

KNOWLEDGE ORGANISER

WORLD STUDIES

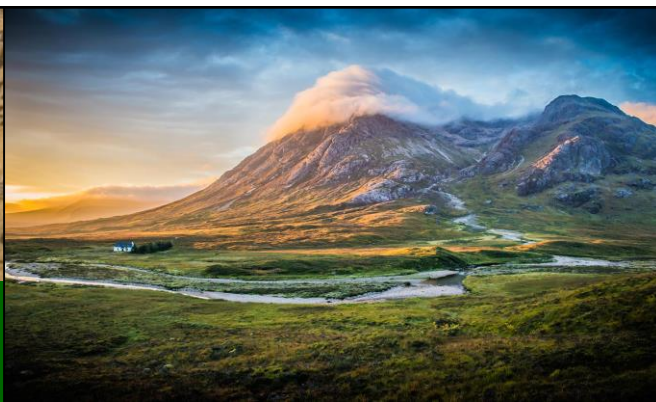
Year 7 Geography

Term 2: Exploring the UK Part 1

Name:

Class Teacher:
















Big Question	Task	Due Date
1	Complete Homework 1 on page 5 and 6	
5	Complete Homework 2 on page 12	
8	Complete Homework 3 on pages 17	
Voluntary (5 HPs)	Wider Reading: The Holderness Coast (Page 19)	
	Wider Reading: World Plastic Crisis (Page 20)	
	Wider Reading: Where does your food come from? (Page 21)	
	Revise for mid unit assessment	



ENQUIRY QUESTIONS

1. What is the United Kingdom?
2. What is the physical geography of the UK like?
3. What causes weather?
4. What is air pressure?
5. What is the difference between weather and climate?
6. What are the LAWS of climate?
7. Why is the UK's weather so changeable?
8. What ecosystems are found in the UK?

GLOSSARY

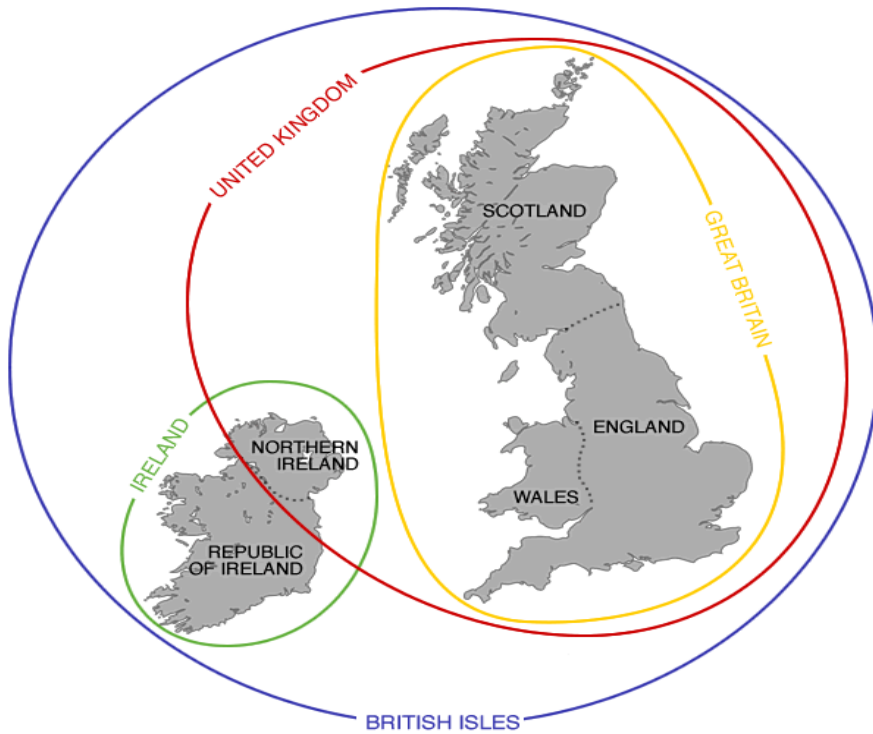
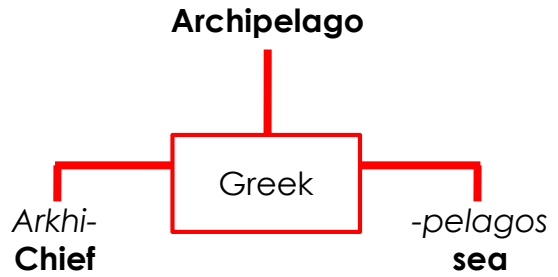
Key term	Icon	Definition
Archipelago		An extensive group of islands
Climate		The weather conditions in an area over a long period of time.
Condensation		Vapour being converted to a liquid
Convictional rainfall		Air is rising due to the ground being heated by the sun. The rising air cools. Water vapour condenses and clouds form.
Cumulus clouds		Fluffy clouds forming when warm air rises fast.
Cumulonimbus clouds		Formed on very hot days and are flat at the top between the boundary of the troposphere and stratosphere.
Evaporation		Liquid being converted to water vapour
Frontal rainfall		Where a warm air mass meets a cold one, the warm air rises. Water vapour condenses to create rain.
Hydrological Cycle		Describes the continuous movement of water on, above and below the surface of the Earth
Latitude		Imaginary lines parallel to the equator that help map makers to locate places with accuracy. (Horizontal lines)
Longitude		Imaginary lines parallel to the prime meridian line that help map makers locate places with accuracy. (Vertical lines)
Precipitation		Moisture that falls from the sky in the form of rain, hail, sleet and snow
Relief rainfall		When wind meets mountains, the air rises and cools and condenses creating rainfall.
Stratus Clouds		Blankets of dull cloud. Form when air rises more slowly over a wide area.
Weather		The state of the atmosphere at a particular place and time

BQ1. WHAT IS THE UNITED KINGDOM?

The British Isle Archipelago

The British Isles is an archipelago that includes Great Britain and Ireland plus at least 70 smaller islands.

The most important (chief) sea to the Greeks was the Aegean Sea. It has lots of islands.



United Kingdom



N. IRELAND
Belfast



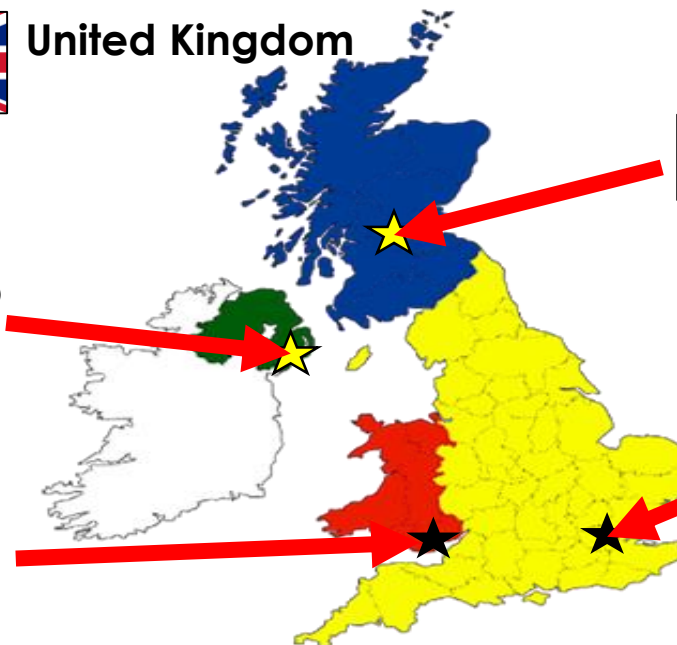
Cardiff



SCOTLAND
Edinburgh



ENGLAND
London



HOMWORK 1

You need to learn cities and countries within the United Kingdom.



