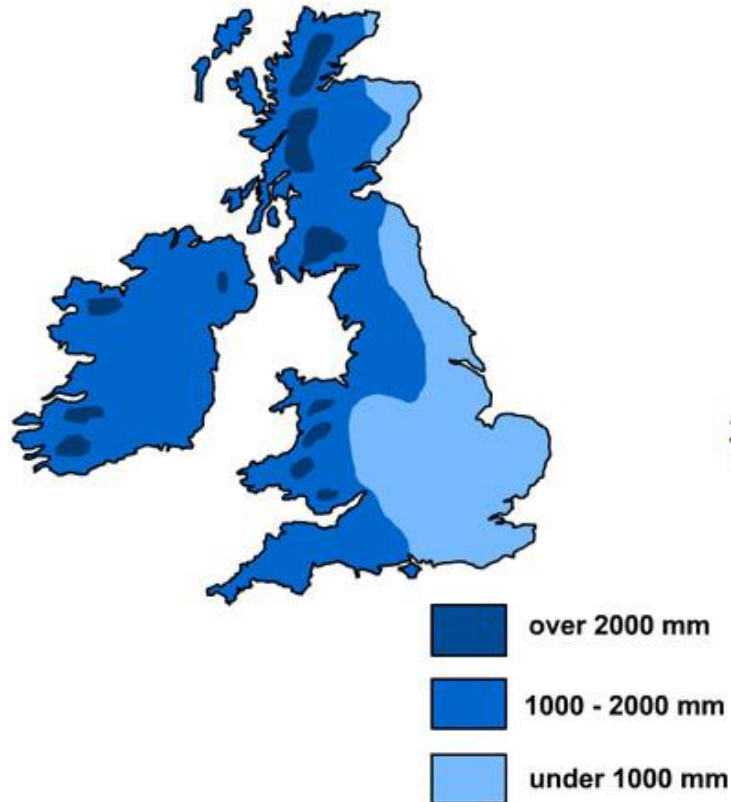


Rainfall in the British Isles

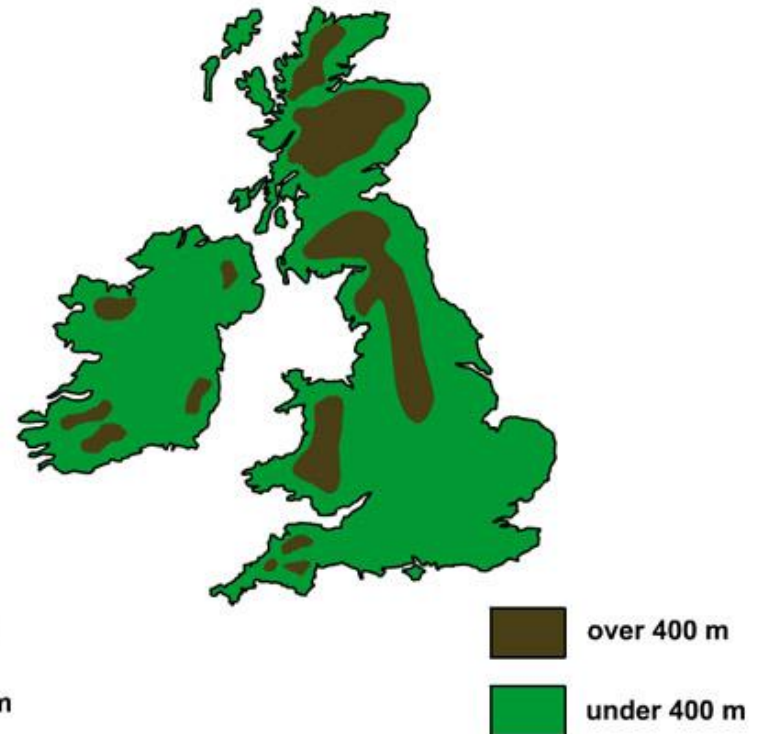
Describe the pattern of rainfall in the UK.

Why is there more rainfall in the West of the British Isles?

Annual Rainfall



Relief



Why is there more rainfall in the West?

Many of the mountain ranges in the British Isles occur in the West.

The West is therefore more likely to experience **relief rainfall**.



Why is there more rainfall in the West?

The **prevailing wind** comes from the SW.

This wind blows over the Atlantic, bringing moisture-laden air.

The prevailing wind is the most common direction of wind.



