

Geography Department

Year 7

Week 5 and 6

Weather and Climate

See pupils' book pages 16 and 17

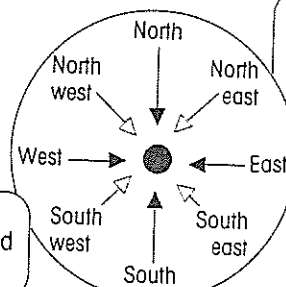
2.1

Keeping a weather diary

Observe and measure the weather for five days. Do this at the same time each day and record your readings in the chart below.

If possible, measure this with a thermometer. Otherwise use the cartoons in A from page 16.

Give the direction from which the wind blows.



Give the cloud type using the photos in D on page 16.

Give a description of the weather. Picture H on page 17 will help.

Day	Temperature	Precipitation	Wind speed	Wind direction	Cloud amount	Cloud type	Weather

Say if there is rain, snow, sleet or hail. Also say if it is light, heavy, in showers or continuous.

Give the speed from the Beaufort scale table below.

Give the amount of cloud in eighths.

Force	Wind Name	Speed km/hour	What it does on land	Force	Wind Name	Speed km/hour	What it does on land
0	Calm	0-1	Smoke rises vertically	6	Strong breeze	40-50	Large branches move, umbrellas difficult to use
1	Very light breeze	1-3	Smoke shows direction	7	Very strong breeze	51-61	Large trees sway, leaves break off
2	Light breeze	4-11	Leaves rustle, can be felt on face	8	Gale	62-74	Twigs break off, difficult to walk into wind
3	Gentle breeze	12-19	Leaves and twigs move	9	Strong gale	75-86	Branches broken off, damage to roofs
4	Moderate breeze	20-29	Small branches move	10	Storm	87-101	Trees uprooted, much damage to houses
5	Fresh breeze	30-39	Small trees sway	11	Severe storm	102-115	Widespread damage to houses, very rare inland
The Beaufort scale				12	Hurricane	over 115	Severe damage, houses destroyed

How might you observe and record the weather?

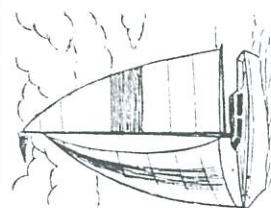
If you recorded the weather for a week you would need to keep records of several different aspects of the weather. One aspect would probably be temperature. You would have to say how hot or cold it was.

- 1** In the table below list **four** other aspects of weather that you might record. Explain what needs to be described in the space next to each aspect.

e.g. Temperature	How hot or cold it is
a)	
b)	
c)	
d)	

- 2 Write a paragraph to describe the weather in your area today. You should describe several aspects as clearly as possible.

- 3 Read the passage on the right.
Then answer the questions
which follow. Choose the correct








As we sailed out from port on the 29th July the sky was almost clear, with just a few wispy, feather-like clouds. There was a moderate westerly wind, but it still felt pleasantly warm.

About two hours later the wind had dropped, but quite large, dome-shaped clouds with dark bases had formed. Visibility was getting worse.

As the first drops of rain fell we started the engine and headed back for port. By the time we reached home we had been completely soaked.

- a) At the start of the day which symbol should be used to describe the cloud cover?

- b) At the start of the day what were the clouds?

Nimbus	
Stratus	
Cirrus	
Cumulonimbus	

- c) At the start of the day which way was the wind blowing?

From the east	
From the west	
Towards the west	
In no particular direction	

- d) At the start of the day which number on the Beaufort Scale would be best to describe the strength of the wind?

0			
3			
6			
8			

- e) At the start of the day which figure would best describe the temperature?

-5°C	
5°C	
10°C	
18°C	
30°C	

- f) During the trip did the wind speed:

decrease?	
increase?	
stay the same?	
keep changing all the time?	

- g) *Visibility was getting worse.*
What does this mean?

It looked as though it would rain soon.	
The sea was getting rougher.	
It was becoming misty or foggy.	
The wind was blowing less strongly.	
The sky was becoming more cloudy.	