Apply your learning, label the cities and countries

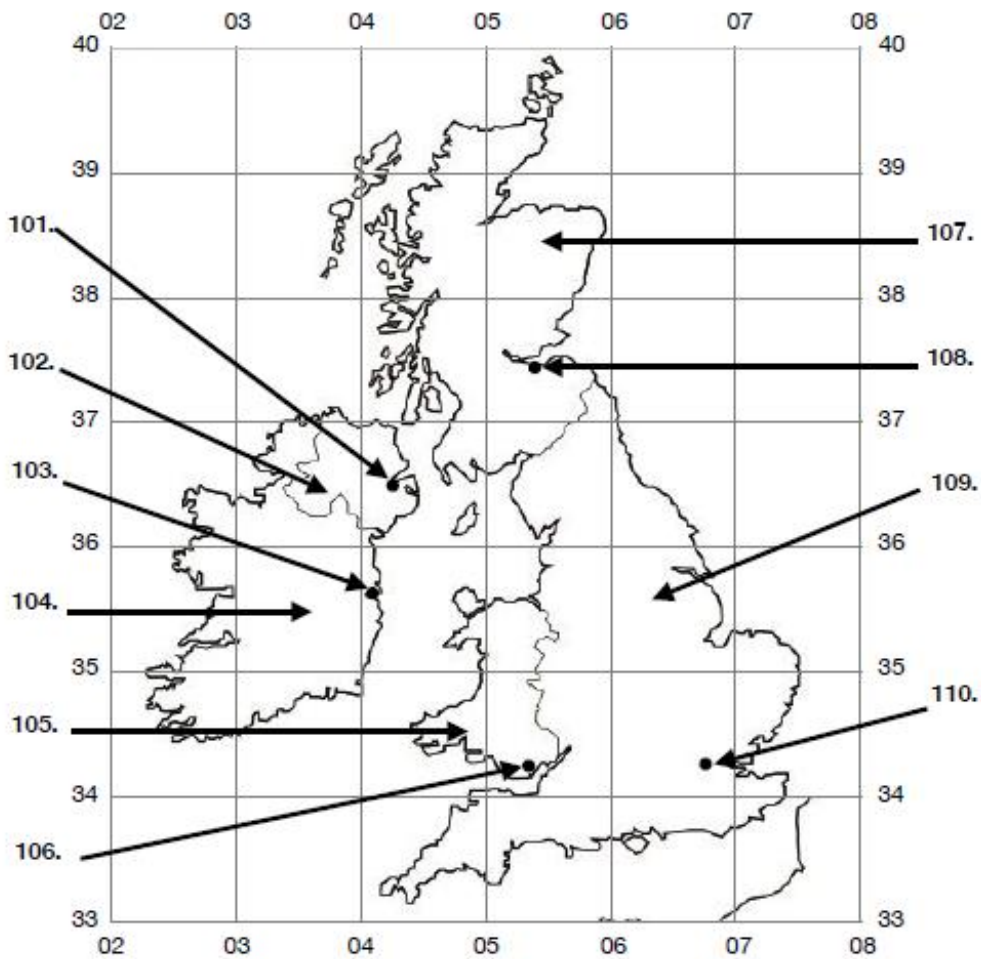
Use your knowledge of grid reference to correctly label the map below

Countries

06, 35 England
03, 36 Northern Ireland
05, 38 Scotland
03, 35 The Republic of Ireland
04, 34 Wales

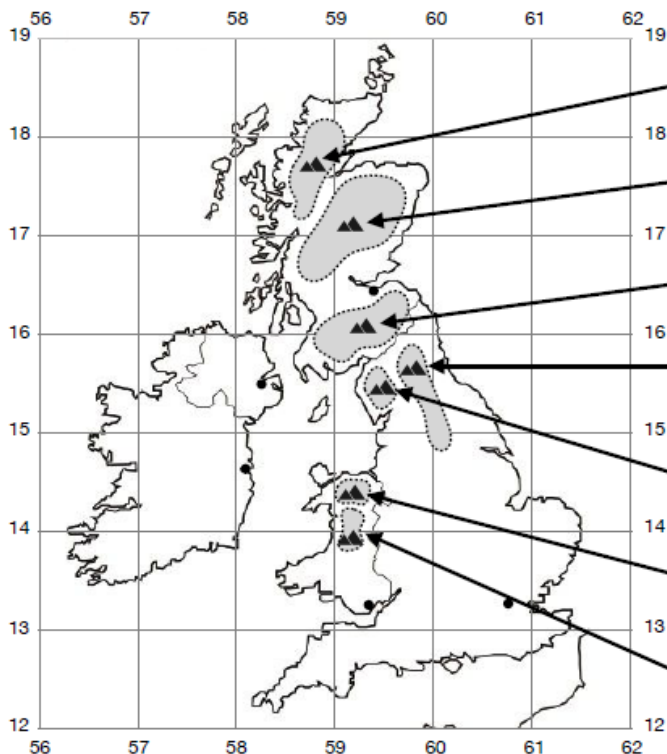
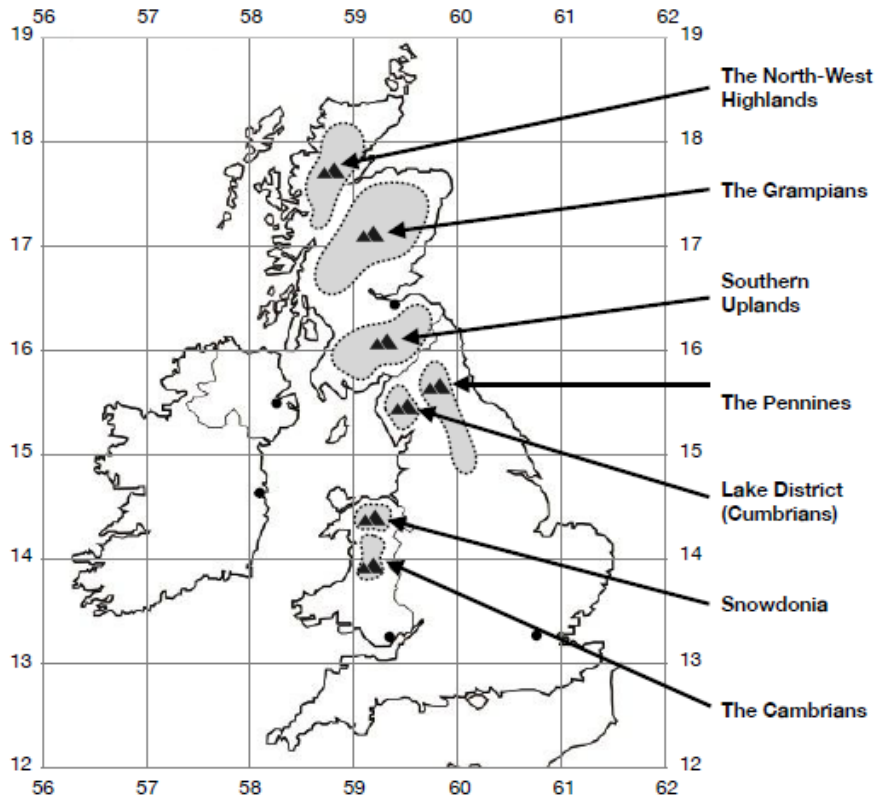
Capitals

04, 36 Belfast
05, 34 Cardiff
04, 35 Dublin
05, 37 Edinburgh
06, 34 London



HOMEWORK 1

You need to learn the mountain ranges found in the United Kingdom. You should practice on the blank map, covering the answers to test yourself.



BQ2. WHAT IS THE PHYSICAL GEOGRAPHY OF THE UK LIKE?

The U.K can be divided into lowland and upland areas

Tees-exe line divides the country in two

Upland areas are formed from hard rocks in the north and west of the U.K.

Lowland areas are formed from soft rocks in the south and east of the U.K.