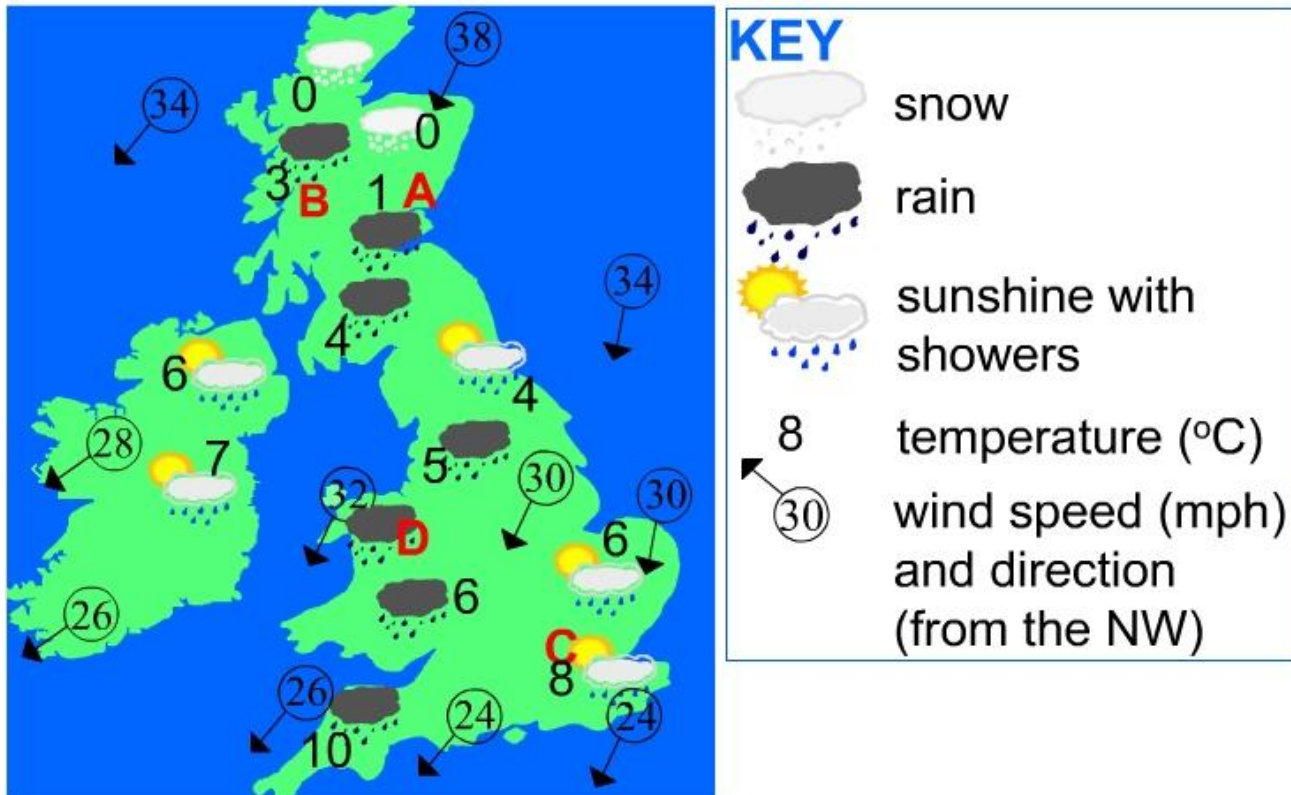
Can you explain?

This is a wet day in February.
Explain the following...

1) why C is warmer than B.

2) why it is raining at D.

3) why A is colder than B.

