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Unit 1. Rivers

What are the main features of a river basin?

1. What a river basin is?
   It is an area of land drained by a river and its tributaries

2. Watershed?
   The higher land which forms the boundary of the river basin, and which separates two river basins

3. Source?
   The point at which a river begins is called its source

4. Tributaries...
   They are small stream or river flowing into the main river

5. Confluence...
   The place where a tributary joins the main river

6. Mouth...
   The end of a river

How do rivers shape the land?

7. Processes of erosion:
   - Attrition: material is moved along the bed of a river
   - Corrasion: Fine material rubs against the river bank
   - Corrosion: Some rocks forming the banks and bed of a river are dissolved by acids
   - Hydraulic action: The sheer force of water hitting the banks of the river

8. Processes of transportation:
   - Traction: Large rocks and boulders are rolled along the bed (of the river)
   - Saltation: Smaller stones bounced along the bed
   - Suspension: Fine material, light enough in weight to be carried by the river
   - Solution: Dissolved material is transported by the river
9. The result of the rivers shaping the land is...

The rivers can erode the land and transport material: together, these can produce distinctive landforms which include V-shaped valleys and waterfalls

How do meanders lakes form?

10. Meanders...

When rivers flow over flatter land, they develop large bends called meanders

11. Oxbow lake...

What happens to a river as it approaches its mouth?

12. Flood plain...

The flat area of land over which a river meanders

13. When a river floods, it is the coarsest material that is deposited first. This coarse material can form small...

- Embankments alongside a river which the Americans call “levées”

14. Delta...

The deposited material will slowly build upwards and outwards to form a delta

15. Distributaries...
Deposition blocks the main channel of the river, so the Mississippi and others has to divide into a series of smaller channels called distributaries, used by ships too.

What is the hydrological cycle?

16. Hydrology is...

It is the study of water.

17. Hydrological cycle...

Or water cycle, is the continuous transfer of water from the oceans into the atmosphere, the onto the land and finally back into the oceans, with processes (evaporation, transpiration, condensation, precipitation and surface run-off).

18. Summarize the hydrological cycle

It is the natural recycling of water between the oceans, atmosphere and land.

19. Flooding is...

An extreme surplus of water on the land.

20. Drought is...

An extreme shortage of water.

21. How does the river (drainage) basin system work?

It is that part of the hydrological cycle which operates on the land, with inputs (entering the system), flows or transfers (movement through the system), stores (held within the system) and outputs (leaving the system).
What is the relationship between precipitation and run-off?

22. The amount of rainwater which will become the run-off a river will be...

Precipitation - (evapotranspiration + storage (groundwater))

23. Discharge...

The amount of water in a river channel at a given time is called the discharge, measured in cumeecs (cubic metres of water per second)

24. The flood hydrograph...

It is the relationship between precipitation and the level of a river

25. Under normal conditions, therefore, the run-off of a river will be less than precipitation. Precipitation and run-off figures for a year can be plotted graphically as the diagram:
What are the main causes of river flooding?

26. What are the main causes of river flooding?

Physical: 1. Type and amount of precipitation. 2. Type of soil and underlying rock

Human: 1. Land use of the river basin. 2. Human activity

River flooding

27. The results of a river flooding...

When rivers flood they can put lives in danger, damage property and disrupt people’s normal way of life

How might the flood risk be reduced?

28. How might the flood risk be reduced?

It often needs considerable amounts of money and high levels of technology to reduce the flood risk

River flooding in Bangladesh (developing countries)

29. The results of a river flooding in developing countries...

Flooding in developing countries is a combination of natural factors and human mismanagement. Although flooding normally brings benefits, extreme floods, especially in a developing country, can be disastrous
Unit 2. Coasts

How do waves wear away the land?

1. Waves’ origin

   From *submarine earth movements*, but usually they are formed by the *wind blowing* over the sea

2. The size of a wave depends on...

   Strength of the wind
   Length of time that the wind blows
   Distance of sea that the wind has to cross

3. As a wave approaches...

   As a wave approaches shallow water near to the coast, its base is slowed down by friction against the sea-bed. The top of the wave will then move faster, increase in height and will eventually break (tumble over) onto the beach

4. Coastal erosion

   There are four main processes by which the sea can erode the land, similar to those of a river:

   Hydraulic action: The waves trap and compress air in cracks and holes in a cliff
   Corrasion: Large waves hurling beach material against the cliff
   Attrition: When waves cause rocks and pebbles on the beach to bump into each other and to break down in size
   Corrosion: Cliff is slowly dissolved by acids in the sea-water
How does the sea transport material?

5. Longshore drift...

The movement of material along a beach is called longshore drift.

6. Transportation along a beach

Waves rarely approach a beach at right-angles. They usually approach at an angle that depends upon the direction of the wind.

7. Swash

The water that rushes up a beach after a wave breaks is called the swash.

8. Backwash

When this water returns down the beach to the sea it is called the backwash.
9. Longshore drift (again)

The result is that material is transported along the beach in a zig-zag movement. This movement of beach material is called longshore drift.

10. Groynes

Longshore drift can sometimes affect human activities. In response, people may erect wooden breakwater fences down the beach. The fences, called groynes, reduce the force of the waves.

How do landforms result from deposition by the sea?

11. Deposition occurs...

Deposition occurs in sheltered areas where the build-up of sand and shingle is greater than its removal.

12. The beach is...

The most widespread coastal deposition feature is the beach.

13. The beaches are formed...

Although rocky beaches are formed by erosion, sand and shingle beaches result from deposition.

14. Spits...

A spit is an area of sand or shingle which either extends at a gentle angle out to sea or which grows across a river estuary.

15. Bars...

A bar is a barrier of sand stretching across a sheltered bay.
16. Bars may form in several ways...

One way is when a spit is able to grow right across a bay. A second is when a sand bank develops some distance off the shore, but parallel to it.

What are the causes, effects and human responses to cliff erosion?

17. Causes to cliff erosion

If resistant rock, waves erode at their base causing them to become unstable and to collapse.

If less resistant rock, rain can wash loose material down to the cliff base. It can be rapidly removed by waves.

18. Effects to cliff erosion

Villages, farms and campsites situated in places that a few years ago were considered safe, have been abandoned and lost.

19. Human responses

The natural rate of cliff erosion can be accelerated by human activity. There are arguments for and against trying to protect cliffs from erosion.

Coastal flooding in Britain

20. Storm surge...

A storm surge is when the level of the sea rises rapidly to a height well above that which was predicted.

21. Four main factors combined to cause a storm surge:

- An area of low atmospheric pressure (depression)
- The further 2-metre rise in sea-level, especially in river estuaries
- Time of spring tides, when the tides reach their highest level
- Rivers flowing into the North Sea were in flood but could not discharge their water due to the high sea-levels

22. Causes of coastal flooding:
- Land behind the coastline is flat and low-lying
- Severe storms can cause exceptionally high waves and create storm surges
- Very high tides can flood areas that are not protected either naturally (by sand dunes) or artificially (by sea-walls)
- Global warming is causing sea-level to rise, so increasing the flood risk in many low-lying coastal areas around the world

23. Precautions in coastal flooding:
- Building of higher and stronger sea-walls (expensive and regular maintenance)
- Build tidal barriers across river estuaries
- Stop building on coastal flood plains
- Improve weather forecasting and early flood warning systems
- Try to reduce the increase in global warming

Unit 3. Glaciation

How does ice shape the land?

1. Glaciers form when...

   Glaciers form when there is an interruption in the hydrological cycle: the climate becomes cold enough for precipitation to fall as snow, and water is held in storage in the system

2. In glaciers water becomes into ice

   The weight of new snowfalls turns the underlying snow into ice

3. Can we found rivers in world high latitudes valleys?

   When ice moves downhill under the force of gravity it is called a glacier, and glaciers replace rivers in valleys

4. What a glacier is?

   When ice moves downhill under the force of gravity it is called a glacier, and glaciers replace rivers in valleys

5. Material carried by a glacier...

   Much of the material carried by a glacier results from a process called freeze-thaw weathering, or frost shattering
6. Moraine...

Material resulting from freeze-thaw had fallen onto a glacier, and this material is called moraine.

7. River erosion and glacial erosion (compare them)

Glaciers erode much faster than rivers. The two main processes of glacial erosion are abrasion and plucking.

8. Glacial abrasion is...

It is when the material carried by a glacier acts like sandpaper on a giant scale, rubbing against and wearing away the sides and floor of a valley. It is a similar process, therefore, to corrosion by rivers and waves.

9. Glacial plucking is...

It is when ice freezes and sticks to rock. When the ice moves, large pieces of rock are pulled away with it.

10. Corries...

They are also known as cirques or cwms. They are deep, rounded hollows with a steep back wall and a rock basin.
What landforms result from glacial erosion?

11. Arête...

Corries sometimes form in adjacent river valleys. The erosion of the sidewalls between them creates a narrow knife-edge ridge, which is called an arête.

12. Pyramidal peak

When three or more corries cut back into the same mountain, a pyramidal peak is formed.

13. Glacial trough...

In most cases, glacier is along an existing river valley, eroding both the floor and the sides of the valley to form a glacial trough.

14. Glacial shape...

The characteristic V-shape of a river valley is turned into the typical U-shape of a glaciated valley.

15. Truncated spurs...

The valley is usually straightened by the glacier moving down it. The ends of interlocking spurs are removed by abrasion to leave cliff-like features called truncated spurs.
16. Hanging valleys...

They result from differences in the rate of erosion between glaciers in the main and in a tributary valley.

What landforms result from glacial deposition?

17. Deposition occurs...
It occurs when a rise in temperature causes ice to melt and the glacier is no longer able to carry as much material: a group of deposition landforms develop, mainly at the snout (end) of the melting glacier

18. Erratics...

They are rocks and boulders picked up and transported many kms. by the glacier, and deposited in an area of different rock

19. Terminal moraine...

It marks the furthest or maximum point that a glacier reached

20. Ribbon lake...

![Diagram of a ribbon lake and the processes involved]
Unit 4. Rocks and landscapes

What are the main types of rock?

1. What are the main types of rock?
   - Igneous rocks (from volcanic activity): Granite, basalt
   - Sedimentary rocks (either of small particles of other rocks that have been eroded and transported or of the remains of plants and animals): limestone, chalk, coal, sandstone
   - Metamorphic rocks (altered by extremes of heat and/or pressure): marble and slate

What is weathering?

2. What weathering is?
   Weathering includes the breaking up (disintegration) and decay (decomposition) of rocks in places where they formed

3. Types of weathering
   Physical, chemical, and biological

4. Physical weathering
   It is when rock is broken into smaller pieces by physical processes. Two types:
   - Freeze-thaw or frost shattering

   Where the broken-off rocks collect at the foot of a cliff it is called **scree**: 
- Exfoliation or onion weathering: It occurs in very warm climates where exposed rock is repeatedly heated and cooled: this causes the outer layers to peel off, like those of an onion

5. Chemical weathering

It is when water and air activate chemical changes that cause rock to rot and decay. Chemical reactions are greatest where the climate is very warm and wet.

6. Limestone solution

It is an example of chemical weathering, when carbonic acid, which occurs naturally as a weak solution in rainwater, reacts with rocks such as limestone that contain calcium carbonate. As the limestone slowly dissolves, it is removed by running water to create distinctive landforms.

7. Biological weathering

It occurs when either tree roots penetrate and widen cracks in a rock (physical) or acids, released by decaying vegetation, attack the rock (chemical).

How do differences in rock type affect landforms?

8. The structure of a rock can affect...

It can affect its resistance to erosion and its permeability to water.

9. The rocks resistance

The harder the rock, the more resistant it is likely to be to erosion. Hills and mountains tend to form in areas of harder rock while valleys are found on softer rock.
10. Permeability

Impermeable rock has numerous surface rivers and may be badly drained, in contrast to permeable rock which has few surface rivers; groundwater instead

What do chalk areas look like?

11. What do chalk areas look like?

Chalk, which is a soft limestone, occurs in south-east England. It is permeable and so, as it is relatively resistant to erosion, it can form

- Low-lying, gently rounded hills
- Ridges (escarpments)

Why does Carboniferous limestone create its own scenery?

12. Limestone...

It is a rock consisting mainly of calcium carbonate, which comes from the remains of sea shells and coral. Types of limestone are Carboniferous limestone, Jurassic limestone and Chalk

13. Type of limestone forms...

Each type produces its own special type of scenery, with karst landforms developing in areas of Carboniferous limestone

14. There are three basic reasons why Carboniferous limestone produces distinctive landforms...

Chemical weathering, rock structure and permeability

15. When a river reaches limestone...

It begins to dissolve joints and bedding planes
16. Underground caves...

Sometimes solution is so active that form underground caves

17. Stalactite...

As the water drips, some of it will slowly evaporate and calcium carbonate is deposited: in time a stalactite will form: it is an icicle shaped feature which hangs downwards from the roof

18. Stalagmite...

As the water drips to the floor, further deposition of calcium carbonate forms stalagmites, features that grow up from the cave floor

19. Resurgence...

The river flow over the impermeable rock until it reaches the surface. The place where it reappears is called resurgence
What are the effects of quarrying in National Parks?