- h) After two hours were the clouds

nimbus?	
stratus?	
cirrus?	
cumulonimbus?	

- i) Which phrase best describes precipitation during the day?

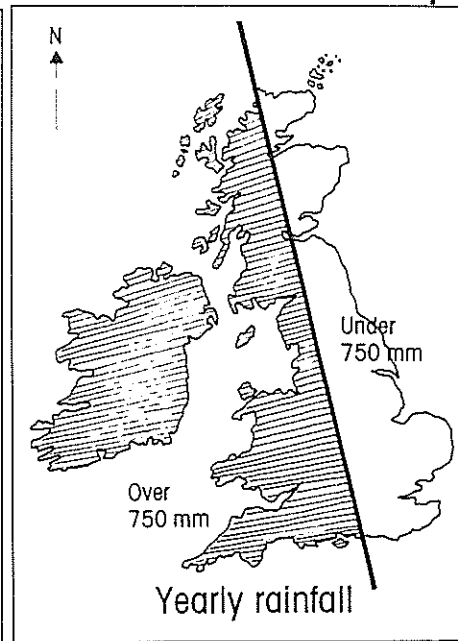
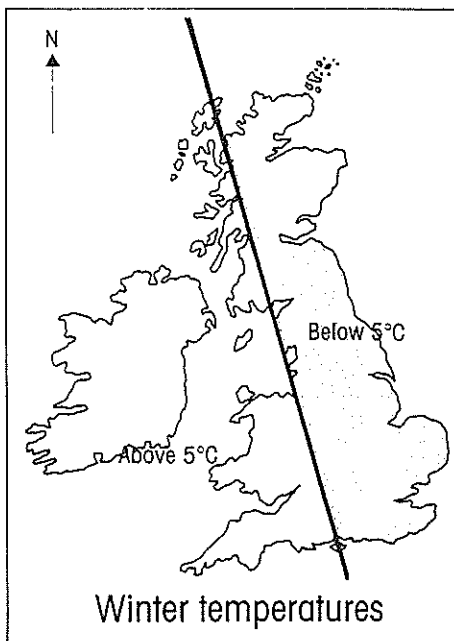
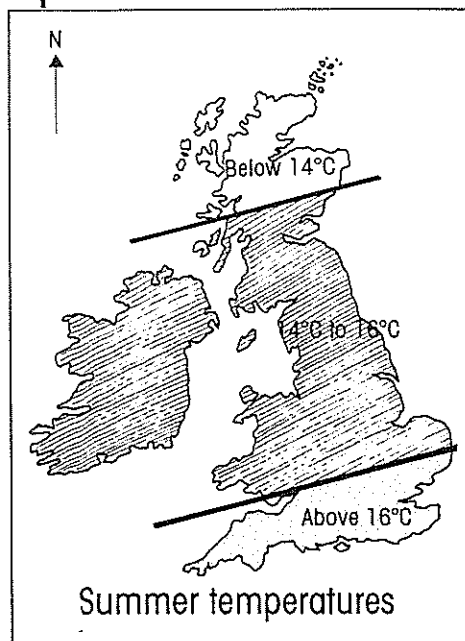
There was no precipitation because it did not snow or hail.
In the morning there was precipitation but later it rained.
At the start of the trip there was only light precipitation.
Precipitation started after two hours and became very heavy.
There was precipitation all day long and we got soaked.

- j) Which would be the best symbol to show cloud cover during the journey home?

Britain's climate

Study the maps below showing the main climate features of Britain. Then answer the questions to describe and explain Britain's climate.



- 1 a) Of the following ten statements **three** are correct. Put a line under the correct ones.

In summer the south is warmer than the north
 In summer the north is warmer than the south
 In summer the east is the warmest
 In winter temperatures are the same all over the country
 In winter the south is colder than the north
 In winter the west is warmer than the east
 The south is always wetter than the north
 Rainfall is the same all over Britain
 The east is wetter than the south
 Most rainfall is in the west

- b) Now look at your correct statements and give three facts about the climate of the south-west.