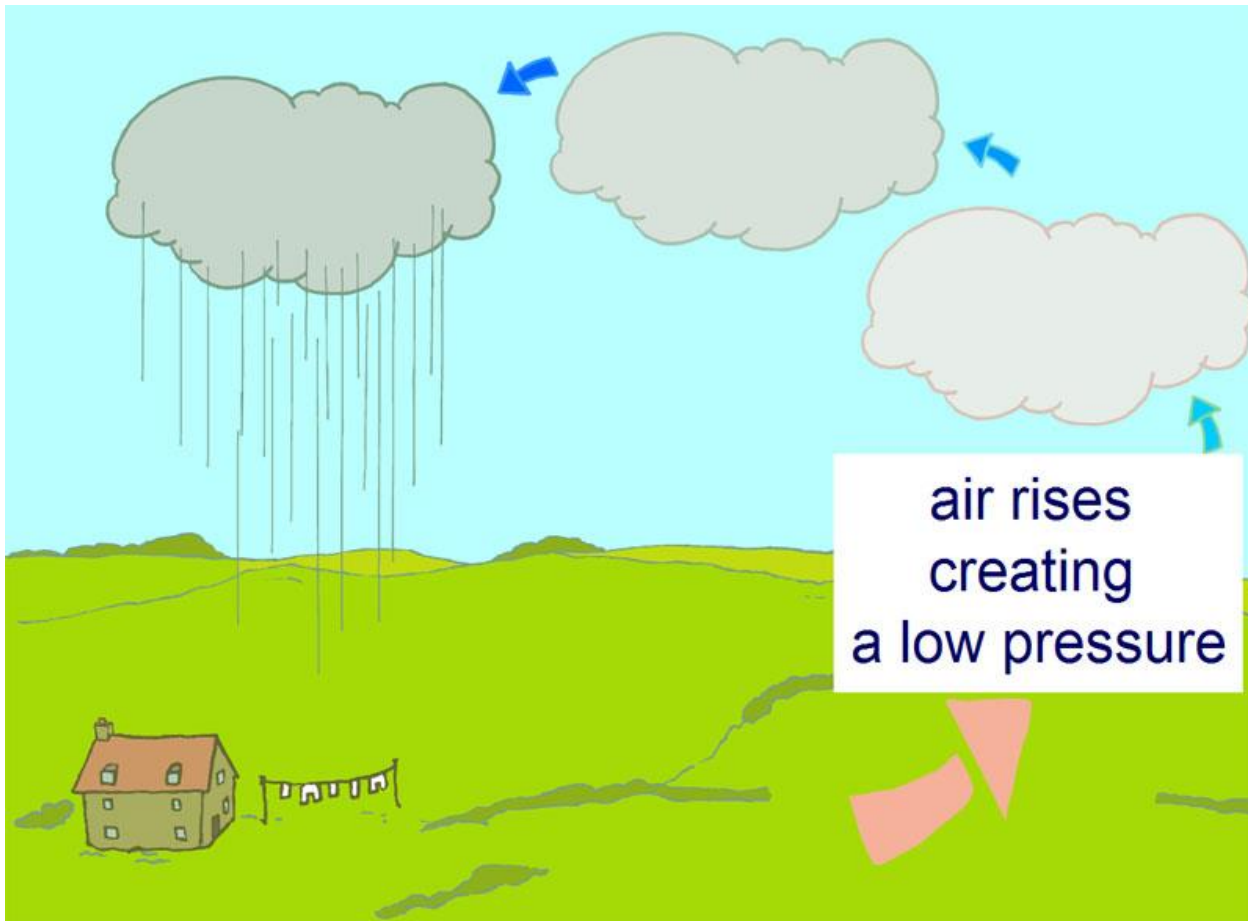


- Why is the South of Britain warmer than the North?
- Why are temperatures in January warmer on the West coast?
- Why is there more rainfall in the West?
- **What is high and low pressure?**
- Why is the weather in the UK so changeable?



Low pressure systems

When air rises, it creates a **low pressure** system.
Air rising means clouds form and there is a possibility of rain.



High pressure systems

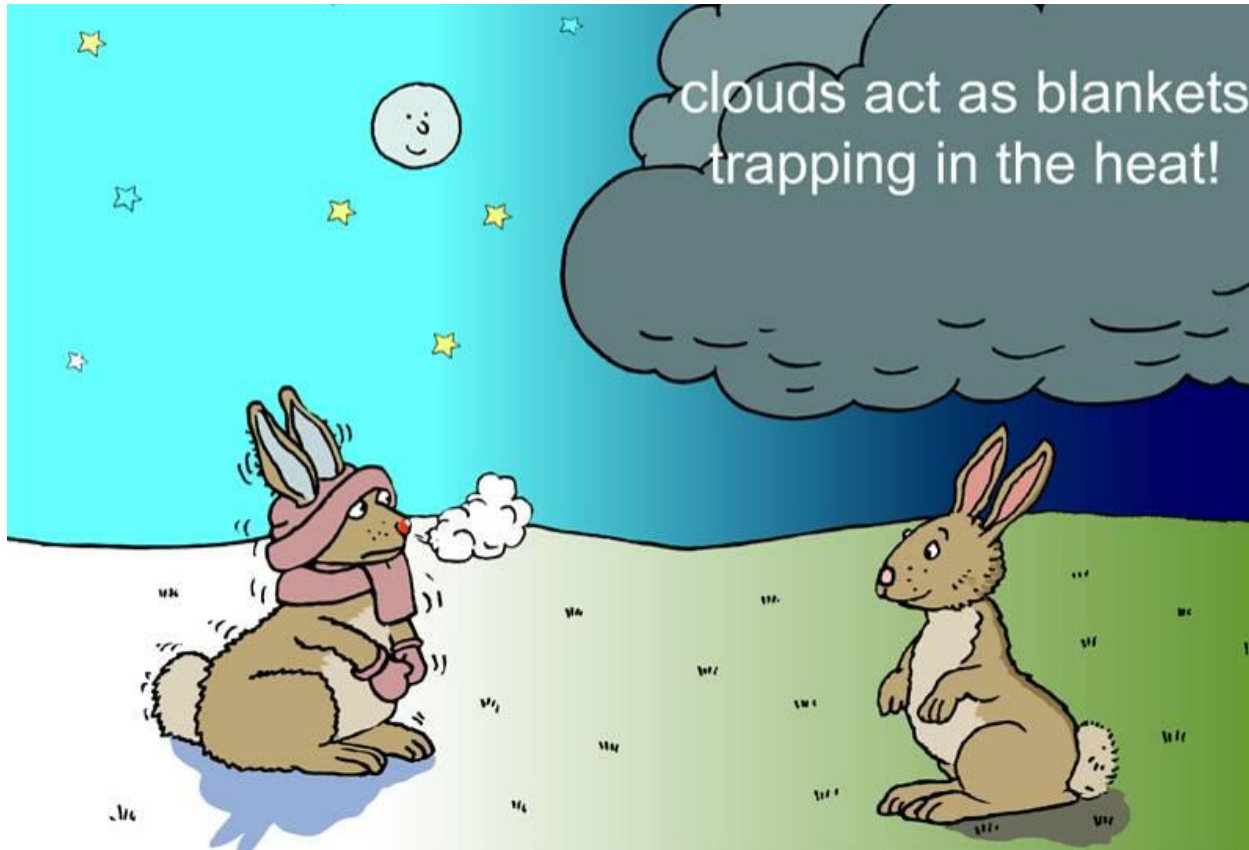
When air sinks and warms this causes a **high pressure** system. There are clear skies and no rain.

In Summer, clear skies mean that there are no clouds to stop the sun shining through and so days can be warm.