Ben Nevis
Grampians



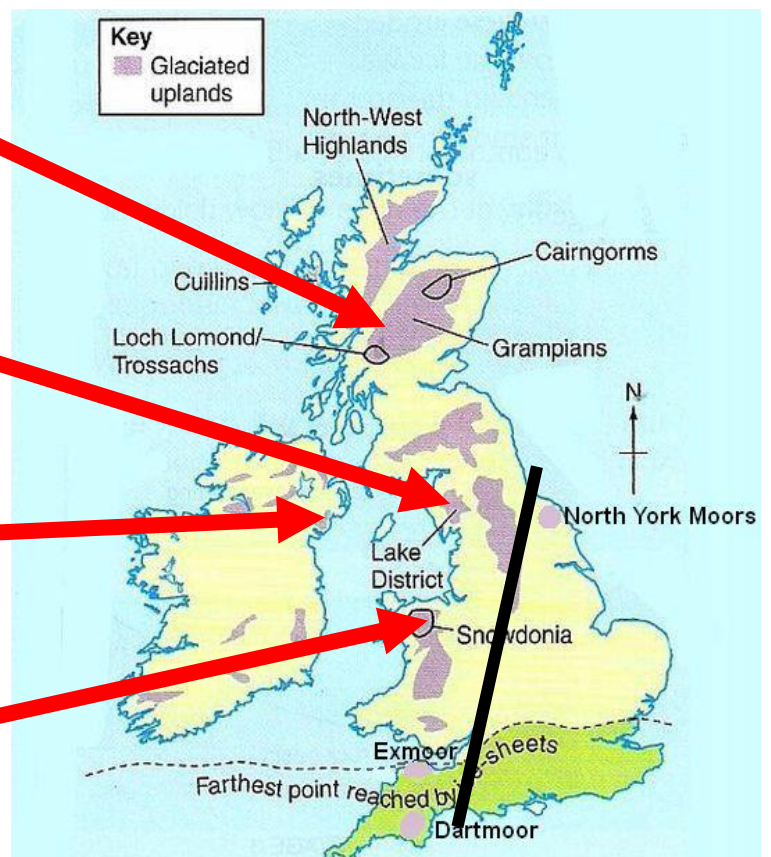
Scafell Pike
Lake District



Slieve Donard
Mourne range



Snowdon
Snowdonia



BQ3. WHAT CAUSES WEATHER?

What causes weather: a summary

- ❑ The sun heats the Earth – but unevenly
- ❑ Earth in turn warms the air, which rises
- ❑ Rising air leads to wind, because air from a colder place flows in to replace it
- ❑ The Sun's heat also causes water to evaporate, giving water vapour.
- ❑ When the air rises it cools. So the water vapour condenses, giving clouds of water droplets. Droplets join to make larger drops, which fall as rain (or snow, or sleet, or hailstones).

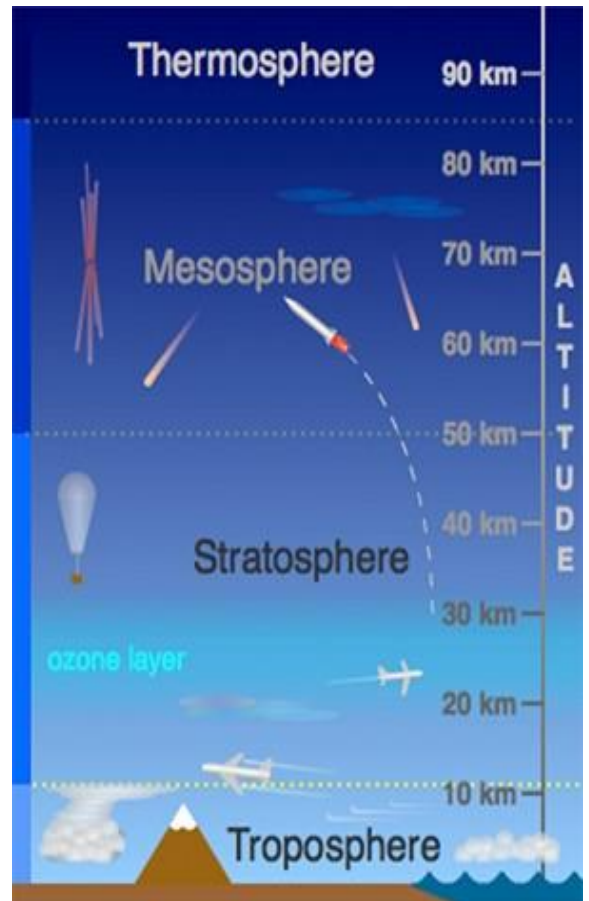
Where does weather happen?

The atmosphere - the blanket of gas around the earth. It reaches up to 10,000 km.

Most of the gas molecules are in the lowest layer, because they are pulled down by gravity. This means the air is most dense near the surface of the earth.

The layer closest to the surface is called the troposphere. It is only 11 km thick. Almost ALL of the water vapour in the atmosphere is here.

Because it has most of the gas, the troposphere is where most weather occurs. Above it, there is no rain.



BQ3. WHAT CAUSES WEATHER?

Types of rainfall

But air rises for different reasons. So rainfall is given different names. Let's look at them now.

1 Convective rainfall

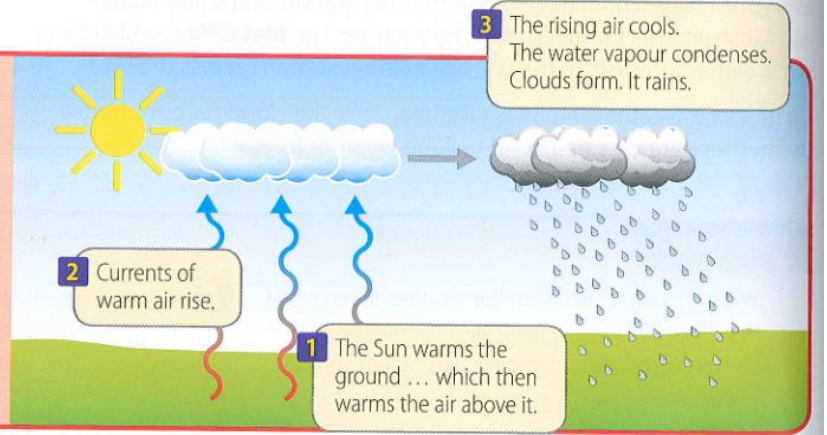
In this diagram, air is rising because the ground is heating it.

It rises as currents of warm air.

We call these **convection currents**.

So we call the rain **convective rainfall**.

In the UK we get convective rainfall inland in summer, where the ground gets hottest, away from the cooling effect of the sea.

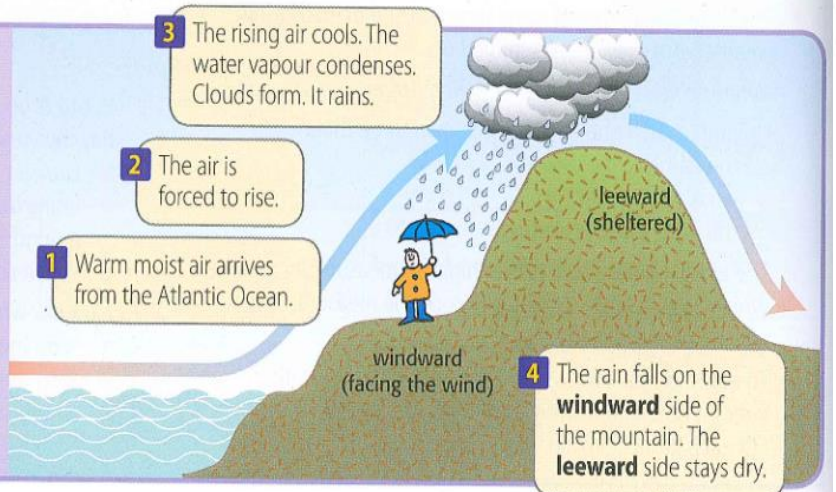


2 Relief rainfall

Wind is just moving air.

When the wind meets a line of high hills or mountains, there's only one way to go – up! So the air rises and cools, and we get rain. We call it **relief rainfall**.