20. People have quarried rocks?

People have quarried rocks and minerals from the earliest times, initially flint for axes and tools and later stone and slate for building materials.

21. Quarrying...

It is when rocks are taken straight from the Earth’s surface—unlike mining where workers have to operate underground.

Unit 5. Plate tectonics

What are the effects of earth movements?

1. Tremors

The 10,000 or so earth movements per year which are strong enough to be felt are called tremors.

2. Earthquakes

They are violent earth movements where the ground actually shakes.

3. The strength of an earthquake

It is measured on the Richter scale: each point is actually ten times greater than the one below it. That means an earthquake which registers 6 on the scale is ten times greater than one measuring 5, and one hundred times greater than one measuring 4.

4. Volcanoes form where...
They form where the liquid rock, or lava, escapes onto the Earth’s surface. Lava can escape by either a gentle or a violent movement. This gives two types of volcano

5. Types of volcano

- **Shield volcano**: When the lava is very runny and can find its way through cracks in the crust

- **Composite volcano**: When the lava can only escape as a violent explosion, or eruption. It is then ejected along with rocks, ash and gases from a single opening called a crater

Where do earthquakes and volcanoes occur?

6. Where do earthquakes occur?

They occur in **long narrow belts**. The largest one goes around the entire Pacific Ocean. The second one runs through the middle of the Atlantic Ocean for its entire length. The third one is across the continents of Europe and Asia from the Atlantic to the Pacific
7. Where do volcanoes occur?

The largest belt goes around the entire Pacific Ocean, the so-called ‘Pacific Ring of Fire’. The second one runs through the middle of the Atlantic Ocean for its entire length. Three other notable locations are in southern Europe, the centre of the Pacific Ocean, and eastern Africa.

8. Why are earthquakes and volcanoes found within the same narrow belts?

The crust is not one single piece but is broken into several slabs of varying sizes, called plates.

9. Plates

They float, like rafts, on the molten (semi-solid) mantle.

10. Types of crust

- Continental crust: It is lighter, it cannot sink, and it is permanent. It is neither renewed nor destroyed.

- Oceanic crust: It is heavier (denser), it can sink, and it is continually being renewed and destroyed.
11. A plate boundary is...

   It is where two plates meet. It is at plate boundaries that most of the world’s earthquakes occur and volcanoes are found

What happens at plate boundaries?

12. There are four types of plate boundary

   They are destructive, collision, constructive and conservative

13. Destructive margins

   It is when oceanic crust moves towards continental crust, for example the Nazca Plate moving towards the South American Plate

   As the oceanic crust is heavier it is forced downwards. As it is forced, downwards pressure increases which can trigger extremely violent earthquakes. At the same time the heat produced by friction turns the descending crust back into liquid rock called magma. The hot magma tries to rise to the surface. Where it succeeds there will be violent volcanic eruptions

14. Collision margins

   It occurs when the two plates moving together are both continental crust. As continental crust cannot sink or be destroyed, then the land between them is buckled and pushed upwards to form high fold mountains, such the Himalayas. Although pressure created by the plates moving together can cause severe earthquakes, there are no volcanic eruptions at collision margins
15. Constructive margins

It is when two plates move apart (North American plate moving away from the Eurasian plate). As a ‘gap’ appears between the two plates, then lava can easily escape either in the form of a relatively gentle eruption or as a lava flow. The lava creates new oceanic crust and forms a mid-ocean ridge.

16. Conservative margins

Two plates try to slide slowly past each other (North American and Pacific Plates). When the two plates stick (San Andreas Fault in California) pressure builds up. When it is finally released, it creates a severe earthquake. As crust is neither created nor destroyed at conservative margins, there are no volcanic eruptions.
What are the effects of an earthquake?

17. Japan and Indonesia are in a damage site because...

Both lie on destructive plate margins

18. The damage caused by earthquakes is normally divided into two types:

Primary effects happen immediately and are due to the shaking of the ground

Secondary effects happen afterwards and result from the damage done by the initial tremors

19. Tsunami is...

The movement of the crust can create huge sea waves, known as tsunamis

How can the effects of an earthquake be reduced?

20. Measures to reduce the effects of earthquakes are usually in two parts

a. Predict where and when the event might happen

b. Prepare local people and emergency services for the disaster should it occur

How can the effects of a tsunami be reduced?

21. Measures to reduce the effects of tsunamis are usually in two parts
a. Predict where and when the event might happen
b. Prepare local people and emergency services for the disaster should it occur

What are the effects of a volcanic eruption?

22. Why are there volcanic eruptions in Philippines?

The Philippines lie on a destructive plate margin, composed of oceanic crust, moves north-eastwards towards the Eurasian Plate, which is continental crust. Where they meet, the Philippines Plate is forced to dip steeply down under the Eurasian Plate. The oceanic crust is turned into magma, rises, and erupts as lava on the surface. The Philippines owe their existence to the almost constant ejection of lava over a period of several million years.

How can the effects of a volcanic eruption be reduced?

23. Measures to reduce the effects of a volcanic eruption are usually in two parts

   a. Predict where and when the event might happen

   b. Prepare local people and emergency services for the disaster should it occur

24. Predicting future volcanic eruptions: Warning signs*:

   - When magma is on the move it causes hundreds of small earthquakes which can be measured with seismometers

   - Days before an eruption, hot magma starts to move upwards causing ground temperatures to increase, being detected by satellites using heat-seeking cameras

   - Rising magma causes the volcano to swell and bulge: Tiltmeters to measure slope changes, and also a satellite global positioning system (GPS) to detect movement

   - Immediately before an eruption the moving magma gurgles and belches. The more gas and steam the volcano gives out, the nearer it is to erupting. It was at this stage that a 24-hour warning was given that Pinatubo was about to erupt

25. Compare predicting between volcanoes and earthquakes

   Although we cannot stop volcanoes from erupting, they are easier to predict than earthquakes: When a volcano is about to erupt it gives out several warning signs*

26. Predicting earthquakes

   - Seismometers measure small fore-shocks that occur before the main earthquake
- Plotting earthquake regularity: Japan has experienced a major earthquake every 70 to 80 years since 1620
- Mapping centers of earlier earthquakes
- Observing unusual animal and fish behavior can suggest that an earthquake is about to occur

Why live in a danger zone?

27. Why live in a danger zone?
   - Good soil: Volcanic rocks break down to form some of the most fertile soils on Earth
   - Tourism: To watch eruptions, geysers, sand baths...
   - Geothermal energy: Heat from the Earth can be used to generate electricity
   - Valuable raw materials: Gold, silver, copper and other useful minerals are found in the remains of extinct volcanoes

Unit 6 Britain’s weather and climate

What factors affect temperature?

1. What’s the weather?
   
   It is the day-to-day condition of the atmosphere in terms of temperature, rainfall, sunshine and wind

2. Climate is...

   It is the average weather over a long period of time

3. Temperatures vary from place to place, from time to time, due to...

   
   Latitude, distance from the sea, prevailing winds and height above sea-level or altitude

4. Latitude affecting temperatures

   Places that are near to the Equator are much warmer than places that are near to the poles
5. Distance from the sea affecting temperatures

The land heats up quickly, but also loses heat quickly. In contrast, the sea heats up and cool down much more slowly. This has two main effects on climate

6. Distance from the sea affecting temperatures: two main effects on climate

- Places far from the sea have a great range of temperature
- Places near to the sea have a small range of temperature

7. Prevailing winds affecting temperatures

In Britain the prevailing wind is from the west or south-west. The temperature of the wind depends on where it comes from and the type of surface over which it passes (if it is from the land, it will be warm in summer but cold in winter)

8. Altitude affecting temperatures

Temperatures decrease, on average, by $10^\circ$ C for every 1000 meters in height (as height increases, the air become less dense and so is less able to retain the heat it receives from the ground)

What are the main types of rainfall?

9. Main features of Britain’s rainfall

- Rainfall may occur throughout the year
- The west of Britain receives more rainfall than the east
- Places in the west receive most rainfall during winter (October to January)
- July is often the wettest month in places in the east

10. Britain receives three types of rainfall

   Relief rainfall, frontal rainfall, and convectional rainfall

11. Relief rainfall

   - Prevailing south-westerly winds which bring warm, moist air from the Atlantic Ocean
   - Presence of coastal mountains which force the air to rise and cool

   West coasts receive more rain than east coasts due to the prevailing winds coming from the south-west

   WE PROPOSE TO LEARN SOMETHING ABOUT OF ‘FÖEHN EFFECT’. IS THERE ANY RELATION BETWEEN THEM?

12. Frontal rainfall

   It is the meeting of a warm mass of air and a cold mass of air. They will have different densities and so do not mix easily. The result is called a front: warm air is lighter than cold, forced to rise over the cold

13. Convectional rainfall
It is caused by the sun heating the ground. The heated ground will, in turn, warm the air which is in contact with it. As the air warms, it gets lighter and is forced to rise in strong upward convection currents.

**Convectional Rainfall**

What is Britain’s climate?

14. Britain’s average climate is...

   Britain’s average climate is cool summers, mild winters and rain spread evenly throughout the year, so equable or temperate is its definition.

15. Isotherms...

   They drawn on the maps lines of equal temperature.

16. Temperatures: summer in Britain

   They are highest in the south and decrease northwards, because the sun is at a higher angle in the sky in the south and provides more heat.

17. Temperatures: summer in Britain inland

   They are higher than those near the coasts, because the land warms up quickly in summer: the sea remains cool and keeps temperatures in coastal areas relatively low.

18. Temperatures: winter in Britain

   They are highest in the west and decrease eastwards, because the west coast is warmed by an ocean current called the North Atlantic Drift, and the prevailing south-westerly winds blow across the relatively warm waters of the Atlantic Ocean and raise west coast temperatures.

19. Temperatures: winter in south-west England

   They are highest because the area is almost surrounded by the sea which in winter is warmer than the land.

20. Rainfall in Britain.
It is highest in the north-west of Scotland, decreasing rapidly from the north-west of Scotland to the South-east of England

21. Reason for rainfall in Britain

Because the prevailing winds are from the west and are laden with moisture when they blow ashore from the Atlantic Ocean, and also most rain-bearing depressions approach from the west, so western areas receive more rain.

22. Reason for wet in Scotland

North-west Scotland is particularly wet because much of the area is high land and so receives relief rain

What is the weather like in a depression?

23. Depressions are...

They are areas of low pressure which usually bring rain, cloud and wind


They develop to the west of the Isles over the Atlantic Ocean, because a mass of warm, moist tropical air from the south meets a mass of colder, drier polar air from the north

25. Thin clouds (cirrus) are the sign of...

They are sign of an approaching warm front of a depression

26. If the thin clouds (cirrus) get lower and thicker (stratus)...

As warm air rises there is a rapid fall in atmospheric pressure

27. Nimbo-stratus clouds...

As the warm front passes, temperatures rise and winds become stronger, blowing from a south-westerly direction. Steady rain falls for a lengthy period from the low, thick clouds: nimbo-stratus

28. Cumulo-nimbus clouds...

Rainfall is very heavy, and can at times be accompanied by hail and even thunder. The rain, however, is of shorter duration than that at the warm front
29. Front is...

The boundary between two air masses is called a front

30. Two types of front...

- Warm front, which passes first, is where the advancing warm air is forced to rise over the cold air

- Cold front, which follows, is where the advancing cold air undercuts the warm air in front of it

31. Isobars are

They are the black ‘circular’ lines, which join up places of equal pressure. The closer together the isobars are on a weather map, the stronger the wind will be
What is the weather like in an anticyclone?

32. Anticyclones are...

They are areas of high pressure. They tend to remain stationary for several days, giving very dry, bright and settled weather

33. Anticyclones from in...

They form in places where the air is descending. As more and more air descends, so the pressure increases and an area of ‘high pressure’ develops

34. Synoptic charts
They are maps that show several weather conditions at a particular time

How can we forecast the weather?

35. How can we forecast the weather?

The use of satellite images along with synoptic charts helps meteorologists to forecast the weather
36. How does climate affect our lives?

Weather and climate affect our lives in all kinds of ways:

- summer tourism (south-west),
- winter tourism (Scotland),
- crop farming (sunny weather with frequent light showers in south-east),
- hill sheep farming (the highland areas of Britain tend to be colder, wetter and less sunny than lowland areas),
- water supply (most of the UK’s population live in the south and east which is relatively dry),
- shopping malls (covered shopping centres avoiding cold, windy and wet conditions)
- flooding (early warning systems and flood protection schemes have helped reduce the more damaging effects)
- snow and ice (areas most prone to snow are the Scottish Highlands and the east coast of England)

Unit 7 What are the world’s main climates?