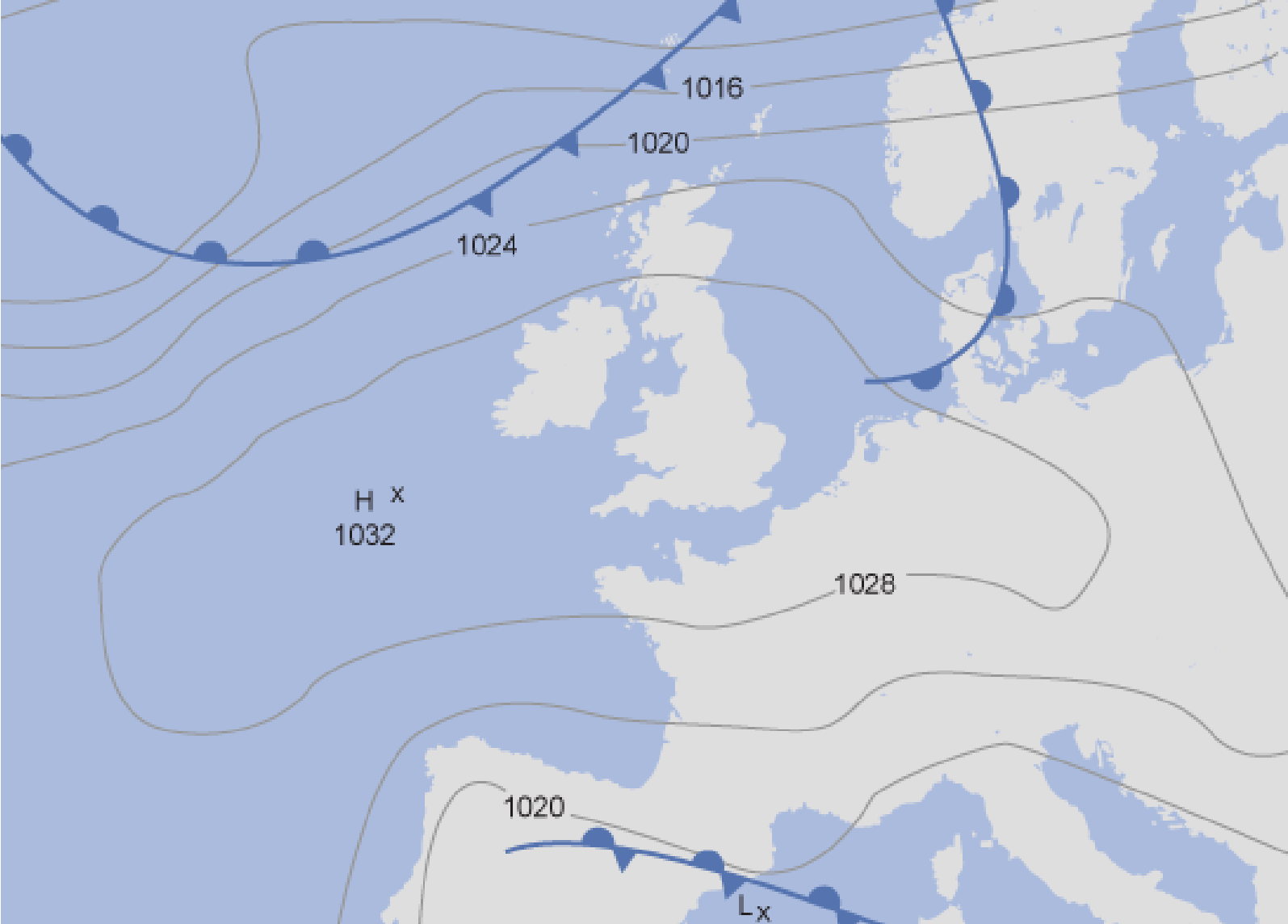
At night, however, there are no clouds to stop the heat escaping so nights can be cool.



High pressure systems



In Winter, high pressure systems give rise to clear, bright days. However, clear skies also mean that there are no clouds to stop the heat escaping and so ice and frost can form.



Why does the British Isles have unpredictable weather?

In the British Isles it can be sunny one minute and raining the next!

Why is this?



Why does the British Isles have unpredictable weather?



The answer has a lot to do with **air masses**...