In the UK the prevailing wind is a moist south west wind from the Atlantic. So we get lots of relief rainfall on the high land on the west coast.

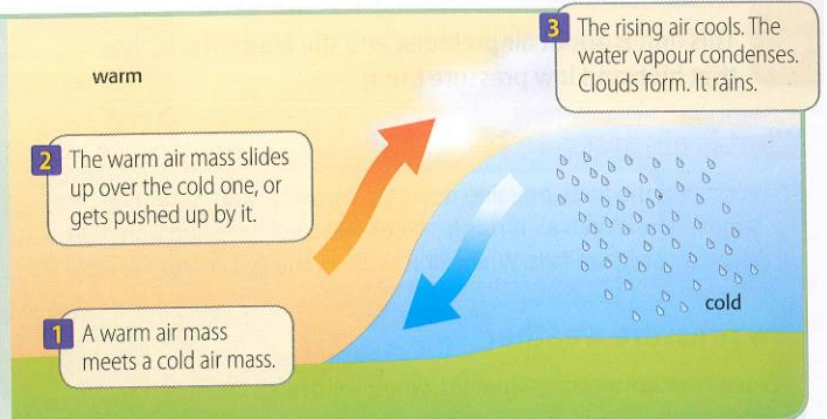


3 Frontal rainfall

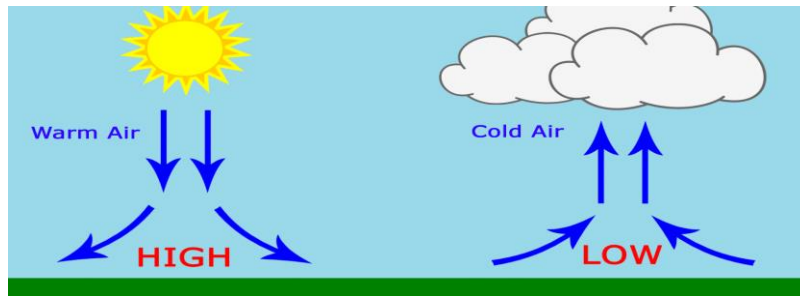
As you'll see in Unit 5.6, huge blocks of air called **air masses** move around Earth.

Where a warm air mass meets a cold one, the warm air rises. Its water vapour condenses. So we get rain. This is called **frontal rainfall**.

Air masses can travel anywhere. So frontal rainfall can fall anywhere. It is the most common type of rainfall in the UK.

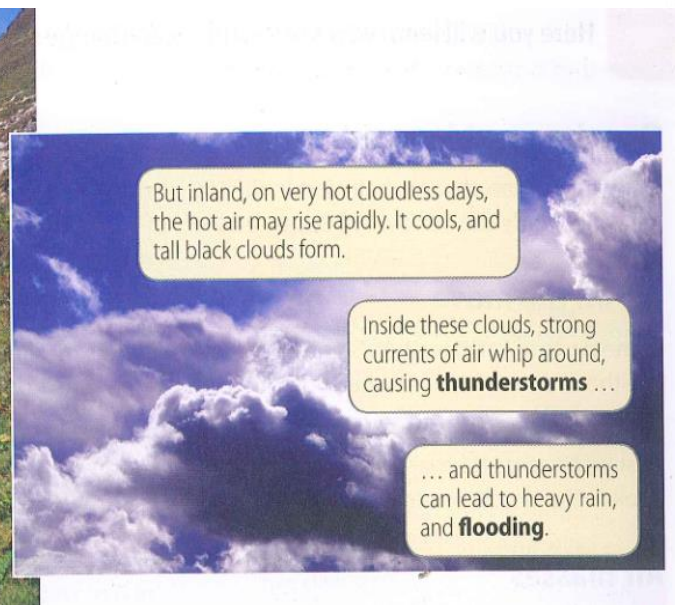
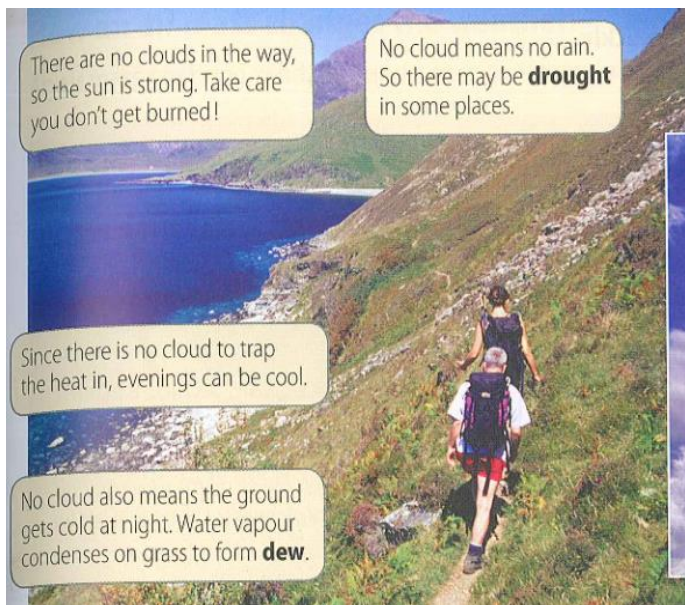


BQ4. WHAT IS AIR PRESSURE?



- Cooler air sinks down.
- There is little condensation.
- This brings clear, calm settled conditions
- Air is forced to rise
 - (relief, frontal or convectional)
- Air cools and condenses into clouds and then precipitation
- Less than 1016mb pressure

High pressure in summer: Hot and sunny



High pressure in winter: Frost and ice



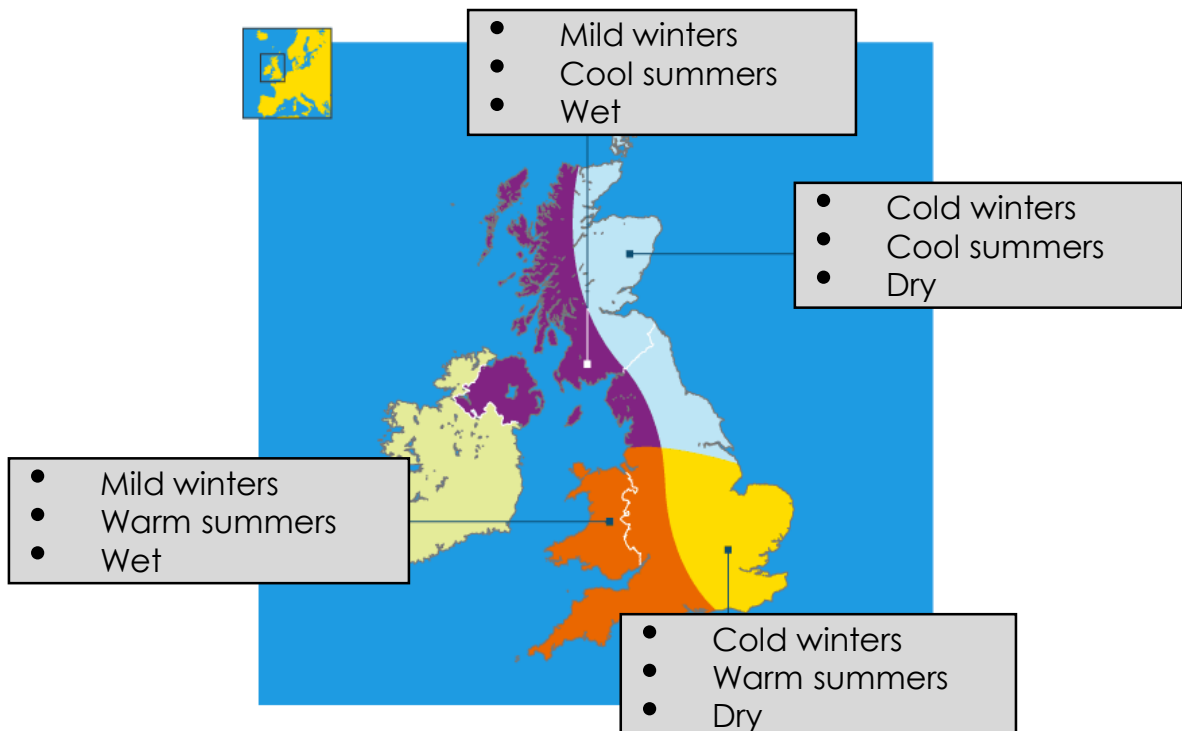
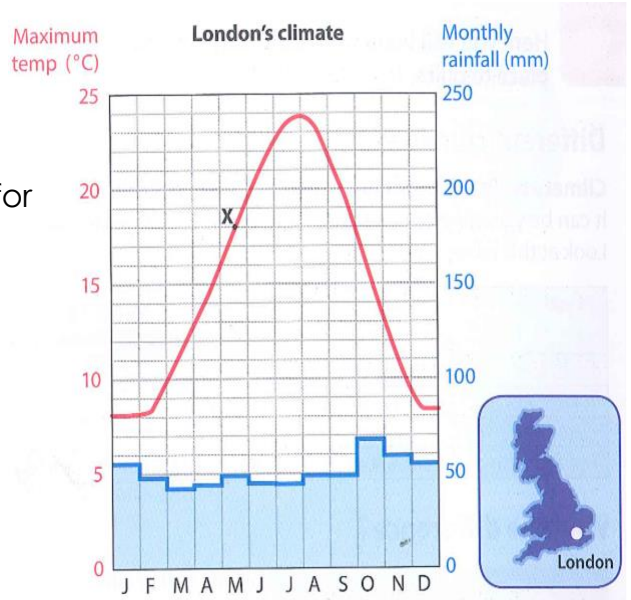
BQ5. WHAT IS THE DIFFERENCE BETWEEN WEATHER AND CLIMATE?