1. What are the world’s main climates?

   British, Mediterranean, cold, equatorial, hot desert and tropical continental

2. What are the world’s main climates features?

   - British: Seasonal climate with cool summers, mild winters and rain throughout the year
   - Mediterranean: Summers are hot and dry. Winters are warm and wet
   - Cold: Winters are long and cold. Short cool summers. Small amounts of rainfall
- Equatorial: Hot, wet and humid throughout the year. There are no seasons and the weather is the same almost every day
- Hot desert: Very hot summers and cooler winters. Dry throughout the year
- Tropical continental: Also called savanna. A seasonal climate with a very warm, dry season and a hot, wet season

3. Affecting temperature is: latitude, distance from the sea, prevailing winds, altitude, and... How?

Differences in pressure also affect climate

- Low pressure is rising air which usually brings cloud, rain and wind: depressions
- High pressure is descending air and usually gives fine, dry and settled weather: anticyclones

What is the British climate?

4. Temperatures in British climate
Latitudes 50° N and 60° N: Winters are much warmer than might be expected for such high latitude, due to the prevailing south-westerly winds which cross the relatively warm Atlantic Ocean and raise temperatures by several degrees.

5. Rainfall in British climate

Wet, and receiving rainfall throughout the year, due to prevailing south-westerly winds bring in moist air from the Atlantic Ocean and cause relief rainfall as they cross the mountains of western Britain.

6. Climatic variations in British climate

In summer the south is warmer than the north

In winter the west is warmer than the east

The west is wetter than the east

7. Climate differences in Europe

In Europe we can find:

- British climate (temperate maritime)
- Mediterranean climate
- Cold climate
- Continental interior

What is the equatorial climate?
8. Temperatures in equatorial climate

In 5º either side of the Equator North and South, high and constant throughout the year and the annual range of temperature is very small (2º C). 12 hours of daylight and 12 hours of darkness every day of the year.

9. Rainfall in equatorial climate

They exceed 2000 mm a year. The rain falls most afternoons in heavy convectional thunderstorms, result from the high morning temperatures evaporating large amounts of water from the many rivers and swamps, and rainforest vegetation.

What is the tropical continental (savanna) climate?

10. Temperatures in the tropical continental (savanna) climate

It is in the centre of continents (5º and 15º north and south of the Equator). Two seasons:

- A very warm, dry season, similar to hot desert
- A hot, wet season, similar to equatorial areas
  Temperatures high through the year, with small annual range

11. Rainfall in the tropical continental (savanna) climate

  During the dry season the prevailing trade winds blow from the east. The dry season is shorter towards the Equator and longer away from the Equator. The higher temperatures result in warm air being forced to rise to give frequent afternoon convectional thunderstorms

What is the Mediterranean climate?

12. Temperatures in the Mediterranean climate

  It is on west coasts of continents between latitudes 30° and 40° north and south of the Equator (exception area surrounding the ‘inland’ Mediterranean Sea). Two seasons:
  - Hot, dry summers, similar to hot deserts
  - Warm, wet winters, similar to British Isles

13. Rainfall in the Mediterranean climate

  If drought conditions in summers, are due to the prevailing winds blowing from the dry land

  Winters can be very wet, due to the prevailing winds blowing from the sea and depressions moving eastwards which, together, give relief and frontal rain
What are cold climates?

14. Temperatures in cold climates

They are high latitudes (60° and 75° both north and south of the Equator), very low indeed. North America, North Europe, North Russia, mountain areas (Himalaya)

We have short and cool summers. Winters are very long and very cold. Places north of the Arctic Circle have a period when the sun never rises above the horizon. Strong winds from the continental interior mean there is a high wind-chill factor

15. Rainfall in cold climates

It is very slow, due to 3 reasons:

- Air is cold and cannot hold much moisture
- Distance from the sea further reduces the amount of moisture in the air
- Relief and frontal rain are reduced by the rainshadow effects caused by mountain ranges to the west

What are the effects of drought?

16. Drought
Drought is a long period of weather that is drier than usual

17. Drought in the world affects to...

Sahel (south of Sahara desert), Ethiopia, Sudan, Chad, Niger, Mali, Mauritania

18. Drought short-term effects

- Shortage of food and water (starvation and illness)
- Millions needed food and medical aid
- Refugee camps

19. Drought long-term effects

- People needing food aid
- Families lost all their cattle
- Voluntary organizations providing more reliable supplies of water

What are tropical storms (hurricanes)?

20. Define ‘hurricane’

Also called cyclone, typhoon or willy-willy is a particularly powerful tropical storm, rotating around an area of intense low pressure and produces very high winds and torrential rain

21. Hurricanes: when?

They are most common in late summer or autumn when sea temperatures are at their highest (26º C at least). At these temperatures water evaporates rapidly and as the rising air cools it condenses and releases enormous amounts of heat energy which powers the storm

22. The most dangerous feature of a hurricane is...
It is the storm surge, which occurs at the eye of the storm where very low pressure causes the sea-level to rise by up to 10 metres

What are the causes and effects of global warming?

23. Rising sea-levels are a result of...

Rising sea-levels are a result of rising temperatures

24. Global warming is..., and it is due to...

It is the heating up of our planet, and it is due to the greenhouse effect

25. The greenhouse effect

The Earth is surrounded by a layer of gases, including carbon dioxide. This keeps the Earth warm by preventing the escape of heat that would normally be lost from the atmosphere. The gases act rather like the glass in a greenhouse. They let heat in but prevent most of it from getting out. The burning of fossil fuels such as oil, coal and natural gas produces large amounts of carbon dioxide. As the amount of this gas increases, the Earth becomes warmer

26. Global warming: effects predicted by scientists:
- Sea temperatures would rise, sea-levels could rise
- Ice caps and glaciers would continue to melt
- Low-lying areas would be flooded
- There might be more violent storms, and extremes of hot weather
- Hot regions would become hotter and deserts would spread
- Climatic and vegetation belts would move
- Some plants and animals would become extinct
- There could be an increase in insect pests
- Tropical diseases may spread to temperature regions such as the UK

27. Kyoto Protocol...

It brought agreement between most countries that greenhouse gases should be reduced
Unit 8 Ecosystems

What are ecosystems?

1. Flora is...
   The natural environment consisting of plants

2. Fauna is...
   The natural environment consisting of animals

3. Community is...
   Where plants and animals live together they are said to form a community

4. Non living is...
   It is the physical environment: climate, rocks and soil

5. Ecosystem
   Where animals and plants have close links with the non-living environment they all form an ecosystem

6. Non living environment
   Water (rain, rivers, underground), air (oxygen, carbon dioxide), sun (prime source of energy), rocks (provide nutrients), soil (fertility)

7. Living environment
   Plants, animals, birds, fish, insects, fungi, bacteria

8. All ecosystems depend upon two basic processes
   - The flow of energy
   - The recycling of nutrients

9. Energy flows
   Trees, plants, animals and elements of the physical environment are all linked together by flows of energy

10. Explain energy flowing
    Sunlight (main source of energy) is taken in by green leaves and converted into energy through photosynthesis, passing through the ecosystem in the food chain: herbivores eat the green plants, and they are eaten by carnivores
11. Explain nutrient recycling

When the plants or animals die, they rot away and decompose due to the action of fungi and bacteria. This releases the nutrients which are returned to the soil ready to be used again.

What are the features of a woodland ecosystem in Britain?

12. A deciduous woodland can be divided into three main layers

   Canopy: tallest trees: oak, beech

   Shrub: Tall trees: ash, birch, sycamore

   Smaller trees/tall shrubs: holly, hazel, hawthorn

   Ground: Brambles, bracken, ferns, grasses, wildflowers

   Thick layer of decaying leaves

What are the characteristics of tropical rainforests?

13. Where tropical rainforest?

   It is in equatorial climate

14. Characteristics of tropical rainforests

   Constantly high temperatures and heavy rainfall, and an all-year-round growing season
15. Shifting cultivation

It is a method of farming. There are groups of people clearing just enough land on which to grow crops for their small community. Often, in places like the Amazon forest, the land rapidly become infertile and the people had to move and make a new clearing, allowing the forests to re-establish itself.

What are the characteristics of savanna grassland vegetation?

16. Where savanna grassland vegetation?

It is the natural vegetation of places with a tropical continental climate, transition between the tropical rainforests and the hot deserts.

17. Characteristics of savanna grassland

Very warm climate which has a pronounced wet season, though the rainfall is often unreliable, followed by a very long dry season.

What are the characteristics of coniferous forests?

18. Definition of coniferous forests

Also referred to as taiga, it is the natural vegetation of places that have a cold climate.

19. Coniferous forest: Where?

In the northern hemisphere, they stretch in a great belt from Scandinavia through Siberia and across the Bering Straits into Alaska and Canada.

20. Can we talk about trees adaptation in coniferous forests?

Yes: They have had to adjust to a harsh climate with short, cool summers and long, very cold winters.

21. Precipitation in coniferous forests

It is low and falls mainly in the summer. Snow is common in winter.

22. Variety of animals and plants in coniferous forests

We had little variety, due to climate, as few species can adapt to the freezing temperatures and short growing season. The most common tree is pine.

23. Podsol...
Most coniferous forests grow on a type of soil known as podsol: the ground surface is covered with a thick layer of pine needles as very few bacteria, which help to rot dead plants, can live in these cold conditions.

What are the causes and effects of acid rain?

24. Acid rain is...
   It is used to describe rainfall that has a higher than normal acid level.

25. Acid rain is caused by...
   It is caused by power stations and industries burning fossil fuels which give off sulphur dioxide and nitrogen oxide.

26. Acid rain: effects
   Some chemicals are deposited directly onto the Earth’s surface as dry deposits. The majority are converted into acids which fall as acid rain, causing serious harm to forests, soils, lakes, rivers, and even buildings.

27. Acid rain can be achieved in a variety of ways:
   - Burn less fossil fuels by conserving energy.
   - Use non-fossil fuels such as nuclear energy, or power from the wind or sun.
   - Remove sulphur from coal before burning.
   - Use new, more efficient boilers in power stations.
   - Remove sulphur from waste gases.
   - Reduce car emissions by using unleaded petrol.

What are the causes and effects of deforestation?

28. Deforestation is...
   It is the felling and clearance of forest land.

29. Deforestation can be the result of several types of activity:
   - Government policies.
   - Transnational companies.
   - Local people.
Can rainforest development be sustainable?

30. Deforestation is not only losing resources, it is also changing world climates:
   - The burning of the rainforests, and the release of carbon dioxide is a major cause of global warming
   - A greatly reduced number of trees will mean a decrease in evapotranspiration. Some scientists believe this could eventually turn places like the Amazon Basin into desert
   - Nearly one-half of the world’s supply of oxygen comes from trees in the Amazon Basin. It takes one large tree to provide enough oxygen for two people for one day, and 150 large trees to absorb the carbon dioxide produced by one small car

31. There are three extreme conflicts of interests in the rainforest:
   - People who wish to use the forest to make a quick profit
   - People who wish to protect the forest and leave it exactly as it is
   - People who actually live there. The solution is to manage the forest in a sustainable way, using the resources carefully

What are the causes and effects of soil erosion?

32. Soil erosion is...
   - It is a process by which soil is removed by the wind and running water

33. Soil erosion is a problem when...
   - It is a problem when human activity removes the protective vegetation cover either to plough the land or through deforestation

34. Desertification is...
   - It is the resultant loss of soil and vegetation

What can be done to prevent or reduce soil erosion?

35. What can be done to prevent or reduce soil erosion?
   - Indonesia: Terracing
   - USA: Contour ploughing and strip cropping
Kenya: animal welfare

Burkina Faso: stone lines (‘magic stones’)

What causes desertification?

36. Desertification occurs in...
   It occurs mainly in semi-arid lands which border the world’s major deserts

37. Causes of desertification
   They result from a combination of climatic changes (decreased rainfall and global warming), and increased human activity and pressure upon the land (overgrazing, overcultivation and deforestation)

Unit 9

Population

Why the world’s population is unevenly distributed?

1. Population density
   It describes the number of people living in a given area, usually a square kilometer, and is a measure of how crowded a place is
   Population of the UK / Area of the UK (km²) = 60,272,000/244,880 = 246 per km²

2. Types of density
   Places crowded are densely populated and have a high population density. Places sparsely populated have a low population density

3. Density factors
   Positive factors encourage people to live in an area
   Negative factors discourage people from living in a place

4. Positive and negative factors can each be divided into...
   Physical factors include relief, climate, vegetation, soils and natural resources
   Human factors result from people’s activities: economic, political or social
What are the present and predicted trends in population growth?

5. What are the present and predicted trends in population growth?

The fastest growth has been in the world’s poorer, less economically developed countries

Very slow growth rate in the world’s richer, more economically developed countries

6. Population change

It depends mainly upon the balance between the birth rate and the death rate. It can also be affected by migration

7. Birth rate

It is the average number of live births in a year for every 1000 people

8. Death rate

It is the average number of deaths in a year for every 1000 people

9. The natural increase or decrease

It is the difference between the birth rate and the death rate

What is the demographic transition model?