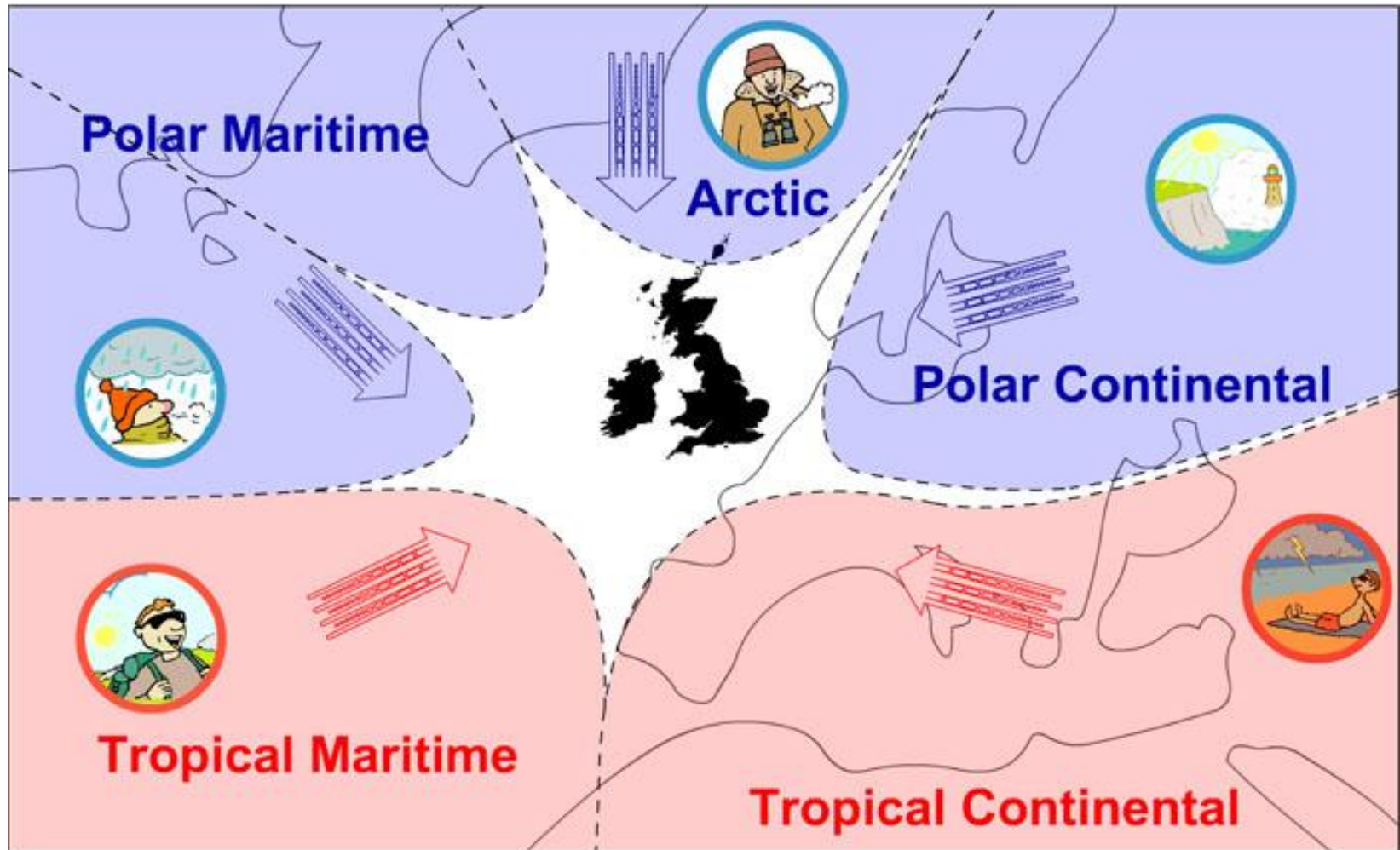
Air masses are huge blocks of air. They can be damp or dry, warm or cold, depending on where they came from and over what type of surface they have travelled.

For example, an air mass that has travelled over the sea will increase its moisture content and be more likely to produce rainy weather.



Air masses affecting the British Isles

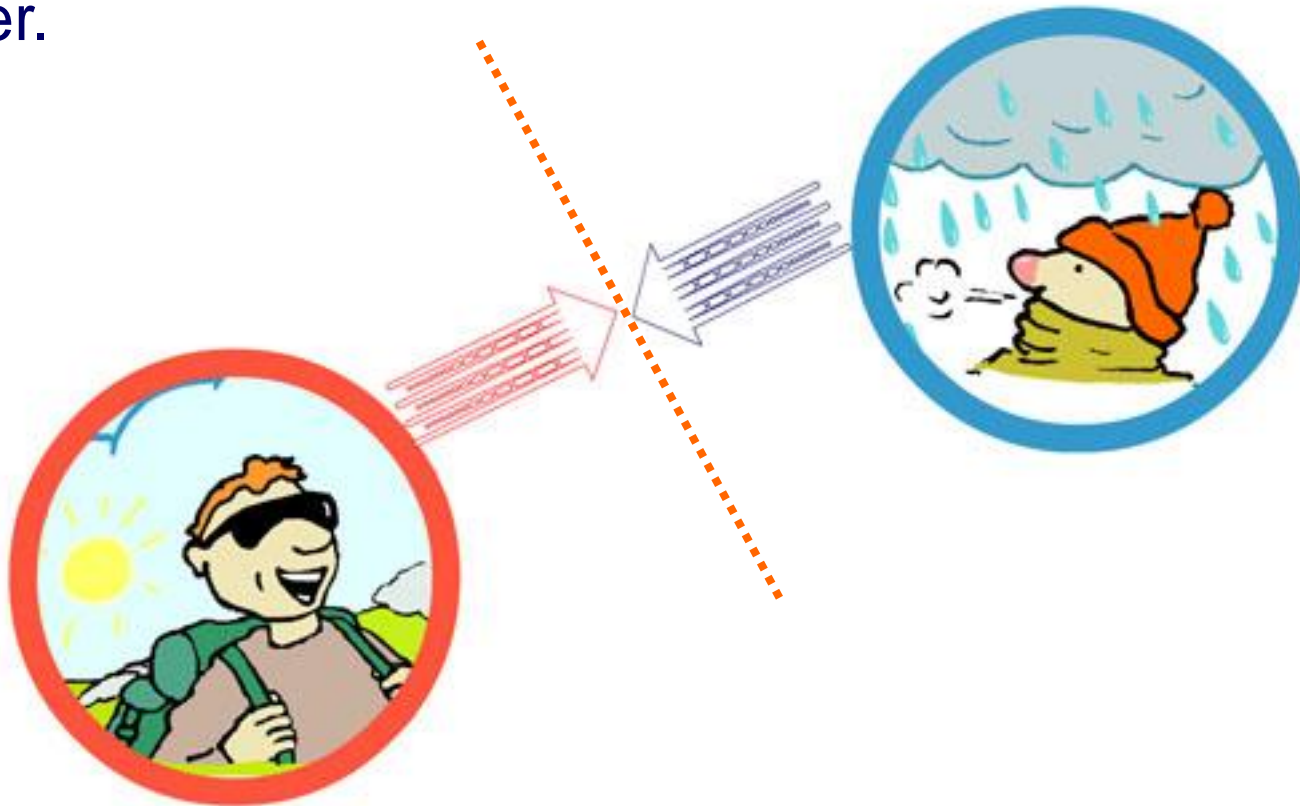
Many air masses cross the British Isles, which explains our changeable weather!