Weather is the state of the atmosphere at a given time.

Climate is the average weather in a place. It tells you what the weather is usually like, in an given month.

The red line shows temperature and the blue bars show rainfall.

For May, the maximum temperature is around 18°C (read it as X, the mid-point for May). And May has around 50 mm of rainfall in total.



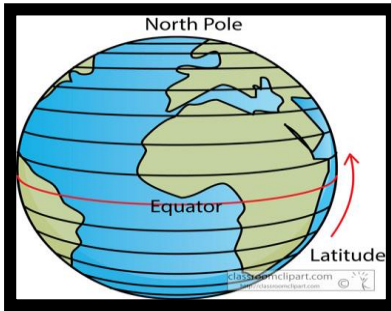
HOMEWORK 2

Try to answer all of these key knowledge questions. Then check your answers using the answer page. These are some of the questions that will be in the knowledge quizzes and the mid and end of unit tests.

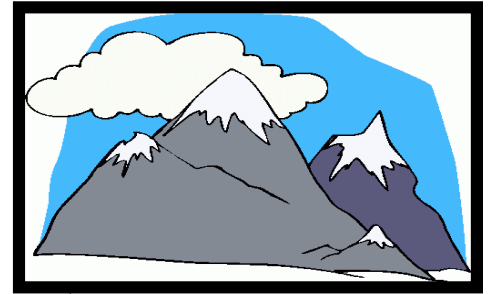
Questions in *italics* are from older work.

Key knowledge question	Your answer
What countries make up the United Kingdom?	
What stretch of water separates the U.K and France?	
What is the highest peak in the United Kingdom?	
What is the Tees-Exe line?	
Which type of rainfall is most common in the UK?	
What is the geographical name for rain (and snow)?	
When are cumulonimbus clouds formed?	
What are the three types of rainfall affecting the UK	
What weather would you expect in low pressure?	
What will the weather be during high pressure in the winter?	
<i>What are the mountains of Northern Africa called?</i>	
<i>What is solar radiation?</i>	
<i>Name the Northern Tropic</i>	

BQ6. WHAT ARE THE LAWS OF CLIMATE?



Latitude



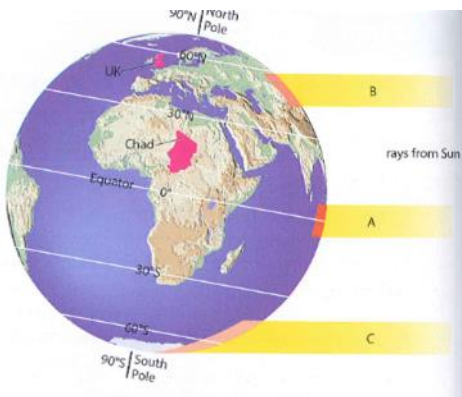
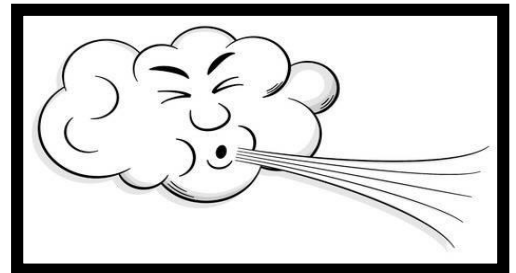
Altitude

Distance from the Sea



The LAWS of climate

Prevailing wind



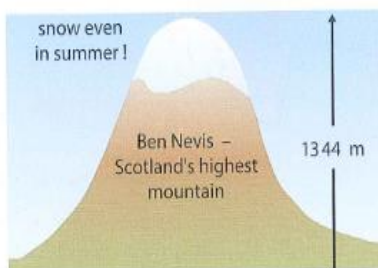
Altitude

Look at the rays labelled **A**. They strike an area around the Equator. Their energy heats the ground. Then the ground heats the air. Look at **B**. These rays strike a larger area, because Earth is curved. So there's less energy per square km. So it doesn't get as hot.

Look at **C**. These energy rays strike an even larger area. It hardly warms.

(Prevailing) Wind

(Distance from) Sea



Height above sea level
Or **altitude**. The higher you are above sea level, the cooler it is. The temperature falls by about 1°C for every 100 metres.



Prevailing wind direction

For example in the UK the prevailing wind is from the south west. It brings water vapour from the ocean – and that means rain!



Distance from the coast

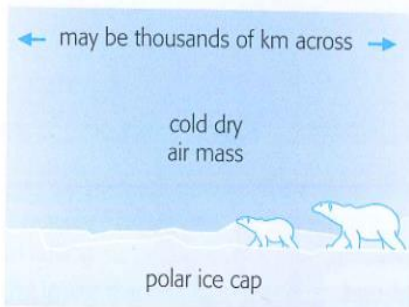
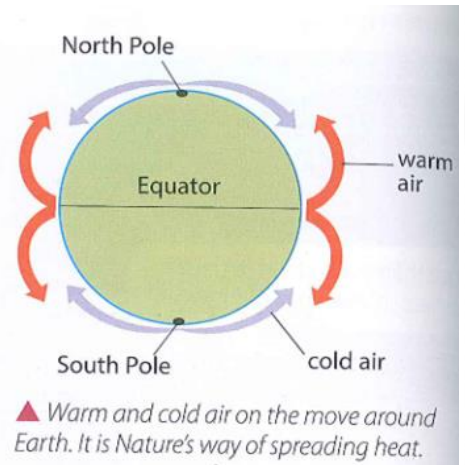
The sea is cooler than land in summer, and warmer in winter. So a sea breeze keeps the coast cool in summer – and warm in winter!

BQ7: WHY IS THE UK WEATHER SO CHANGEABLE?

Air on the move

Some parts of the Earth are hot. Some are cold. This causes the air to move around – like the air in a cold room when you turn on a heater.

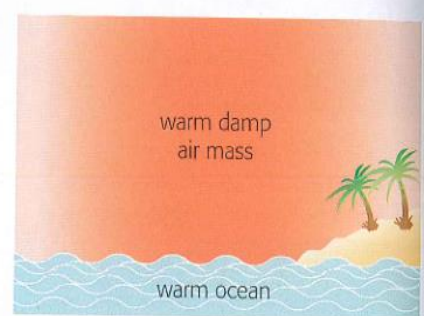
Warm air always moves from a warmer place to a colder one. So the cold air is pushed towards the warmer place. This is Nature's way of spreading heat around.