10. The demographic transition model
It shows that the population or demographic growth rate for all countries can be divided into four stages: High stationary, early expanding, late expanding, low stationary, and declining.

The more economically developed countries (MEDCs) have reached stage 4.

The model has also been applied to the less economically developed countries (LECDs) despite the model assuming that the falling death rate in stage 2 was a response to increasing industrialisation.

How do population changes differ between countries?

11. Infant mortality

   It is the number of children out of every 1000 that are born alive but who die before they reach the age of one year.

12. Life expectancy

   It is the average number of years that a person born in a country can expect to live.

13. Birth rate, infant mortality rate, population growth, life expectancy comparing developing countries and developed countries

   Developing countries have a higher birth rate, a higher infant mortality rate, a more rapid population growth and a shorter life expectancy than developed countries.

14. Compare developing countries and developed countries in relation with people age.
Due to their higher birth rate and shorter life expectancy, developing countries have more people aged under 15 and fewer aged over 60 than do developed countries.

Why are some places overpopulated?

15. Places overpopulated are...

   Places where the number of people living there outweigh the availability of resources are said to be overpopulated.

16. Overpopulation can result from:

   - An increase in population (high birth rate or people moving into this area)
   - A decrease in resources, perhaps resulting from soil erosion or the exhaustion of a mineral, or disasters (flood, drought)

How do population structures differ?

17. Population structure

   The population structure shows the number of males and females within different age groups in the population.

18. Population pyramid show

   - Population divided into five-year age groups
   - Percentage of people in each age group
   - Percentage of males and females in each age group
   - Trends in the birth rate, death rate, infant mortality rate and life expectancy
   - Proportion of elderly and young people who are dependent upon those of working age
   - Results of people migrating into or out of the region or country

19. The population of the United Kingdom seems to have a true pyramidal shape?

   No, because its population structure is typical of a country that is more economically developed (stage 4 of the demographic transition model).

20. The population of India seems to have a true pyramidal shape?

   Yes, because its population structure is typical less economically developed country (stage 2 of the demographic transition model).
How has China tried to control population growth?

21. The problem in China was...

   Due to patriotic reasons, Chinese had as many children as possible: population growth of over 55 million (about the same size as the UK’s total population) every three years

22. After the problem, the solution proposed was

   1979, ‘one child per family’ policy and set the marriageable age for men at 22 and women at 20

23. Results of ‘one child’ policy

   Abortion, sterilization, deprived of benefits, pay of large fines, female infanticide
24. Effects of ‘one child’ policy

By the late 1990s, the birth rate had fallen from 31 to 19 in 20 years. The size of the overall population estimated to be 230 million less than it would have been had the one-child policy not been introduced

25. Problem of the one-child policy

There are insufficient children being born to maintain the population

26. Relaxation of the one-child policy

1999, then if two married they could have two children. Allowing women, for the first time, an informed choice between different kinds of contraception

27. Ageism is...

It is the increase of the life expectancy, together with a falling birth rate, with higher proportion of the population beyond the age of 65, and even beyond 80

28. There are three main effects of an increase in life expectancy:

- An increase in the old age dependency ratio
- Changes in the population structure, especially in the MEDCs: population aged over 65 is more and more (Italy)
- The UN predict that by 2025 there will be more elderly people in the world than there will be children aged under 15
What is migration?

29. Migration is...

   It is the movement of people from one place to another to live or to work, or both

30. Types of migration

   Permanent, temporary, seasonal and daily

31. Types of permanent migration

   External (or international). Internal (within a country)

32. Types of external migration

   Voluntary. Forced

33. Migration balance:

   It is the difference between the number of emigrants and the number of immigrants

34. Migration in Britain

   People are descended from either

   Early Roman, Viking, Angle, Saxon and Norman invaders.

   Later movements from Ireland, Eastern Europe.

   Former British colonies such as India, Bangladesh, Pakistan and the West Indies

   So, this is a multicultural society, with ethnic groups, whose descendents were born in Britain

35. Internal migration
This is when people move within a country usually in order to find a better home or job or to live in a more pleasant

36. **Types of internal migration**

Regional migration

Rural-urban migration, from smaller rural settlements to large urban areas

Counter-urbanization, leaving the large urban areas to settle in smaller towns and villages

What is rural-urban migration?

37. Rural-urban migration is due to two factors:

   - Rural push factors: In the hope of improving their living conditions and quality of life
   - Urban pull factors: They are attracted by their perception of what they think: better schools, hospitals, or even their existence...

How does migration affect different countries?

38. How does migration affect different countries?

Advantages:

- Overcomes labour shortage
- Prepared to do dirty, unskilled jobs
- Cultural advantages and links
Some highly skilled migrants

In a developing country these migrants could increase the number of skilled workers

Disadvantages

Immigrants are most likely to be the first unemployed in a recession

Low-quality, overcrowded housing lacking in basic amenities (inner city slums – bidonvilles in France)

Ethnic groups tend not to integrate – racial tension

Limited skills/education, language difficulties

Lack of opportunities to practice own religion, culture, etc

Advantages

Reduces pressure on jobs and resources (food)

Loses people of child-bearing age, causing a decline in the often high birth rate

Migrants develop new skills which they may bring back to their home country

Money earned may be sent back to their home country

Disadvantages

Loses people in the working-age group

Loses people mostly likely to have some education and skills

Left with an elderly population and so a high death rate
Increasing dependency on money sent home by the workers

39. If we make a comparison between a losing population country and a gaining country:

- More males than females—this is because males are usually the first to travel abroad to seek work, with the intention later of either returning home or being joined by their families
- More aged between 20 and 34 years, the younger levels of the economically active age group
- A relatively large number of children, because the economically active groups coincide with the reproductively active age groups
- Few elderly people, as they are least likely to migrate

Why can refugees and illegal immigrants be a problem?

40. International migrants include...

   It include refugees, asylum seekers, economic migrants and illegal immigrants

41. Refugees are...

   They are people who have been forced to leave their homes for war, for environmental disasters, or persecution (race, religion)

42. Asylum seekers...

   They are forced to leave their home country due to political, racial or religious oppression. The problem is to distinguish between those who are genuine victims of oppression and those using it as an excuse for migration

43. Economic migrants

   They move hoping to find better jobs which will give them a higher standard of living and a better quality of life

44. Illegal immigrants

   They are who arrived in a country without permission and identification. They can be exploited and work as slave labor (prostitution)
Unit 10 Settlement and urban growth

How were sites for early settlements chosen?

1. How were sites for early settlements chosen?
   The location and growth of an individual settlement depend upon its site and situation.

2. Settlement of situation in relation to...
   It is in relation to natural resources: Physical features, and other settlements (human features).

3. Location factors
   - Water
   - Away from flooded
   - Able to defend in case of attack
   - Near to materials for building homes
   - Able to feed themselves
   - Access to other places
   - Shelter from bad weather
   - Supply of fuel for cooking and heating

What are the different functions of settlements?

4. Functions of settlements: types
   - Administrative: capital city, county town
   - Residential: People living (not working)
   - Route centre: Road, rail
   - Market town
   - Mining: Coal, iron
   - Educational: Cambridge, Oxford
   - Religious
   - Defensive
   - Tourist resort: Paris
- Port
- Commercial
- Industrial

What is a settlement hierarchy?

5. A settlement hierarchy is...

   It is when settlements are put into order based upon their size or the services which they provide for people

6. A settlement hierarchy can be produced using three different methods

   - Population size: the larger the settlement the fewer there will be of them
   - Distance apart: the larger the settlement the further it will be from other large settlements
   - Range and number of services: the larger the settlement the more services it will provide

7. Is there a hierarchy of shopping centres of different sizes?

   - Population size: the larger the settlement the greater the number of high order shops
   - Distance apart: the larger the shopping centre the further it will be to other large centres
   - Range of services: the larger the shopping centre the more services it will provide

What is a typical urban land use model?

8. Urban land use models are...

   These are theories by several geographers to show how the characteristic patterns and shapes develop

9. The Burgess model

   He claimed that the focal point of a town was the CBD (Central Business District)

10. The Burgess model (represented)
11. Functional zones in a city

As towns grew, each of the zones developed its own special type of land use or function.

12. The major types of land use in a town are

They are shops and offices, industry, and housing. Other significant types of land use include open space, transport and services (schools, hospitals, and shops).

13. Compare the Burgess model and the Hoyt model

As each city develops its own pattern of land use, that pattern is likely to be more complex than the one shown in the Burgess model. The Hoyt model is a more realistic map showing land use and functional zones in a city.

14. What are the CBD and inner city zones like?

The location of each functional zone and the pattern of land use in a city are related to...
They are related to accessibility, land values, competition for land, age of buildings, wealth of the residents and changes in demand.

15. The CBD is...

It is the commercial and business centre of a town or city: Central Business District.

16. The CBD is so for two reasons

- Accessibility
- Land values

17. The CBD have as main functions...

Shopping and offices, banks, building societies and other commercial companies.

What are the suburbs and the rural-urban fringe zones like?

18. The suburbs

This outward growth, known as urban sprawl, led to the construction of numerous private housing estates in car-based suburbs. These corresponded with Burgess’s zone of medium-cost housing.

19. The rural-urban fringe

It is located at the edge of a town or city. It is a transition zone where there is competition for land between the built-up area and the countryside.

What are the main urban problems in London?

20. Counter-urbanization is...

It is the movement out of the city. Now, in London, exceeds the number of new arrivals.

21. Deprivation

It is a measure of how either individuals or groups of people are at a disadvantage compared with those living elsewhere.

22. Deprivation can be measured...

By using four indictors: economic, social, housing and environmental.

23. Factors of deprivation

- Live in decent housing.
- Earn an adequate wage
- Have access to various amenities

24. Cycle of poverty

Poverty is transmitted from one generation to the next, making escape from deprivation very difficult

25. Make a summary of a city / town parts

CBD – Inner city – Suburbs – Rural-urban fringe

Unit 11 Urban planning and change

Who makes the decisions in urban planning?

1. Nowadays, cities grown...

   No change is meant to take place unless planning permission has been given

What changes have taken place in the CBD?

2. Why have CBDs changed?

   - The increase in traffic congestion led to several shops moving to out-of-town locations
   - Hypermarkets and out-of-town shopping centre led to a decline in the number of shoppers visiting the city centre
   - The decline in the number of shoppers has continued with the increase of internet shopping
   - People visiting the city centre wanted a safer environment
   - Increasing demand for leisure amenities (entertainment)
   - Many taller buildings were built in order to offset the costly rates and rent resulting from the high land values

What changes have taken place in London’s Docklands?

3. The Port of London
During the nineteenth century the port of London was the busiest in the world. Surrounding the dock were:

- Numerous industries using imported goods
- High-density, poor quality housing typical of old inner city areas

4. The London Docklands Development Corporation

The London Docklands Development Corporation (LDDC, 1981) was set up to try to improve the social, economic and environmental conditions of the area

5. The London Docklands Development Corporation: Tasks

- To improve social conditions (new housing, amenities)
- To improve economic conditions (new jobs, transport system)
- To improve environmental conditions (cleaning up the docks, planting trees, open spaces)

How has Trafford Park in Manchester been regenerated?

6. History of Trafford Park

The park, surrounded by inner city terraced housing, became the world’s first planned industrial estate

7. Tasks in Manchester’s development

- Identifying four major development areas
- Improving transport
- Improving the environment
- Improving services and recreation facilities

What changes have taken place at the rural-urban fringe?

8. Advantages of the rural-urban fringe

A pleasant environment with more open space
Less traffic congestion and pollution (air and noise)
Cheaper land
Easier access and a better road infrastructure
9. Greenfield sites

   They are at the rural-urban fringe, and they have not been built

10. Greenfield sites are under constant threat for:

   - Housing development
   - Science and business parks
   - Hypermarkets, superstores
   - Firms
   - Hotels and conference centres
   - Road development
   - Recreational areas such as country parks and new sports stadiums

What are suburbanized villages?

11. Counter-urbanization is...

   Places that have attracted wealthy urban workers and retired people: this process is called counter-urbanization

12. The result of the counter-urbanization village is known as..., because...

   It is known as suburbanized village because they increasingly begin to look like an extension to the suburbs of adjacent towns

13. Commuter villages

   Many of their inhabitants travel to work in nearby towns

Should planners favour Greenfield or Brownfield development?

14. Assuming Britain will need 4 million new homes by 2016: Where?

   - 60 per cent on Brownfield sites (disused land within existing urban areas)
   - 40 per cent on Greenfield sites (countryside and green belts)

15. Greenbelt

   It is land surrounding a large urban area that is protected from urban development

16. The National Database shows a mismatch
- The South-East of England: most houses are needed but where Brownfield sites are limited
- The Midlands and North, where most Brownfield sites are available but where demand for new homes is less

Why is traffic a problem in urban areas?