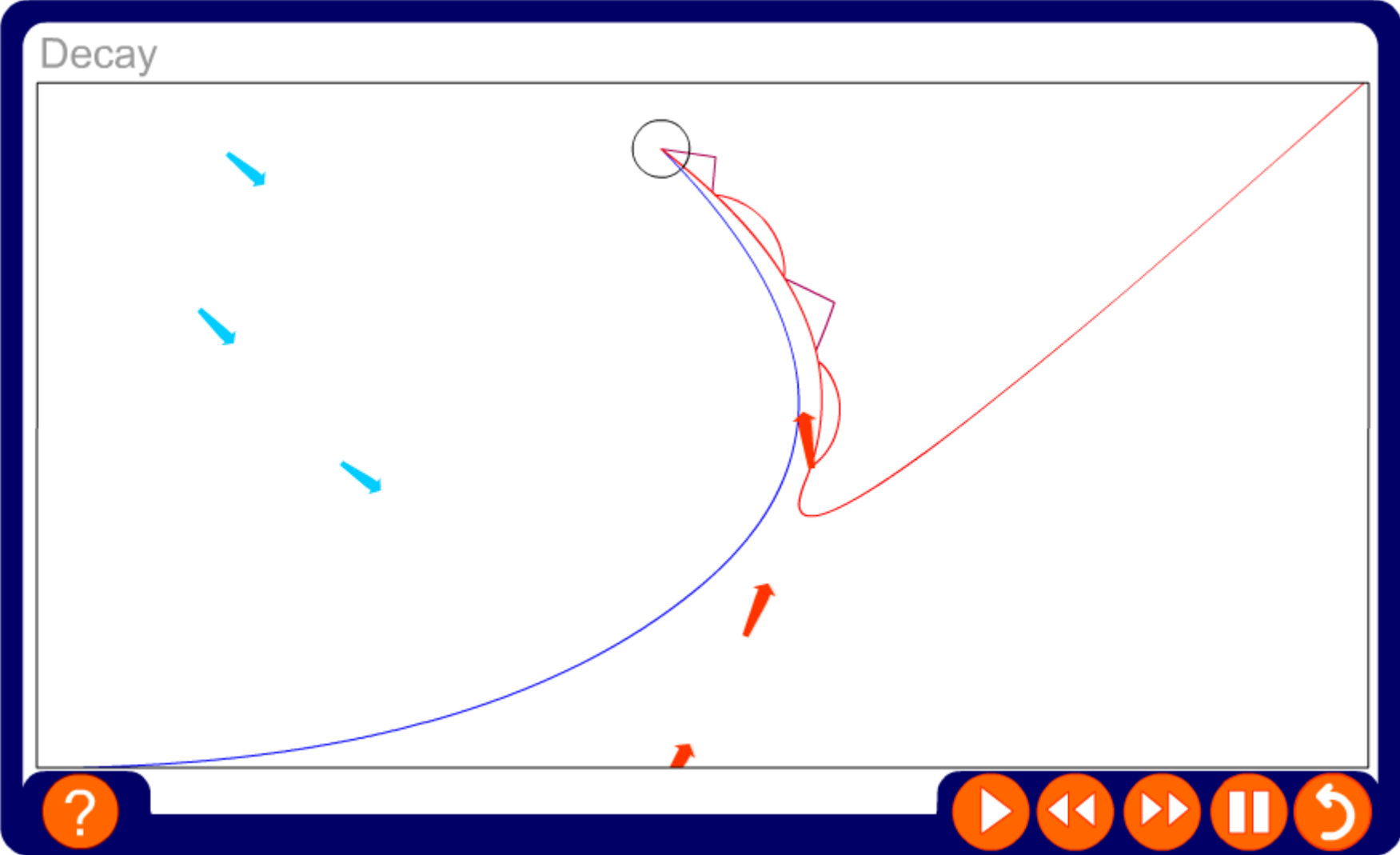
What happens to the weather when the air masses meet?