1 _____ 2 _____ 3 _____

Give **three** facts about the climate of the north-east.

1 _____ 2 _____ 3 _____

- 2 Give **three** reasons for differences in Britain's climate by completing the sentences below.

- a) In summer the part of Britain warmed most by the sun is _____
 b) In winter the west of Britain is warmed by an ocean current called the _____
 c) Temperatures are usually lower in areas that are _____

Unscramble the following phrases to check your answers!

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HTE OSUHT

YIHL NDA TMOUNIANS

In this activity you will learn about how it rains

Rain falls because air rises into the sky carrying water vapour. In Britain most rain is caused in two ways.

- Relief rainfall which happens in hills and mountains.
- Frontal rainfall which happens when warm air rises over cold air.

Activities

1 Add the following labels to Diagram 1.

- Air rises
- Clouds form
- Air cools
- Rain falls

Shade the hills brown, and the sky blue.

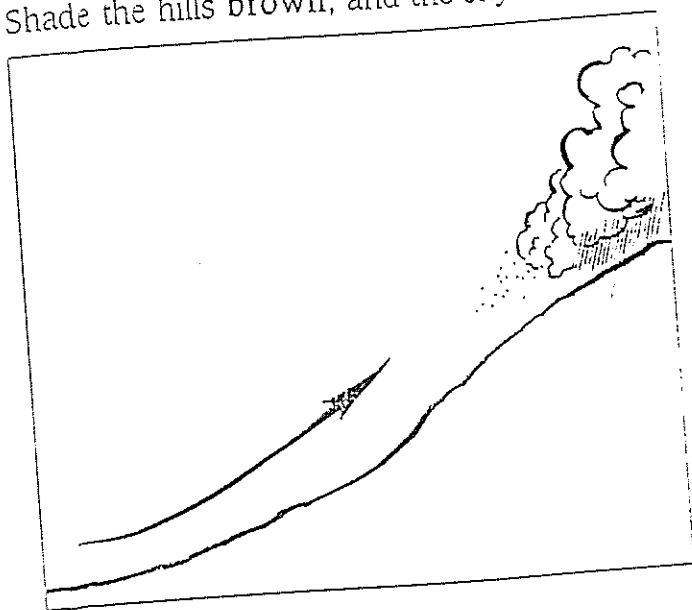


Diagram 1 Relief rainfall

2 Add the following labels to Diagram 2.

- Air rises
- Clouds form
- Air cools
- Rain falls

Shade the cold air blue, and the warm air red.