17. A commuter is...

   It is a person who lives:
   - Either in the suburbs of a large city
   - Or in a village or small town close to a larger town or city

18. What are the damaging effects of traffic?

   Economic: Cost of petrol or diesel
   Environmental: Air pollution, noise pollution, visual pollution
   Social: Respiratory illnesses caused by car fumes

Can solutions to urban traffic problems be sustainable?

19. How can we make urban traffic sustainable?

   - Cycle tracks
   - Park and ride schemes
   - Traffic in residential areas: It has to be controlled, avoiding its use by drivers from other sites to make an easier pass
   - Super trams: its operability, better than buses on the road, and underground under the road, getting all places, in the centre and suburbs at the same level
   - Congestion charges: you must pay if you want enter the centre
Unit 12 Urbanization in developing countries

What are the problems of urbanization?

1. Urbanization is...
   It is the increase in the proportion of the world’s population that live in cities

2. Evolution of the cities along the time
   The increase in million cities
   - 1850. The only two million cities in the world were London and Paris
   - 2000. There were 324
   The increase in the number of million cities located in developing countries, especially those located within the tropics

3. Bustees...
   Bustee houses have mud floor, wattle or wooden walls and tiled or corrugated iron roofs, materials that are not the best for giving protection against the heavy monsoon rains (India)

4. Main problems of urbanization in developing countries are...
   Housing, services, water supply, sanitation and health, and employment, crime, segregation...

What is a typical land use model?

5. The land use model in developing countries differs from the developed one in several ways...
   - The gap between the relatively few rich and the numerous poor is much greater
   - Most of the better-off areas are located near to the city centre with increasingly poorer areas found towards the city boundary
   - A large number of people, many of whom are migrants from surrounding rural areas, are forced to live as squatters in shanty settlements or, using the UN term, ‘informal settlements’

6. Functional zones
   - CBD: Congestion and competition for space is even greater
   - Industry: Large factories tend to develop along main roads leading out of the city
Inner zone (high-class): Many developing countries were former European colonies

Middle zone (medium-class residential): This zone provides the ‘in-between’ housing, except that here it is of much poorer quality

Outer zone (low-class residential): This is the zone where most of the recent arrivals from rural areas are forced to live (favelas in Brazil and bustees in India, chabolas in Spain)

What is life like in shanty settlements?

7. Shanty settlements...

They grow up well away from the CBD on land that previously had been considered unsuitable for building

8. Types of shanty settlements

- Steep hillsides (Rio de Janeiro)
- Swampy flood plains of rivers (Nairobi in Kenya)

9. Problems in Nairobi

- Housing: Poor materials, no services, just one room (for one family)
- Education and health: Malaria, cholera, dysentery, typhoid for contaminated water
- Shops: Fruit and vegetables from surrounding areas
- Employment: People have to find their own way to earn money (cheaply made goods, collect waste material and recycle it in small workshops)
- Transport: Bicycles or overcrowded buses
- Community spirit: Survival can also depend upon living and working together

Why are self-help schemes sustainable?

10. The case of Sao Paulo, Brazil

Initially, in the upgrading of living conditions, and later, the introduction of shops and small-scale industries

11. Practical Action in Nairobi, Kenya

It is a British charitable organization that works with people in developing countries. The self-sufficient is looked for
Unit 13 Employment structures

What are employment structures?

1. Employment is...
   The various jobs or activities that people do are called employment

2. Different types of work
   There were three main groups: primary, secondary and tertiary. Since the 1980’s a fourth group has been added: quaternary

3. Employment structure
   The proportion of people working in each of the primary, secondary and tertiary sectors is called the employment structure

4. Differences between developed countries and developing ones in relation with employment structure
   Poorer places tend to have most people working in primary industries such as farming. Richer places have their highest percentage in the tertiary sector

5. Changes between places within the UK
   - The South-east has the largest workforce but a little more difficult to identify the region with fewest workers: Northern Ireland
   - Every region has fewest workers in the primary sector (and this sector is mechanized) and most in the tertiary one: Richer, more developed country

How do employment structures vary between countries?

6. We have the world divided into two economic parts
   - North and East (Japan) are usually richer and economically more developed
   - South often (except Oceania) poorer and economically less developed

7. We have the world divided into sectors
   - In most of the rich countries there are relatively few people employed in the primary sector, a higher proportion in the secondary sector and most in the tertiary sector
   - In the poorer countries, most people find jobs in the primary sector (the worst paid) and very few are employed in the secondary and tertiary sectors
Unit 14 Farming

What is farming?

1. What is farming?
   
   Farming, or agriculture, is the way that people produce food by growing crops and raising animals.

2. Inputs and outputs farming
   
   The things that a farm needs to make it work are called inputs. What happen on the farm are its processes and what it produces are called outputs. A farmer may also feed back some of the outputs, such as profits, into the system.

3. Farmer have to take decisions, dependent on:
   
   - Physical factors: temperature, rainfall, sunshine, soil type. The most important
   - Economic factors: market demand, input costs, transport expenses
   - Human factors: personal tradition

4. Classification by inputs
   
   - Intensive farming: Large inputs (money, labor) to gain high outputs, in small farms: Greenhouse cultivation in the Netherlands
   - Extensive farming: Small inputs for large areas: Cattle ranching on the Prairies, USA

5. Classification by processes
   
   - Arable farming: It is the ploughing of the land and growing of crops
   - Pastoral farming: It is the leaving of land under grass and the rearing of animals: Cattle ranching on the Prairies, USA
   - Market gardening: It is when fruit, flowers and vegetables are grown under conditions
   - Mixed farming: Crops are grown and animals are reared in the same area

6. Classification by outputs
   
   - Commercial: The outputs are for sale
   - Subsistence: Food for themselves and their family: Rice growing on the Ganges flood plain
What are the UK’s main farming types?

7. What’s the most important factor affecting farming in Britain?
   Climate

8. Britain’s climate affects farming, and it is...
   Temperate, being never too hot or too cold and rarely too wet or too dry

9. Britain’s climate is good for...
   Wheat, potatoes, grass on which cattle and sheep can feed

10. Britain’s climate is being five main types of farming:
    Hill sheep farms: wool
    Cattle farms: cows for milk (dairy farming)
    Arable farms: cereal crops such as wheat, vegetables as potatoes
    Mixed farms
    Market gardening: fruit, vegetables and flowers

11. The pattern of farming across the UK
    Pastoral farming in the north and west, due to cool summers, heavy rainfall and hilly conditions
    Arable or mixed in the south and east, due to warm summers, drier climate and low-lying flat land

What are the main features of dairy farming in the UK?

12. The Cheshire Plain
    Dairy cows need certain conditions if they are to give high yields of top-quality milk; these conditions are in this plain: land flat, soils rich: good-quality grass, rainfall along the year

13. Dairy farmers encouragement
    First it came from the British government and later from the EU: subsidies (farmers were guaranteed a fixed price for the milk produced even if there was a glut of milk or if the market price fell)

    Building of the M6 and local roads to Manchester
Refrigerated lorry
Computers to control the amount and quality

15. *Mountains and lakes*

There are several countries (Denmark and the Netherlands) producing dairy products, and including butter and milk

16. Quotas

Dairy farmers can no longer produce as much milk as they wish but are given a quota which they must not exceed. They still receive the subsidy for their milk but are fined if they overproduce

17. Set-aside

It is a payment if they can guarantee that they will NOT produce food products on up to 15 per cent of their land for a minimum of five years

What are the main features of market gardening in the Netherlands?

18. Market gardening is...

It is the intensive cultivation of high-value crops such as fruit, vegetables and flowers

19. Market gardening: features

Fertile soils and a mild climate are an advantage but not essential, as in most market gardens, soils and climate are artificially controlled inside greenhouses

20. Market gardening in the Netherlands: organization

It is a high-tech industry. Growers are supported by scientific research and government advisory services. Many owners work within groups, or co-operatives, to share equipment and access to markets

What are the main features of rice growing in India and Bangladesh?

21. The natural inputs required for rice farming include

A five-month growing season with temperatures over 21ºC

Annual rainfall over 2000 mm with most falling in the growing season

A dry spell, after the growing season, for harvesting

Flat land, to allow the water to be kept on fields
Rich alluvial soils to provide nutrients

22. We can find the natural inputs required for rice farming

In the plains and delta areas of the lower Ganges valley

23. Alluvium

The annual floods deposit rich layers of alluvium which over the years has produced almost perfect soil conditions for growing rice

24. The farming work of rice growing

The farming is labour intensive, with much manual effort needed to construct irrigation channels, prepare the fields and plant, weed and harvest the crops

25. Padis

They are flooded fields where the rice grow

26. Rice growing: outputs

They are subsistence farmers, for their own consumption and have little left to sell or to trade for other goods

27. Some problems affecting rice farmers in India

Flooding: It can destroy an entire rice crop

Drought: Too little water, the rice crop may be ruined

Shortage of land: some plots are too small to support a family

Increasing population: Food shortages can be a problem

How is commercial farming changing?

28. Commercial farming

It is the growing of crops and raising of animals in order to make a profit, in regions such as Europe and North America

29. The EU: objectives

It was founded in 1956 when it was called the European Economic Community (EEC)

It was determined to make Europe self-sufficient in food, and the Common Agricultural Policy (CAP) was set up with the main aim of increasing the efficiency of farming

30. Common Agricultural Policy (CAP)
It encouraged farmers to use the latest advances in science and technology to produce more food. Increased investment, a greater use of chemicals and the introduction of genetically improved seeds and animals all helped to raise output.

31. Some changes in commercial farming
- Mechanization
- Increased farm size: agribusiness
- Increased field size
- Increased use of chemicals: fertilizers and pesticides
- Organic farming: without chemicals
- Natural environments
- The Environmental Stewardship (ES) Scheme: creating wildlife habitats
- Farm diversification
  - Genetically modified (GM) crops: While they might help reduce food shortages (resist a disease) they may also create environmental problems

How is subsistence farming changing?

32. Subsistence farmers
 They usually produce just enough food for their own needs. If they have a surplus, it can be sold to buy other goods but more often farming families struggle for survival

33. The Green Revolution
 It is the introduction of modern farming methods to the poorer countries to increase their food production

34. The Green Revolution: HYVs
 Developed countries, such as the UK, USA, Germany and Australia provided money to develop high-yield varieties of rice, wheat and maize

35. The Green Revolution: HYVs: problems
 The increase in chemical use has meant that farming has become less sustainable, and damaging to the environment

36. The Green Revolution: HYVs: does it need more water?
 Yes. Irrigation is mainly by wells, canals and reservoirs
How has farming affected the environment?

37. What about hedges in Britain? Arguments for and against the clearing of hedges

For / Against

They provide a home for wildlife (birds, insects) / Cutting hedges costs the farmer time and money

Hedges reduce wind speed / Hedges get in the way of big machinery in fields

Well looked after hedges are attractive / Hedges take up space which could be used for farmland

Hedge roots hold the soil together and reduce erosion / Hedges harbor insect and animal pests as well as weeds

38. The use of fertilizer and farm waste

Farmers spread slurry, which is animal waste, over their fields, cheaper to use than chemical fertilizer, and slurry contain nitrate, that if it is excessive in rivers acts as a fertilizer and results in the rapid growth of algae and other plants. These use up large amounts of oxygen, leaving too little for fish life

39. Farming also affected the environment by

Using pesticides to kill insect pests, affecting harmless insects such as bees

Burning straw which releases carbon dioxide into the air and reduces the amounts of nutrient being put back into the soil

Draining wetland wildlife habitats

How can farming be made wildlife sustainable?

40. RSPB

The Royal Society for the Protection of Birds is an organization that works for a healthy environment rich in birds and wildlife

41. Hope Farm

In April 2000, RSPB took over this farm in Cambridgeshire with the aim of researching how farming could be made more wildlife friendly

42. The RSPB is working in five ways:

- Improve winter wheat for birds
- Grow crops in a way that provides winter feed
- Use chemicals that leave enough insect food for birds but still increase crop yields
- Find ways of sowing crops at different times to provide shelter and food throughout the year
- Provide habitats for a variety of wildlife

43. The new Environmental Stewardship Scheme, introduced in 2005 has further helped the increase in bird life by encouraging
- The increase in native grasses and wildflowers
- Leaving crop stubble in fields over winter
- The cutting of hedges only once in three years and then only after birds had bred and stripped the berries for food

Unit 15 Industry

What are secondary industries?

1. Secondary industries are also called..., because of...

   They are called manufacturing industries, due to they are form of employment in which things are made, assembled or produced

2. Think about a “system” in industry

   Industry as a whole, or a factory as an individual unit, can be regarded as a system: the things that it needs to operate are called inputs. What happens in the industry is called processes. What it produces are called outputs

3. The finished products can be...

   They can be sold. The money earned reinvested in the industry: buys more raw materials, pays wages and repays any loans

4. For an industry to be profitable...

   For an industry to be profitable and remain in business, the value of its outputs must be greater than its inputs

5. The best location of industry

   Where the cost of raw materials, energy, labour, land and transport is lowest and where there is a large market for the product
6. Do have the same location factors all industries?