Depressions (low pressure system) form when a cold air mass meets a warm air mass.

The junction between these two different air masses is called a **front**. A front is associated with a change in the weather.



Formation of a depression

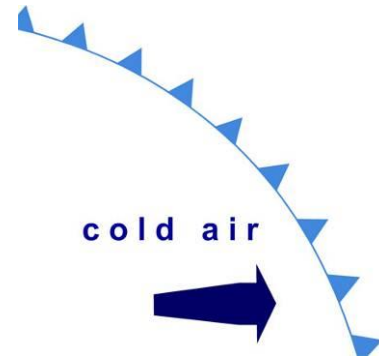


What happens at fronts?

A **warm front** means that warm air is coming. At a warm front, warm air is rising over cold air. This usually produces clouds and rain.



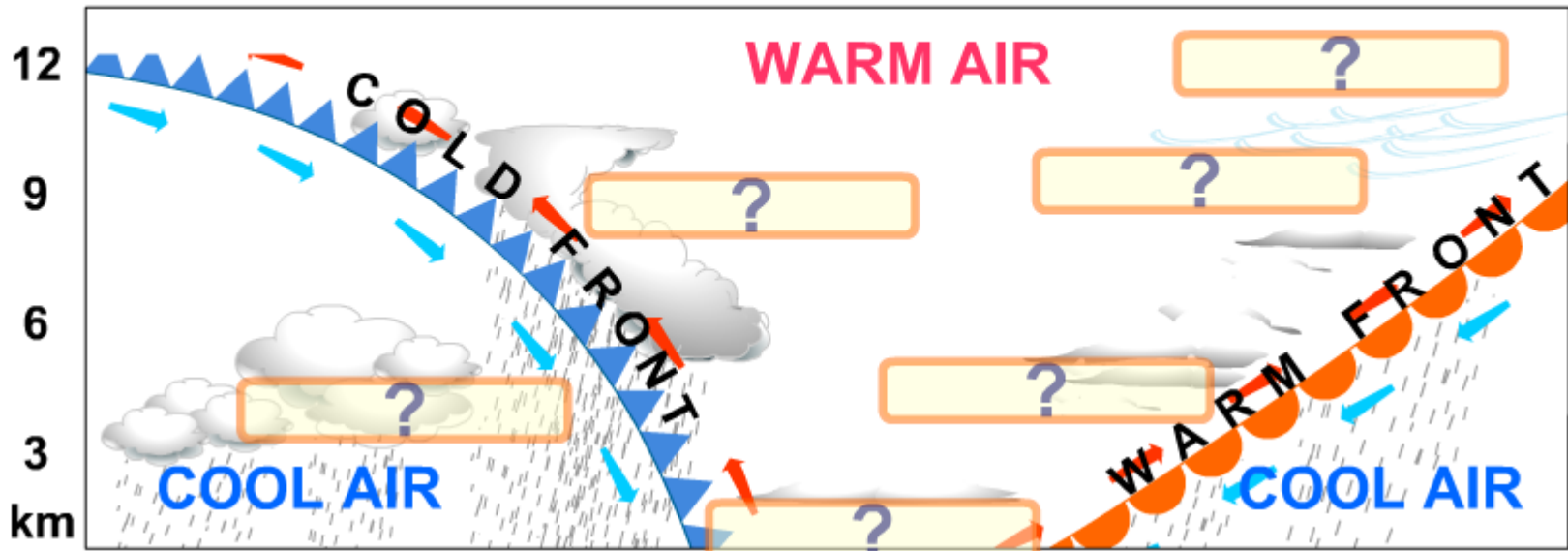
A **cold front** means that cold air is coming. At a cold front, cold air pushes under the warm air. This produces strong winds and heavy rain.



Passage of a depression



Depressions



Showers

Heavy rain
or
thunderstorms

Dry or
light rain

Steady rain

Clear skies
or
high cloud

Cumulonimbus

Stratus

Cirrus

Cumulus

Nimbostratus

Altostratus

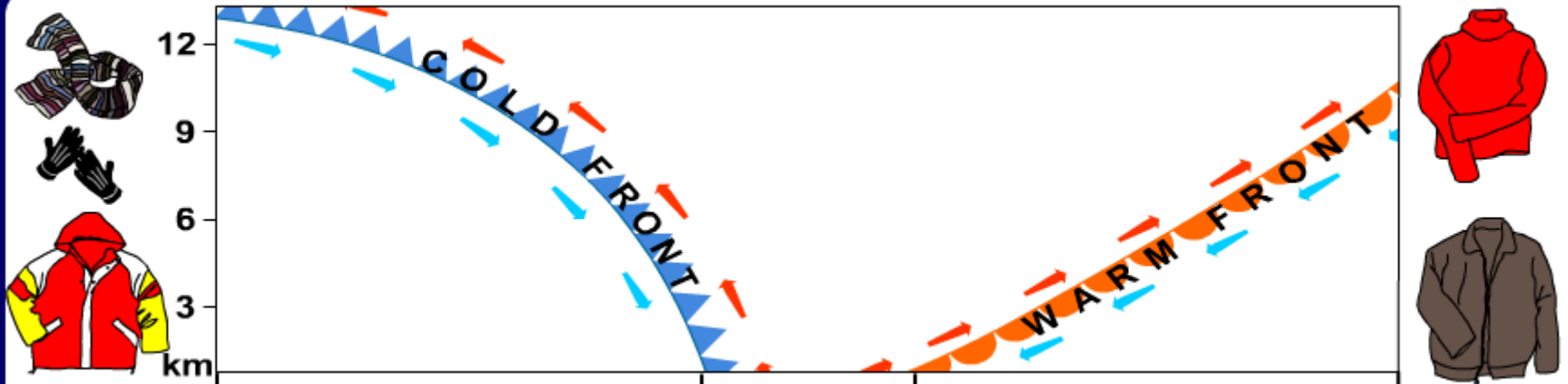
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Depressions – the changing weather!