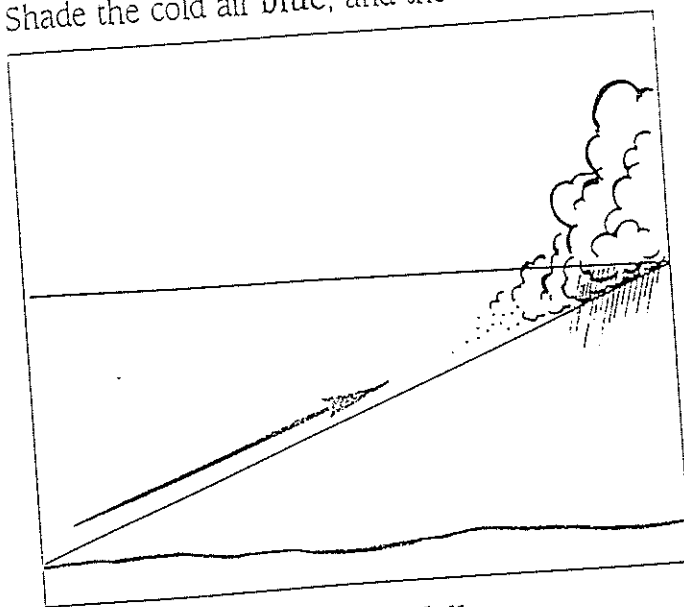


Diagram 2 Frontal rainfall

3 Use the words from the Word box to fill in the gaps in the passage below.

Word box

District	clouds
rainfall	snow
warm	lighter
cools	sky
vapour	west

Rainfall is water falling down to the earth from the _____. For this to happen water must be carried up into the sky. As the wind blows from the _____ it meets the hills of the Lake _____. The air goes up over the hills. As it rises the air _____ and the water vapour it holds turns into water. This water makes _____. The cloud droplets will make _____ on the hills. When _____ air meets cold air the warm air rises over the cold air because it is _____. As it gets higher the warm air cools down and the water _____ turns into water. This makes cloud and then rainfall. When it is colder we can have _____ instead of rain, but they are both made of water.

Recap

Rain and snow happen because air _____ in the sky. It then _____ and makes clouds. Rain falls from the clouds.

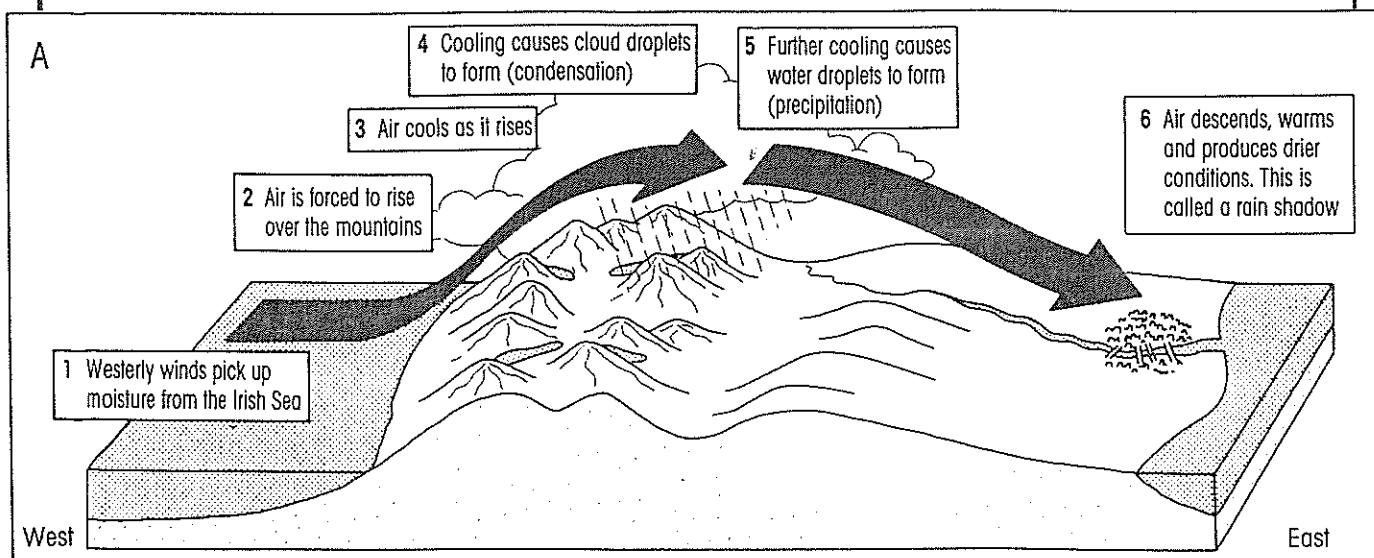
Rain in the Lake District

The Lake District is one of Britain's most beautiful and attractive areas but it is also one of the wettest! Why does it rain so much there and why are places just to the east of it so dry?