No. For some it may be more important to be near raw materials. For others, being near to labour, markets or a good transport system

7. Give examples of location factors in food processing, clothing manufacturer, newspapers and bakery

Food processing: Fruit and vegetables from nearby farms

Clothing: Near to towns

Newspapers: Good transport

Bakery: Close to a town

How has the location of industry in the UK changed?

8. Location of industry in the UK during the Industrial Revolution

As most natural resources were in the north of England, this became the country’s industrial heartland. Industries at this time were said to have a raw material location

9. Location of industry in the UK nowadays

Many companies are choosing to locate in areas with an attractive environment, with good transport links and access to a large market for their products: market location

10. Summarize the location factors in UK comparing the Industrial Revolution time and nowadays

The best site for an industry changes as location factors change. Most UK industry developed on coalfield sites in the North. Nowadays, access to markets and good transport are more important

Why were traditional industries located near to raw materials?

11. The UK iron and steel industry

The 19th century iron industry was concentrated upon coalfields that also contained bands of iron ore: South Wales valleys, north-east England, central Scotland and Sheffield.

12. Iron and steel production in South Wales

The three raw materials needed to make iron and steel (iron ore, coal and limestone) were all available in the valleys of South Wales
13. Explain the iron and steel industry evolution in the UK

The UK’s iron industry grew up near to raw materials. The steel industry has suffered severe decline, and a better location is now close to coastal ports for importing raw materials and exporting the finished steel.

Why are newer industries located close to markets?

14. Transnational corporations

They are companies that have offices and factories in several countries.

15. Industries located close to markets: Nissan example in the UK

The most of the components should be made either within Britain itself or in the EU: the so-called ‘80 per cent local content.

16. The ‘80 per cent local content’

The most of the components should be made either within Britain itself or in the EU, signed by both UK and Nissan.

17. ‘Just-in-time’ policy

Local suppliers are essential as Nissan, like other Japanese firms, operates in this policy: components pars are supplied to the assembly line only minutes before they are needed, thus reducing the costs of expensive storage.

What are high-technology industries?

18. High-technology industries

(or high-tech): They are making high-value products such as electronic equipment, computers and medical products.

19. Many high-tech companies are divided into two sections

One is involved with product development and the other with product manufacture.

20. High-tech industry location

It can have a relatively free choice of where to locate. Industries like these are said to be footloose: it is necessary a good quality of life for highly talented workforce: Silicon Valley in California, and three UK locations, the ‘Silicon Strip’ following the M4: Silicon Glen in Central Scotland and ‘Silicon Fen’ around Cambridge.
What are the consequences of industrial decline?

21. The growth of industry in Teesside

Teesside’s industrial development began in the 1850s immediately after the discovery of ironstone at Easton in the nearby Cleveland Hills (near to the basic raw materials)

22. Teesside during the 1960s

Teesside was regarded as the industrial centre of the future, modernizing both the steel industry and the chemical industry: a modern iron and steel works was opened at Redcar, and the Shell oil refinery at Teesport; also, the expansion of ICI (Imperial Chemical Industries)

23. The decline of industry 1980s

The post-1974 oil price rises led to a world economic recession by the early 1980s. This recession had a major impact upon Teesside’s main industries: chemical industry, steel, shipbuilding, metal-using industries

What are the effects of regeneration?

24. Teesside in 2001

The Teesside Development Corporation (TDC) was set up in early 1987, on three types of development:

- Private-sector property development
- Public-financed redevelopment of former industrial sites by the TDC
- Projects aimed more towards the leisure and service sector rather than at the traditional work and manufacturing sector

25. Do you know anything to compare Teesside in secondary sector?

Yes: the London Docklands and Trafford Park (Manchester)

26. TEES

A major clean-up of the River Tees sand a boost to industrial development on Teesside has resulted from the Tees Estuary Environmental Scheme (TEES), a response by Northumbria Water, ICI and the industries of Wilton and Seal Sands, to the increasingly high EU environmental standards

27. Define ‘regeneration’ applied to secondary sector

A regeneration programme can help a declining industrial area to recover

28. What about regeneration in Teesside?
Although there have been recent improvements in employment and in the environment in Teesside, changes have been slow and are still not sufficient.

What are transnational corporations?

29. What are transnational corporations?

Also called multinational corporations, they are large companies that operate in several different countries

30. Structure of transnational corporations

The headquarters are usually located in developed countries (USA, Japan, EU). Smaller offices and most factories are in developing countries (labour is cheap and production costs are low)

31. Manufactured goods of transnational corporations. An example

Cars, chemicals (oil), computers and electronics. Example: Brazil: Ford (USA), Volkswagen (Germany)

32. Structure of transnational corporations: advantages and disadvantages

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use local labor</td>
<td>Local labor poorly paid</td>
</tr>
<tr>
<td>Improve education &amp; work skills</td>
<td>Few local skilled workers employed</td>
</tr>
<tr>
<td>Money for industrial projects</td>
<td>Most of the profits go overseas</td>
</tr>
<tr>
<td>Help develop mineral wealth</td>
<td>Minerals are usually exported</td>
</tr>
<tr>
<td>Improve energy production</td>
<td>May need to import raw materials</td>
</tr>
<tr>
<td>Improve roads, airports and services</td>
<td>Products of little value to local people</td>
</tr>
<tr>
<td>Provide technology and know-how</td>
<td>Companies may pull out at any time</td>
</tr>
<tr>
<td>Provide trade links with other countries</td>
<td>Rarely consider the needs of the country</td>
</tr>
</tbody>
</table>

What are newly industrialized countries?

33. NICs

Newly Industrialized Countries: Apart from places like Brazil and Mexico, most of these were located in the Pacific Rim of eastern Asia

34. The first of the NICs: explain it
Japan:
- Deep, sheltered harbors ideal for overseas trade
- Government investing in steel first (cars), and high-technology later
- Population hardworking
- Workers working for long hours: goods cheaper than Europeans ones: Japanese strikes (agreement employers-employed, by the government)
- Goods of high quality
- Large domestic market (inside) and an efficient transport system (outside)

35. The latest of the NICs: explain it

This rapid Chinese industrialization (computers, DVDs, digital cameras and mobile phones), the fastest growing economy, third behind the USA and Japan, has both brought benefits and created problems

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Problems</th>
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<tbody>
<tr>
<td>More jobs in urban areas</td>
<td>Rural migration causing city overcrowding</td>
</tr>
<tr>
<td>Increase in skilled jobs</td>
<td>Growth concentrated in coastal provinces: Beijing, Shanghai, Hong Kong</td>
</tr>
<tr>
<td>Cheap labour producing quality goods at a low price</td>
<td>Poor working conditions in factories (low wages, crowded, unhealthy conditions)</td>
</tr>
<tr>
<td>People in coastal areas have seen a rapid rise in their standard of living</td>
<td>Wages in urban areas higher than those in rural areas</td>
</tr>
<tr>
<td>Better housing conditions and transport systems</td>
<td>Huge rise in the use of minerals and energy resources</td>
</tr>
<tr>
<td>Most people own TVs, mobile phones and computers</td>
<td>Use of fossil fuels: pollution &amp; global warming</td>
</tr>
<tr>
<td>Improvement in health and education</td>
<td>Traffic congestion and water pollution</td>
</tr>
</tbody>
</table>

What is informal employment?

36. Formal sector

These jobs provide a regular income and may be in an office, shop or organized factory

37. Informal sector
Work in jobs such as street-trading, shoe-shining or luggage-carrying, with little or no security, living from day to day

38. The informal sector problem:

<table>
<thead>
<tr>
<th>No money</th>
<th>The informal sector problem</th>
<th>No investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low profits</td>
<td></td>
<td>Low output</td>
</tr>
</tbody>
</table>

39. Working conditions in informal employment

In some cities there are schemes to support informal sector workers and to improve their working conditions.

40. Jua Kali

In Nairobi, Kenya, there are small workshops (Jua Kali: it means ‘under the hot sun’), where scrap metal is collected and hammered into an assortment of products which are sold cheaply and used locally.

41. Jua Kali and the government

The government supports Jua Kali businesses by providing electricity and basic skills training.

42. Jua Kali and ‘sustainable’

It is sustainable because they can go on for year after year without using up resources or harming the environment. Indeed the Jua Kali scheme actually recycles waste material so it is particularly resource friendly.

Unit 16 Tourism

What is the tourist industry?

1. Tourist industry

It looks after the needs of tourists and provides the things that help them get to places where they can relax and enjoy themselves.
2. Types of time-tourism
   Annual holidays, weekend breaks, day visits

3. Why tourism as exponent of the tertiary sector?
   Tourism is now the world’s fastest-growing industry and employs more people worldwide than any other activity

4. Tourism and its relations with the countries
   It is an important factor in the economy of most developed countries and is seen by many developing countries as the one possible way to obtain income and create jobs

5. Types of tourism
   Coastal tourism: sun, sand and sea
   Winter tourism: skiing and snowboarding
   Adventure tourism: climbing, cycling and trekking
   Cultural tourism: historic sites and different cultures

6. Reasons for the growth in tourism
   Greater affluence: people have more money to spend than in the past
   More leisure time: a shorter working week and longer paid holidays
   Greater mobility and accessibility: the increase in car ownership, travel easier due to better roads, rail and air travel
   Package holidays: cheaper holidays with accommodation and meals included in the price
   Advertising: people are now more aware of the holiday opportunities available (radio, TV, internet…)

What are National Parks?

7. What are National Parks?
   They are large areas of attractive countryside where scenery and wildlife are protected so that everyone can enjoy them

8. National Parks in Britain have three main aims
   To preserve and enhance the natural beauty of the landscape
   To provide a place for recreation and enjoyment
To protect the social and economic well-being of people who live and/or work in the National Park

9. NPA

To help fulfill these aims, each National Park in Britain is managed by a National Park Authority –NPA- which is controlled by a committee, or board, made up of local people and representatives of the government

10. National Parks in Great Britain

11. The term ‘National Park’ can be misleading

They are not ‘parks’ in the sense of an urban park, and the public do not have complete freedom to wander where they would like. This is because, unlike most National Parks in Europe and America, they are not ‘national’ in the sense that they are owned by the nation.

How can tourism be managed in National Parks?

12. Main problems in National Parks

The number of people visiting them has increased rapidly: overcrowding, damage to the environment and conflict between users
13. A ‘honeypot’

It is a place of attractive scenery or special interest which attracts people in large numbers.

14. Example: management plans in the Lake District National Park

- Negative planning techniques: parking will be restricted, roads downgraded to ‘Lakeland lanes’ and caravan sites discouraged
- Positive methods: Roads have been upgraded, parking improved and tourist facilities: caravan sites
- Certain lakes have been identified as ‘free access’

A coastal holiday resort - Tolo, Greece

15. Why tourism in the Mediterranean site?

People are attracted to Mediterranean resorts because of the hot, dry summer weather, the spectacular scenery and the added tourist amenities.

16. How tourism does affect local residents in the Mediterranean site?

Local residents, often poor by EU standards, see tourism as an opportunity to improve their standard of living even if it also changes their way of life and spoils their environment.

A tropical holiday island – Sri Lanka

17. Why tourism in the tropical islands?

Tropical islands are becoming increasingly popular with tourists: sunny weather, long stretches of palm-fringed sandy beaches, thick jungles and spectacular scenery, ancient cities and temples, colorful festivals and friendly people.

18. How tourism does affect local residents in the tropical islands?

Tourism can bring jobs and earn money for less developed countries like Sri Lanka. However, it can also cause problems for the local people and their environment.

How can tourism change the environment?

19. How can tourism change the environment?
Many environments in the world are fragile and can easily be damaged or changed by human activities such as tourism.

20. Tourism changing the environment. What to do?

It is important to try to protect, plan and manage those environments that have not yet been damaged, and to restore those that have.

What is ecotourism?

21. What is ecotourism?

Also known as ‘green tourism’, is a sustainable form of tourism which aims to protect the environment and respect the local culture and customs.

22. What does ecotourism pretend?

Ecotourism is a sustainable form of tourism which tries not to damage the environment and respects and brings benefits to the local community.

Unit 17 Managing resources

What are resources?

1. What are resources?

Resources can be defined as any material or product that people find useful. Stone for houses, grass for cows => meat and milk, countryside for people relaxing.