An air mass coming from the North Pole will be cold and dry ...



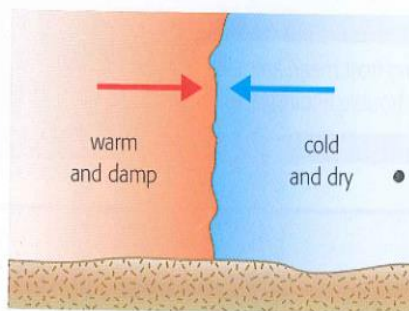
... so if it moves over the UK you'll get cold dry weather.



An air mass coming from a warm ocean will be warm and damp ...



... and if it moves over the UK you get warm dampish weather.

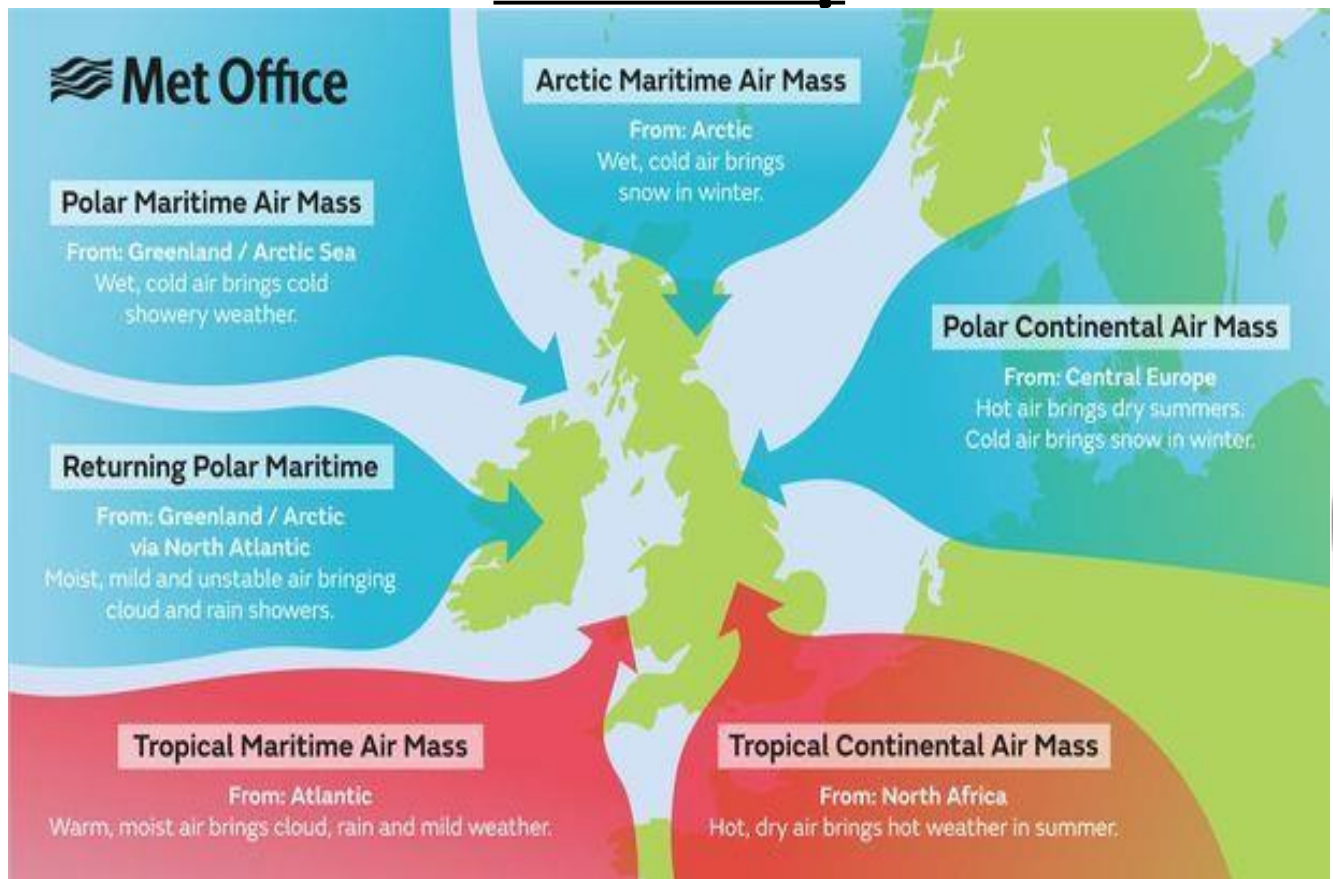


Often, two very different air masses will meet, and clash ...



... and this causes sudden changes in the weather!

BQ7: WHY IS THE UK WEATHER SO CHANGEABLE?



How an air mass changes the weather

An air mass can bring wind, rain, and a change in temperature.

8 am

Nice dry morning. But cool.

There's a cold air mass in your area. So the morning is cool. And there's high pressure, so the sky is clear. But a warm damp air mass is on the way. How will it affect the weather?

midday

warm front
warm air sliding up
stratus clouds

The warm air mass has arrived.

- 1 It slides up over the cold one.
- 2 As it rises, the air pressure falls. So the weather gets windy.
- 3 As the rising air cools, a bank of cloud forms. It starts to rain.

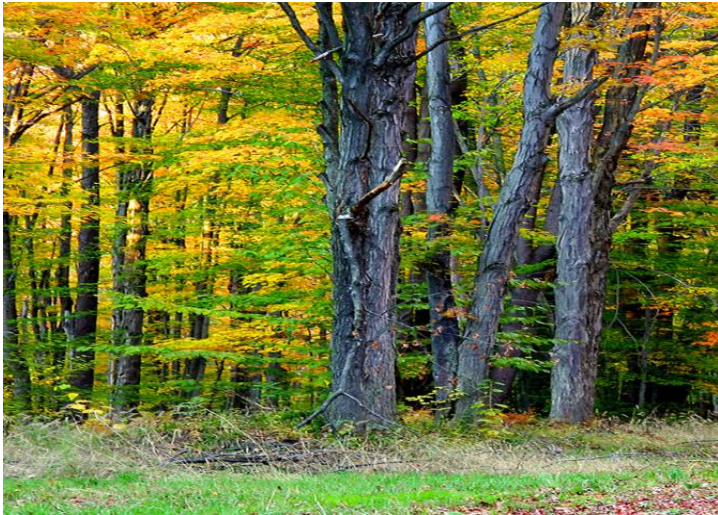
4 pm

Time to put away the brolly!

It's a few hours later. The cold air mass has moved off. The warm air mass has taken over. So the afternoon feels warmer. The rain has eased off. The wind has dropped.

BQ8: WHAT ECOSYSTEMS ARE FOUND IN THE UNITED KINGDOM?

An ecosystem is a group of living organisms interacting with the non-living parts of an environment



Temperate deciduous woodland

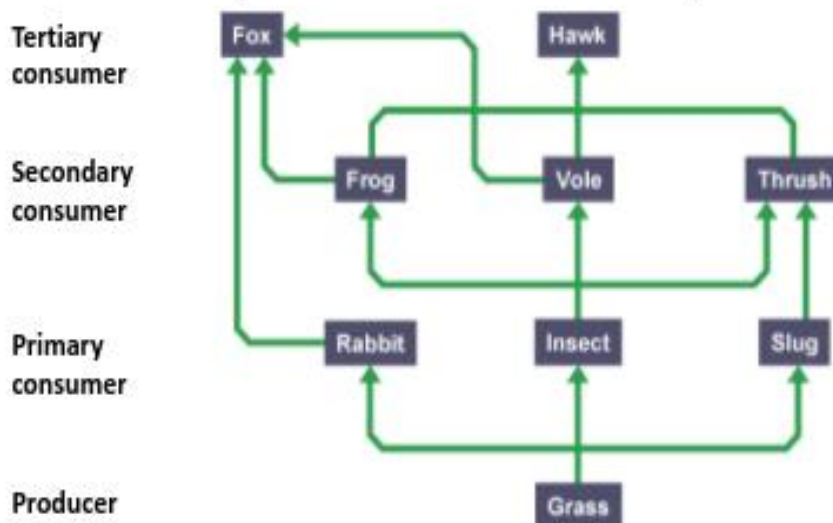
Latitude: 40-60

Temperature: 0C-25C

Rainfall: 500-1,000mm/year

Deciduous woodlands contain trees with broad leaves, such as Oak, Beech and Elm.