To make rain there must be moisture in the air. There must also be something to make the moist air rise so that it can cool and release its moisture. The Lake District has both of these

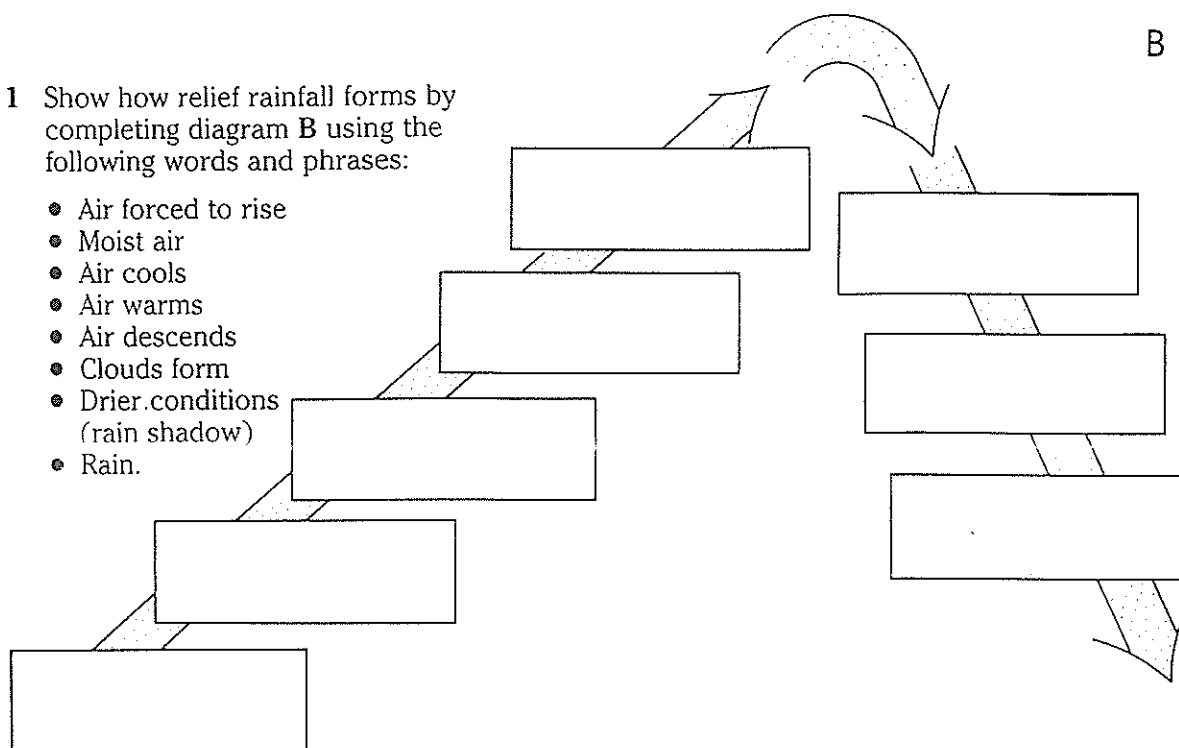
things. It has the highest mountains in England and the westerly winds that are common there collect lots of moisture from the Irish Sea. The moist air comes in from over the sea, is forced upwards by the mountains, cooling occurs and rain soon follows. Simple really! Rain formed in this way is called **relief rainfall**.

Sketch A shows this process.



1 Show how relief rainfall forms by completing diagram B using the following words and phrases:

- Air forced to rise
- Moist air
- Air cools
- Air warms
- Air descends
- Clouds form
- Drier conditions (rain shadow)
- Rain.



2 Give two reasons why the Lake District has more than average rainfall.

a) _____

b) _____

Date _____

Name _____



Climatic Zones



Draw lines to match up the climatic zone with the correct description.

Climatic Zone

Description

Desert

Hot and wet countries.
There are only 2 seasons here
within this zone.

Mediterranean

Mild wet winters and hot dry
summers.

Temperate

Hot and wet countries.
There are only 2 seasons here
within this zone.

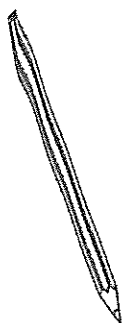
Arctic

Here there is little rainfall with
major temperature differences
between day and night. Very few
people live in this climate.

Warm summers and cool winters
with snow.

Tropic

Extremely cold and long winters
and only slightly warmer
summers. These places are the
coldest on Earth.



Extension: write a list of countries which have these climates.