2. Types of resources

- Natural: Physical features like climate, vegetation, soils, and raw materials (mineral and fuel)
- Human: Workforce, skilled labor, machinery and money

3. Types of natural resources

- Non-renewable: Resources that can only be used once
- Renewable: Resources that can be used over and over again

4. Types of non-renewable resources

- Resources that are consumed when used: coal
- Resources that can be exhausted by overuse: trees, fish

5. Types of renewable resources
- Resources that are always available: wind and water power
- Resources that can be recycled: metals

6. The demand for and use of the world’s resources continue to grow at an increasingly rapid rate. This is mainly due to:
- Population growth: There are now 7.2 (2014) billion of us compared with 5 billion just 25 years ago
- Economic development: More and more countries use up more and more of the Earth’s resources

7. Two problems in the managing of resources
- Some resources will simply run out
- The environment will become even more damaged and polluted

8. Sustainable methods of managing resources
They use resources sensibly and in a way that does not waste them or cause damage the environment

9. Sustainable resource management
Using renewable resources (wind and wave)
Recycling: turning waste into something useful
Increasing efficiency: low-energy light bulbs
Controlling pollution: reducing emissions
Conservation: protecting wildlife and scenery

10. Non-renewable energy resources: advantages and disadvantages
They have been easy and quite cheap to use. Coal, oil and natural gas are called fossil fuels because they come from the fossil remains of plants and animals. They create a lot of pollution and are blamed for causing changes in the world’s climate (global warming)

11. Renewable energy resources: advantages and disadvantages
Renewable, or alternative, energy resources are mainly forces of nature, like water, wind and the sun, which can be used over and over again. They tend to be difficult and expensive to use but cause little pollution and are a sustainable form of energy
12. Make a relation with the wealth of a country and its energy use

There is a close link between the wealth of a country and the amount of energy that it uses.

In the future:

How can the production of electricity affect the environment?

13. Electricity in Britain

Most of Britain’s electricity is produced in thermal power stations using coal, oil or natural gas. The remainder comes either from nuclear or hydro-electric power stations.

Can wind help provide our energy needs?

14. Wind farms in Britain
Britain’s first wind farm was opened in 1991 near Camelford in Cornwall, above sea level. In 2000 the first offshore wind turbines started to produce electricity in the North Sea near Blyth, Northumberland. By 2002, there were almost 80 wind farms either working or planned in the UK.

15. Previsions of wind energy

It has been estimated that it would take more than 7000 wind turbines to replace one nuclear power station, and 200,000 would be needed to supply all of Britain’s electricity. A wind farm that size, if located in the UK’s South West region, would cover all of Cornwall and much of Devon.

How can resources be conserved?

16. Sustainable development

It does not waste resources or damage the environment. It is progress that can go on for year after year and helps improve our quality of life today, but does not spoil our chances in the future.

17. Global citizenship

It is an approach where ordinary people, national governments and global organizations work together and try to conserve resources and improve the quality of life for everyone.

18. Some ways in which non-renewable resources can be conserved. Write examples

- Recycling (glass bottles, paper)
- reducing resource consumption (turning down central heating by a degree or two also saves large amounts of energy)
- increasing energy efficiency (improving the quality of buildings so that less heat is lost)

What energy should they use in the UK?

19. At the moment, electricity in the UK is produced...

Most of the country’s electricity is produced in thermal power stations using coal, oil or natural gas. The remainder comes from nuclear or renewable sources.

20. Fossil fuels, nuclear and renewable: advantages and disadvantages

<table>
<thead>
<tr>
<th>Advantages of fossil fuels</th>
<th>Disadvantages of fossil fuels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coal: plenty available, new mines highly mechanized</td>
<td>Coal: causes air pollution and global warming, damages the environment</td>
</tr>
<tr>
<td>Oil: easy to transport, efficient, less pollution than coal</td>
<td>Oil: low reserves, some air pollution, danger of spills and explosions</td>
</tr>
<tr>
<td>Gas: easy to transport, efficient, clean</td>
<td>Gas: danger of explosions, some air pollution</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Advantages of nuclear</th>
<th>Disadvantages of nuclear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean, few greenhouse gases, efficient, uses small amounts of raw materials</td>
<td>Dangers of radiation, high cost of building and closing down, waste disposal problem</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Advantages of renewables</th>
<th>Disadvantages of renewables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean, very little pollution, unlimited supply, will never run out, generally very safe</td>
<td>Can be difficult and expensive to use, can’t meet our energy needs, not always available</td>
</tr>
</tbody>
</table>

What are the benefits and problems of Alaskan oil?

21. What are the benefits and problems of Alaskan oil?

Industrial activity in Alaska has brought social and economic gains. Many people are concerned about the damaging effects it may have on local communities and the environment.
How has Alaskan oil damaged the environment?

22. How has Alaskan oil damaged the environment?

The oil industry may bring benefits but can also cause problems. The Exxon Valdez oil spill was the worst in the history of the United States, and cause extensive long-term damage.

Unit 18 Development

How can contrast in development be measured?

1. Try to define development
   
   The traditional method of comparing different places is to measure their wealth.

2. Try to measure the wealth of a country
   
   The wealth of a country is measured in terms of its gross national product: GNP.

3. The GNP per capita
   
   It is the total value of goods produced and services provided by a country in a given year divided by the number of people living in that country.

4. Example: GNP in UK
   
   In one year the UK earned $1.779.000 million. If you divide this by the UK’s total population of 60 million, this gives a GNP per capita of $29.600.

5. Making comparisons between countries (GNP)
   
   GNP is given in US dollars: US$.

6. The world can be divided into two economic groups
   
   - More economically developed countries MEDCs
   - Less economically developed countries LEDCs
7. Compare LEDCs and MEDCs

- The first have higher birth, death and infant mortality rates, a greater natural increase in population, and a shorter life expectancy
- LEDCs have a lower level of literacy and fewer doctors per size of population
- They have more jobs in the primary sector and fewer in the secondary and tertiary sectors
- They have a smaller volume of trade and, probably, a trade deficit
- They use less energy per person and have more of the population living in rural areas

8. GNP is the most frequent method used to show differences in development between places. Development can also be measured...

Using social, health and educational indicators

How else may development be measured?

9. How else may development be measured?

In 1990, the United Nations published the first of what is now an annual report using the Human Development Index (HDI)

10. The HDI is a composite of three variables:

- **Life expectancy** is regarded as the best measure of a country’s health and safety
- **Education** attainment is obtained by combining adult literacy rates and the average number of years spent at school
- **Income per capita** is adjusted to actual purchasing power

Each variable is given a score ranking from 1.000 (the best) to 0.000 (the poorest)
11. The HDI can also:

- Highlight where poverty is worst, both within a country (question 12) and between countries
- Act as a measure to show how far a country has developed
- Help that country to set targets that can lead to improvements in the quality of life of its citizens, for example better education to improve literacy and better health care to increase life expectancy

12. The HDI in a country and between countries

If the HDI was only applied to white Americans, then the USA would be top of the ranking table

If the HDI was only applied to black Americans, then the USA’s ranking would fall to the lower 30s

What is sustainable development?
13. Sustainable development taking account resources

It should involve a sensible use of resources, especially those that are non-renewable, and appropriate technology

14. Sustainable development taking account people

- Quality of life: allowing them to become more content with their way of life and the environment in which they live
- Standard of living: enabling them, and future generations, to become better off economically (financially)

15. Sustainable development (YOU HAVE TO ANSWER ONE OR TWO OF THESE CONCEPTS)

Energy: using renewable sources
Ecosystems: protecting biomes (rainforest, coral reefs...)
Industry: recycling waste materials (glass, paper...)
Farming: maintaining the soil’s fertility and preventing its erosion
Flooding: protecting people’s lives
Housing: using local building materials
Forests: re-afforestation
Population: Having people of working age to support the elderly and having enough jobs, houses, hospitals...
Tourism: protecting the environment and encouraging ecotourism
Water supply: providing a clean and a reliable supply
Aid: helping people to survive
Transport: Without polluting the environment

What is appropriate technology?

16. Appropriate technology is...

It is when development schemes meet the needs, skills, knowledge wealth and resources of local people and the environment in which they live

17. Compare appropriate technology taking account developed countries and developing ones
- For a country that is developed and whose inhabitants are well-off, the appropriate technology is likely to be high-tech

- For a country that is only developing and whose inhabitants are poor, the alternative forms of technology are likely to be adopted

18. Practical Action in Kenya

Practical Action used to be known as the Intermediate Technology Development Group (ITDG), charitable organization that works with local people in developing countries, using and adding to local knowledge by providing technical advice, training, basic equipment and financial support

What are the problems of getting a reliable supply of clean water?

19. WaterAid is...

It is voted Britain’s most admired charity in 2006

20. WaterAid conclusions

- 1.1 billion people worldwide without access to clean drinking water (nearly 1 person in 6)

- 2.6 billion people without access to a safe, clean toilet (2 persons in 5)

21. WaterAid’s aims are to help people in some of the world’s poorest countries

- To set up, operate and maintain their own safe domestic water and sanitation facilities

- To learn about safe hygiene practices so that they gain maximum health benefits
What are the effects of differences in food supply?

22. What about the food supply (UN)?

The United Nations claims that there is enough food produced in the world each year to feed everybody. Unfortunately while rich countries in North America and Western Europe produce more than they need, many poorer ones, especially in Africa, don't produce enough.

23. A satisfactory diet as two important characteristics

- The quantity of food consumed
- The quality of food consumed

24. The quantity of food consumed

The amount required by a person is measured in calories. The dietary energy supply (DES) is the number of calories per person available each day in a country.

25. Differences in the DES comparing countries

People living in richer, developed countries usually require more calories (2600 per day) than people living in poorer, developing countries (2300 per day).
26. Why the differences in the DES comparing countries?
   - There is a greater proportion of adults in developed countries, who use more energy per day than do children
   - Temperate climates, where most developed countries are located, are cooler and so people need more energy for body heating

27. A healthy and balanced diet should include
   - Proteins to build and renew body tissues (meat, eggs, milk)
   - Carbohydrates to provide energy (cereals, potatoes, sugar)
   - Vitamins and minerals which help prevent many diseases (dairy produce, fruit, vegetables, meat and eggs)

28. What are the effects of differences in food supply? Developing countries
   - Malnutrition: It is caused by deficiencies in either the amount (quantity) or the type (quality) of food that is eaten
   - Marasmus: when a lack of calories results in reduced energy and children who are thin and do not grow
   - Kwashiorkor: resulting from a diet mainly of cereals and lacking in protein; it can be seen in children with swollen tummies
   - Beri-beri and rickets: caused by a lack of vitamins which respectively causes wasting or deformed limbs

29. What are the effects of differences in food supply? Developed countries
   - Eating too much or eating the wrong type of food –or both!
   - People obese:
     - have a shorter life expectancy
     - are more likely to have health problems such as heart disease and diabetes, to have breathing problems and to be at greater risk from cancer

Are there regional differences in the UK?

30. Are there regional differences in the UK?
   Yes:
   - with regions towards the south and east being more economically developed than those to the north and west, based on GNP
- London is more developed than other urban areas
- Urban areas are more developed than rural areas
- Within urban areas, the outer suburbs are more developed than inner city areas

31. Are there regional differences in the UK?

Yes:
- Italy: There is the rich, industrialized north, and the poor, less developed south
- Other countries: Portugal, Ireland, Greece, Spain...

32. The EU has developed a regional policy in order to reduce disparities between regions

The EU hope to achieve this by means of various funds that include the European Regional Fund and the European Social Fund

33. Urban population says: ‘urban areas provide a higher quality of life, with their jobs, shops, schools, hospitals, transport systems and entertainment’

Rural population says: ‘small towns, villages and the countryside provide a less congested, quieter and cleaner environment in which to live, so, a higher quality of life’

Is it true? Explain it:

Yes: A definition of development no longer applies just to wealth and standards of living. It has now been widened to include people’s quality of life. However, quality of life is much harder to measure than other characteristics of development. It also differs according to the perceptions and aspirations of individual people: everything works

Unit 19 Interdependence and globalization

What do we mean by interdependence and globalization?

1. Interdependence
   It usually refers to a country that has to rely on other countries for trade or aid

2. Interdependence: elements
   Raw materials: minerals, energy supplies and foodstuffs
   Manufactured goods: clothes, cars, computers
   Services: money and technology

3. Globalization
From a geographer’s point of view, it includes any process of change that occurs at a world scale and which has worldwide effects

4. Types of globalization
   - Physical: a rising sea-level
   - Human: trade
   - Both: global warming

5. Globalization, by Oxfam
   It affects the clothes we wear, the music we listen to, the food we eat, the jobs we do and the environment we live in

6. Compare interdependence and globalization
   Interdependence is when a country relies on other countries for help. Globalization is any process that changes the environment and people’s lives on a world scale

Why is global warming a world problem?

7. Which countries contribute the most to global warming?
   - 80 per cent of emissions that cause global warming come from industrialized, rich countries (20 per cent of the world’s population)
   - 20 per cent of emissions that cause global warming come from non-industrialized, poorer countries (80 per cent of the world’s population)

8. Which countries contribute the most to global warming? Problems now and in the future
   - Developed countries, especially the USA, do not as yet seem set on reducing their emissions
   - Developing countries, especially China and India, are likely to increase their emissions as they seek to create more jobs and try to raise their low standards of living
   - So, we are stopping the developing countries evolution (development)

9. What are the predicted global effects?
   - A rise in the world’s sea-level (2 mm a year = 1 metre every 50 years)
   - Many of the world’s major cereal growing areas are expected to become drier, reducing the food available
- Areas receiving less rain (Sahel) will have increasing water shortages
- Changes in rainfall will affect the world’s ecosystems
- Tropical storms are predicted to increase in both frequency and strength

10. Why is it difficult to get international agreement?

- Developed countries claim that by making reductions they will experience job losses and a lower standard of living
- Developing countries believe they need to increase energy consumption if they are to create new jobs and raise their standards of living. They also fail to see why they should help solve a problem they did not create

What are the main features of international trade?