Temperate deciduous Woodland Ecosystem Food Web



1. Name one tertiary consumer: _____
2. Name one primary consumer: _____
3. Where do producers get their energy from? _____

HOMWORK 3

Try to answer all of these key knowledge questions. Then check your answers using the answer page. These are some of the questions that will be in the knowledge quizzes and the mid and end of unit tests.

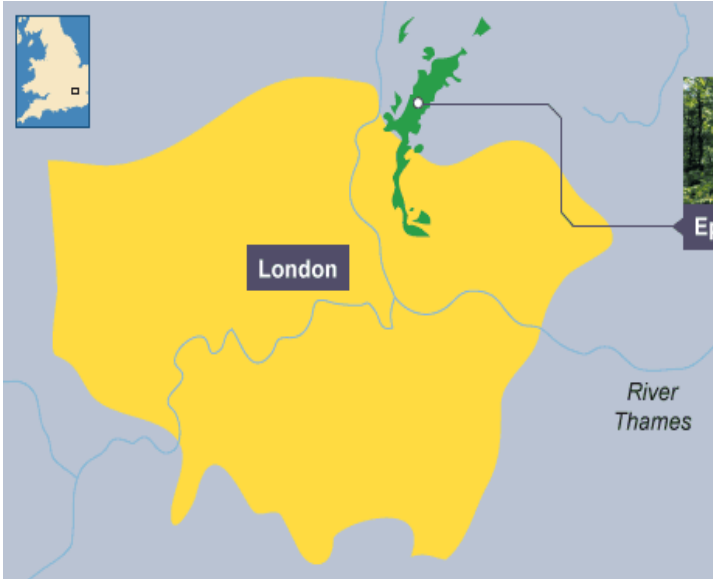
Questions in *italics* are from older work.

Key knowledge question	Your answer
What do we call the day to day conditions in the atmosphere?	
What two factors do we measure on a climate graph?	
What regions of the UK are the driest?	
What are the 4 LAWS of climate?	
From which direction does the prevailing wind come from for the UK?	
What is an air mass?	
When two air masses meet which type of rainfall would you expect?	
Which air mass brings warm damp weather to the UK?	
What is an ecosystem?	
Where do producers get their energy from?	
<i>What is name of the most famous map projection?</i>	
<i>Which ocean was named for where a titan was punished to stand?</i>	
<i>Which regions of the UK are upland areas?</i>	

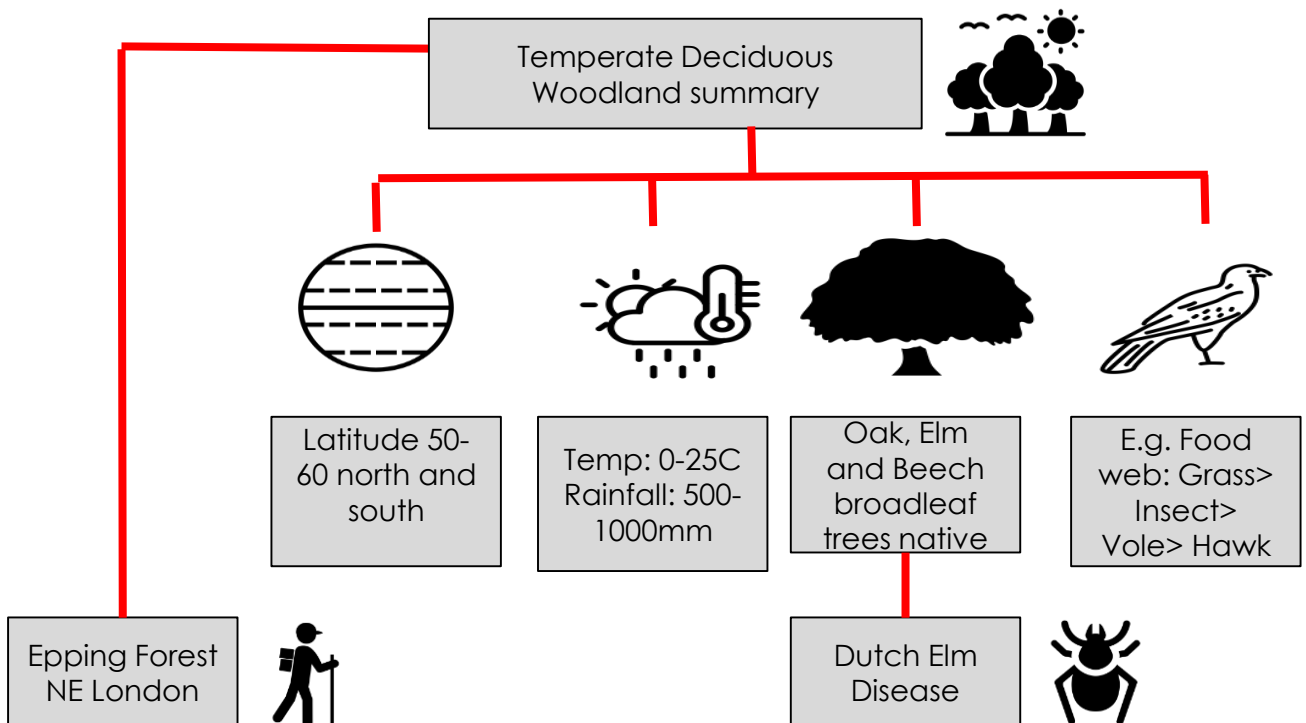
BQ8: WHAT ECOSYSTEMS ARE FOUND IN THE UNITED KINGDOM?



Case study: Epping Forest, England



- ❑ The remains of a 10,000 year old forest (After the ice-age)
- ❑ Historically used for hunting and for resources such as wood
- ❑ It is a Site of Special Scientific Interest (SSSI) - Protected by law
- ❑ Today it is mostly used for recreation by the general public



5 Explain the first reason why the Holderness coast is eroding so rapidly.

6 Explain the second reason why this area of coast is eroding so rapidly.

9 Which type of coastal management solutions are used at Holderness?
Challenge: Can you think of any examples of this type of coastal management?

THE HOLDERNESS COAST

A case study of the Holderness coastline

The Holderness Coast is located on the east coast of England. It extends 61km from Flamborough in the north to Spurn Point in the south. The Holderness Coastline is one of Europe's fastest eroding at an average annual rate of around 2 metres per year. This is around 2 million tonnes of material every year. Approximately 3 miles (5kms) of land has been lost since Roman times including 23 towns/villages.

Underlying the Holderness Coast is bedrock made up of Cretaceous Chalk. However, in most places, this is covered by glacial till deposited over 18,000 years ago. It is this soft boulder clay that is being rapidly eroded. There are two main reasons why this area of coast is eroding so rapidly.

The first is the result of the strong prevailing winds creating longshore drift that moves material south along the coastline. The second is that the cliffs are made of soft boulder clay which erodes rapidly when saturated.

The Holderness Coast is a great case study to use when examining coastal processes and the features associated with them. This is because the area contains 'textbook' examples of coastal erosion and deposition.