cold front

warm sector

warm front

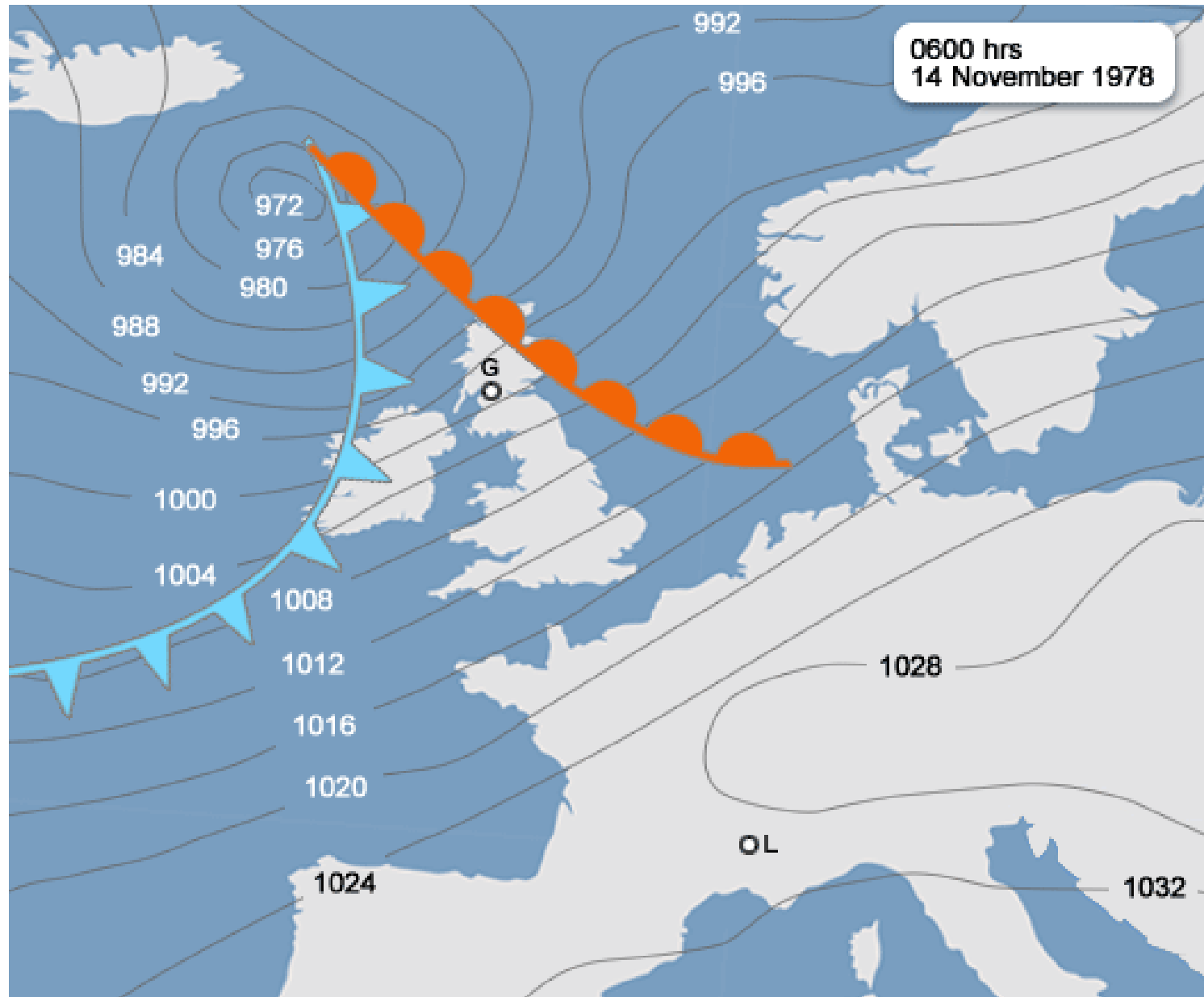
Susie takes her umbrella down.

Susie runs for shelter as the thunder starts.

Susie puts her rain coat on for the first time.



Synoptic Chart for 14th November 1978



Weather definitions



Isotherms are

a warm ocean current.

The North Atlantic Drift is

when air sinks and warms.

Low pressure occurs

the junction between two different air masses.

High pressure occurs

when air rises and cools.

An air mass is

lines joining areas of equal temperature.

A front is

a large block of air with uniform temperature and humidity.

A Depression is

a low pressure system that forms when a cold air mass meets a warm air mass.



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