The exposed chalk of Flamborough provides examples of erosion, features such as caves, arches and stacks. Coastal management at Hornsea and Withernsea are examples of hard engineering solutions to coastal erosion. Erosion at Skipsea

illustrates the human impact of erosion in areas where coastlines are not being defended. Mablethorpe is an excellent case study of an attempt at coastal management which has a negative impact further along the coast. Spurn Point provides evidence of longshore drift on the Holderness Coast. It is an excellent example of a spit. Around 3% of the material eroded from the Holderness Coast is deposited here each year.



1 Where is the Holderness coast located?

2 How quickly does the Holderness coast erode?

3 What might the impact of losing so many towns and villages be?

4 Describe the geology of the Holderness coast.

7 Why is the Holderness coast a good case study?

8 What erosional features are there at Holderness?
Challenge: Explain the formation of one of the features.

10 What are the impacts of coastal erosion?

11 Why might the coastal defences at Mablethorpe have a negative effect further down the coast?

12 Explain how a spit is formed.

WIDER READING: 5 HOUSE POINTS

5 Why did we use plastics?

6 How much of the plastic made each year is 'single-use'?

10 Explain why additives are adding to the plastic problem

WORLD PLASTIC CRISIS?

Task – read the article and then answer the questions in full sentences.

Much of the planet is swimming in discarded plastic, which is harming animal and possibly human health. Can it be cleaned up?

BY LAURA PARKER

Plastic pollution has become one of the most pressing environmental issues, as rapidly increasing production of disposable plastic products overwhelms the world's ability to deal with them. Plastic pollution is most visible in developing Asian and African nations, where garbage collection systems are often inefficient or non-existent. But the developed world, especially in countries with low recycling rates, also has trouble properly collecting discarded plastics. Plastic rubbish has become so ubiquitous it has prompted efforts to write a global treaty negotiated by the United Nations.

How did this happen?

Plastics made from fossil fuels are just over a century old. Production and development of thousands of new plastic products accelerated after World War II, so transforming the modern age that life without plastics would be unrecognizable today. Plastics revolutionized medicine with life-saving devices, made space travel possible, lightened cars and jets—saving fuel and pollution—and saved lives with helmets, incubators, and equipment for clean drinking water. The conveniences plastics offer, however, led to a throw-away culture that reveals the material's dark side: today, single-use plastics account for 40 percent of the plastic produced every year. Many of these products, such as plastic bags and food wrappers, have a lifespan of mere minutes to hours, yet they may persist in the environment for hundreds of years.

Plastics by the numbers

Some key facts:

- Half of all plastics ever manufactured have been made in the last 15 years.
- Production increased exponentially, from 2.3 million tons in 1950 to 448 million tons by 2015. Production is expected to double by 2050.
- Every year, about 8 million tons of plastic waste escapes into the oceans from coastal nations. That's the equivalent of setting five garbage bags full of trash on every foot of coastline around the world.
- Plastics often contain additives making them stronger, more flexible, and durable. But many of these additives can extend the life of products if they become litter, with some estimates ranging to at least 400 years to break down.

Reflection: describe on thing you have learnt from reading this article that you did not know before?



9 What is added to plastic to make it stronger?

1 What is one of the most pressing environmental issues?

2 Which countries do we see the most plastic rubbish?

3 What do you think ubiquitous means?

4 What are plastics made of?

7 Name 3 plastic items you use regularly

8 How much plastic is predicted to be made each year in 2050?

10 How is organic food better ?

9 What is organic food?

8 What is meant by eating seasonally?

7 How can shopping at farmers markets help reduce food miles?

1 How much of the UK's food is imported?

2 State 3 reasons why we are importing more food

WHERE DOES YOUR FOOD COME FROM?

An article looking at changing demand for food in the UK and the impacts of importing our food.

Food supply and consumption in the UK has changed incredibly since World War 2. The UK's population has risen, the large supermarkets have grown, and diets have changed. Prior to WW2, much of the food consumed in the UK would have been home grown and seasonal with some exotic exceptions. Fruit and vegetables would have been grown and sold according to the seasons, with products like strawberries only available in summer and winter vegetables like Brussels Sprouts later in the year.

By 2037 the population of the UK is expected to rise to 73 million (from 64 million in 2015). This will increase the future demand for food. Despite the UK's efficient and productive farming sector the UK is not self-sufficient for food supplies like it once was. In fact the UK imports about 40 per cent of the total food consumed and this proportion is increasing. Why is this? We now live in a modern world where people expect to have access to any type of food, they want all year round; this results in the UK importing seasonal foods from other countries, for example strawberries and apples. This also links to the fact that the UK climate is unsuitable for some of our most enjoyed foods, such as tea and

bananas, we therefore import them. In modern times we also have supermarkets that are all in competition with each other to offer the lowest price to their customers. As a result of this we import cheaper food from abroad.

However, our constant need for a wide variety of food comes at a cost to both us and the environment. The biggest issue are food miles; these are a basic way of showing how far our food travels to get to us. The increase in food miles poses significant problems to the environment because of the energy required to transport the food. Importing our food and increasing food miles adds to our carbon footprint – the emission of carbon dioxide into the atmosphere. This comes from producing the energy for commercial cultivation, and from transport by planes and lorries.



Many are also surprised to learn there is another price to pay: despite the appearance of near perfection in imported fresh fruit and vegetables, new research has found that the further they have travelled, the more their vitamin and mineral content deteriorates. Local or sometimes frozen food are more likely to have preserved their goodness.

We cannot continue at this unsustainable rate of sourcing our food, so what can you do? First, we can all try to shop more locally by visiting local farmers markets or butchers so that we know what we are buying has come from the local area. Another simple change is by eating seasonally, this means that we only eat foods that are in season in the UK at that time of year, so we are not importing food from other countries. Organic food is another growing demand in the UK which has both environmental and social benefits. Organic produce tends to be locally grown and does not involve any chemicals from the pesticides. This is not only better for the surrounding environment, habitats and air quality but also for people who are consuming naturally grown food which have more nutrients.

6 List 3 ways we can reduce food miles

5 What social problem is caused by importing our food and using air freights?

3 What are food miles? Why do we have them?

4 What is a carbon footprint? Why is this increasing?

KEY KNOWLEDGE QUESTIONS

Key knowledge question	Answer
What countries make up the United Kingdom?	England, Scotland, Wales and N. Ireland
What stretch of water separates the U.K and France?	English Channel
What is the highest peak in the United Kingdom?	Ben Nevis, west Grampians, Scotland 4411ft
What is the Tees-Exe line?	The imaginary line that divides the UK into upland and lowland areas
Which type of rainfall is most common in the UK?	Frontal rainfall
What is the geographical name for rain (and snow)?	Precipitation
When are cumulonimbus clouds formed?	These are formed on very hot days and create thunderstorms.
What are the three types of rainfall affecting the UK	Convectional rainfall, relief rainfall and frontal rainfall
What weather would you expect in low pressure?	Rainfall as air is rising and condensing into clouds
What will the weather be during high pressure in the winter?	There are no clouds so days are clear, cold and bright, but leading to frost at night.
What are the mountains of Northern Africa called?	Atlas mountains
What is solar radiation?	Energy released from the sun
Name the Northern Tropic	Tropic of Cancer
What do we call the day to day conditions in the atmosphere?	Weather
What two factors do we measure on a climate graph?	Temperature and rainfall
What regions of the UK are the driest?	South and east

KEY KNOWLEDGE QUESTIONS

Key knowledge question	Answer
What are the 4 LAWS of climate?	Latitude, Altitude, prevailing wind and distance from the sea
From which direction does the prevailing wind come from for the UK?	South West
What is an air mass?	The air moves in huge blocks called air masses. An air mass will be warm or cold, damp or dry, depending on where it came from.
When two air masses meet which type of rainfall would you expect?	Frontal rainfall
Which air mass brings warm damp weather to the UK?	Tropical maritime
What is an ecosystem?	A group of living organisms interacting with the non-living parts of an environment
Where do producers get their energy from?	The sun
What is name of the most famous map projection?	Mercator projection
Which ocean was named for where a titan was punished to stand?	Atlantic Ocean
Which regions of the UK are upland areas?	North and West