11. Trade

No country can provide everything that its inhabitants want or need. To provide these needs, a country has to trade with other countries

12. Imports

To provide these needs, a country has to trade with other countries. It buys goods and services that it is either short of, or which it can obtain more cheaply from elsewhere. These are referred to as imports

13. Exports

To pay for these goods, a country must sell things of which it has a surplus, or which it can produce more cheaply than other countries. These are known as exports

14. Interdependence

Countries that trade with other are said to be interdependent

15. Every country hopes to have a trade surplus, because

This means that it will earn more money from the goods that it exports than it needs to spend on imports

16. Trade deficit

A country that has to spend more on imports than it earns from exports has a trade deficit: it is likely to remain poor, will have insufficient money to develop new industries or improve services, and is likely to fall into debt

17. Patterns of world trade
Patterns of world trade

<table>
<thead>
<tr>
<th>Less economically developed countries (LEDCs) Many were colonies in the nineteenth century</th>
<th>More economically developed countries (MEDCs) Many were colonial powers in the nineteenth century</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports: ‘cheap’ foodstuffs (tea, coffee) and raw materials (rubber, cotton, timber)</td>
<td>Exports: ‘expensive’ manufactured goods (cars, machinery, computers)</td>
</tr>
<tr>
<td>Imports: very few</td>
<td>Imports: ‘cheap’ foodstuffs and raw materials which it processes into manufactured goods</td>
</tr>
<tr>
<td>Relatively little trade between the ‘poor’ LEDCs, 20% of world’s total</td>
<td>Most trade is between the ‘rich’ MEDCs, 80% of the world’s total</td>
</tr>
</tbody>
</table>

18. Trade balance
   This is the difference between the cost of imports and the value of exports

19. Major trading groups
   EU: European Union (27 countries)
   NAFTA: North American Free Trade Association (3)

20. Other developed countries group
   EFTA (European Free Trade Association) (4)
   OPEC (Organisation of Petroleum Exporting Countries) (12)

21. Important developing countries groups
   Mercosur (6)
   ASEAN / AFTA (Association of South East Asian Nations) (10)

22. Aims of the EU
   - Improve trading links between its members
   - Eliminating customs duties previously paid on goods that were moved between member countries
   - This lowered the prices of goods, making them cheaper and more competitive against goods from non-EU countries
- As the number of EU member countries has grown, so too has its internal market: the larger the internal market, the greater the number of potential customers

Why is fair trade important?

23. In an ideal world there should be free trade. It is...

   Free trade is when governments neither restrict nor unfairly encourage the movement of goods. In the real world this tends not to happen and developing countries rarely get a fair deal

24. In the real world developing countries rarely get a fair deal, because...

   - Types of exports: developing countries tend to export primary goods (low in value); developed countries export manufactured goods (much higher in value)
   
   - Tariffs, quotas and subsidies: protecting jobs and industries in their own country

   - The World Trade Organization (WTO): It took until 1996 for the major trading countries of the USA, Japan and in the EU to agree to reduce tariffs on many industrial goods, and until 2004 before they agreed to reduce, over a period of time, subsidies on farm products

   - Fairtrade: Fair trade is an organized social movement and market-based approach that aims to help producers in developing countries make better trading conditions and promote sustainability. The movement advocates the payment of a higher price to producers as well as higher social and environmental standards. It focuses in particular on exports from developing countries to developed countries, most notably handicrafts, coffee, cocoa, sugar, tea, bananas, honey, cotton, wine, fresh fruit, chocolate, flowers and gold.
25. Give an example of fairtrade throw somebody explanation

‘Fairtrade has changed our lives. When we sell cocoa for the Divine bar, we get a fair price for our beans. My family now earns enough for me to stay at school and the profits made by the village have paid for a new well and for machinery to improve our farms’

*Teenager whose family is a member of Kuapa Kokoo Project in Ghana*

26. Tariffs

They are taxes or customs duties paid on imports. The exporter has to pay a percentage of the value of the goods to the importer. Importers may add tariffs just to raise money but usually the idea is to put up the price of imported goods in order to make them more expensive and therefore harder to sell.

27. Quotas

Limit the amount of goods that can be imported. They tend to be restricted to primary goods and so work against the LECD’s.

28. Subsidies

They are grants of money given by a government to maintain the price of agricultural products (milk or wheat) or manufactured goods (clothing). This reduces the cost of goods produced in a developed country and makes them more competitive with goods that otherwise would be cheaper if imported from a developing country.

How has the world’s fashion industry changed?

29. Transnational companies (TNCs): in favor or against them?
Many organizations and individuals criticize TNCs as being exploiters of poorer people living in developing countries. In contrast, others claim that it is only through TNCs that many developing countries can develop their own industries and create local jobs.

30. How a TNC operates on a world scale?

Head office (in a developed country where major decisions are made)

Raw materials (they are from developing countries. They are run by TNCs which provide the needed organization, technology and capital in return for cheap labour)

Factories (TNCs locate factories in developing countries where the labour supply is plentiful and cheap)

Sales (TNCs then use their brand name to sell their goods)

31. What is it like working for TNCs in a developing country?

Working and living conditions for employees, and their families, of a TNC in a developing country can be hard, yet employment by TNCs is often the best hope of improving people’s standard of living.

32. Extreme poverty is...

This means that one person in every six of the world’s population is struggling for survival. Of the world’s poorest 25 countries, 23 are in Africa.

33. Basic needs that could lead to extreme poverty

These needs include access to good housing, education, health care, jobs and a reliable supply of food and clean water.

34. The world’s poorest people not only lack basic needs

These needs include access to good housing, education, health care, jobs and a reliable supply of food and clean water, but they may live in difficult environments where there are natural disasters, civil war or a rapid population growth.

35. The cycle of poverty
36. Deprivation indicators

- Economic stress
  
  Unemployment
  
  Low-income families

- Social stress
  
  No family earner                  lone-parent families
  
  Single pensioner                  large families
  
  Crime / delinquency               racial tension

- Housing stress
  
  Houses lacking one basic amenity
  
  Overcrowding (more than 1 person per room)
  
  Homelessness / sleeping on streets

- Environmental stress
  
  Noise / pollution
  
  Derelict land / buildings
Why is aid needed?

37. Aid is...

It is the giving of resources by one country, or an organization, to another country

38. The resources in aid may be in the form of...

- Money: often as grants or loans that have to be repaid
- Goods, food, machinery and technology
- People who have skills and knowledge as teachers, nurses, doctors and engineers

39. The concept of global citizenship

As we all live in the same world we must help each other and try to improve the quality of life for everyone: this is the concept of global citizenship

40. Types of aid

- Government (bilateral): Given directly by a richer country to a poorer one
- International organizations (multilateral): Given by organizations such as the World Bank and the IMF (International Monetary Fund)
- Voluntary: Organisations such as Oxfam and ActionAid which collect money and receive gifts for people in LEDCs
- Short-term / Emergency: Needed to cope with the effects of environmental hazards (earthquakes, tsunamis, tropical storms...)
- Long-term / Sustainable: Organizations such as Practical Action that help people in LEDCs to support themselves

41. Types of aid (diagram)

- Aid
  - Official
    - Government-bilateral
    - International organizations
  - Official / voluntary
    - Short-term
    - Long-term
  - Voluntary
Voluntary organizations

How did the world respond to the Indian Ocean tsunami?

Unit 20 Geographical skills

Ordnance Survey map skills

1. Symbols

Ordnance Survey (OS) maps use symbols rather than words to describe features, and can be shown as drawings, coloured areas, letters or lines

<table>
<thead>
<tr>
<th>UBD map symbols</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airport - Domestic</td>
</tr>
<tr>
<td>Airport - International</td>
</tr>
<tr>
<td>Ambulance Station</td>
</tr>
<tr>
<td>Barbecue</td>
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<tr>
<td>Cycleway</td>
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<tr>
<td>Boat fueling point</td>
</tr>
<tr>
<td>Boat Ramp</td>
</tr>
<tr>
<td>Bowling Club</td>
</tr>
<tr>
<td>Bus Stop</td>
</tr>
<tr>
<td>Camping Area</td>
</tr>
<tr>
<td>Caravan Park</td>
</tr>
<tr>
<td>Car Park</td>
</tr>
<tr>
<td>Private College</td>
</tr>
<tr>
<td>Public College</td>
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<tr>
<td>Express Post</td>
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<tr>
<td>Fire Station</td>
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<tr>
<td>Golf Course</td>
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<td>Guide Hall</td>
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<tr>
<td>Hospital</td>
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<td>Hotel</td>
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<tr>
<td>Information Centre</td>
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<tr>
<td>Kindergarten</td>
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<tr>
<td>Landmarks</td>
</tr>
<tr>
<td>Library</td>
</tr>
<tr>
<td>Lookout - 180° view</td>
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<tr>
<td>Lookout - 360° view</td>
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<tr>
<td>Lighthouse</td>
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<tr>
<td>Masonic Centre</td>
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<tr>
<td>Memorial / Monument</td>
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<tr>
<td>Motel</td>
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<tr>
<td>Picnic</td>
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<tr>
<td>Place of Worship</td>
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<td>Playground</td>
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<tr>
<td>Police Station</td>
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<tr>
<td>Post Office</td>
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<td>Private School</td>
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<tr>
<td>Public School</td>
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<tr>
<td>Scout Hall</td>
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<tr>
<td>Service Station</td>
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<tr>
<td>Shopping Centre</td>
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<tr>
<td>Swimming Pool</td>
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<tr>
<td>Taxi Stand</td>
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<tr>
<td>Telephone</td>
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<tr>
<td>Toilets</td>
</tr>
<tr>
<td>Weighbridge</td>
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<tr>
<td>Wineries</td>
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<tr>
<td>Distance from PO</td>
</tr>
<tr>
<td>Roundabout</td>
</tr>
<tr>
<td>Traffic Lights</td>
</tr>
</tbody>
</table>

2. Grid references

On Ordnance Survey maps these lines are drawn in blue and each has its own special number or reference. The blue lines form grid squares. Grid references are the numbers that give the position of the grid square or feature inside it.
3. Types of grid references

- Four-figure references give the reference for a grid square which equals an area on the ground of one square kilometer

- Six-figure grid references are more accurate and locate a 100 metre square area within a grid square

4. Direction

It may be given on a map using the points of a compass. In a GCSE examination you will need to know eight points of the compass although it would be better to know the 16 shown

5. Scale and distance

A map may be used to find out how far one place is from another. How much smaller they are it is shown by the scale. In a GCSE examination, the Ordnance Survey map may have a scale of either 1:50 000 or 1:25 000 (1 centimetre on the map is equal to 50 000 or 25 000 centimetres on the ground = 2 or 4 cm on the map represents 1 km on the ground
Contours and relief

6. Contours

They are lines on a map that join places of the same height. They show both the height of the land and its shape.

7. Relief

It is the shape of the land.

8. Contour interval

It is the difference in height between one contour and the next.

9. Types of contours

On a contour map, equally spaced contours show an even slope, close contours a steep slope, widely spaced contours a gentle slope, and an absence of contours flat land.

10. Depending of types of contours, we can find

Plateaus, round hills or knolls, valleys, spurs, cliffs and ridges.

11. In contours and relief we have to take account

- Relief: It is the height and shape of the land
- Drainage: It includes surface water features such as rivers, lakes and marshes
- Vegetation: It describes the plant life and includes woodland, rough pasture and farmed areas.
Cross sections

12. Cross section

It is a diagram that gives a cut-away or side view of the landscape. It shows the landscape as it would appear if it was sliced open, rather like cutting a large piece of cake in half.

13. Sketch cross-section

It is drawn freehand and do not use measured heights and distances. Their shape represents the shape of the landscape but relief features are not exact and they only give a general impression of the area.

Using photographs in geography

14. Three main types of photos are used in GCSE Geography

- Ground photos: Show the landscape as we see it from the Earth’s surface
- Aerial photos: Are taken from aircraft and can be
  - vertical (from directly overhead)
  - oblique (taken at an angle)
- Satellite photos: Are taken from hundreds of kilometers above the Earth’s surface and can cover a large area

15. Photo response

They are common in geography examinations. In these the answer must be based on what can be observed in the photo

What different types of map are there?

16. A map is
It is a drawing of a place seen from above. It is very simplified and drawn at a reduced scale. Extracting and using information from maps is one of the most important skills in GCSE Geography. It is always tested in examinations

17. Types of maps

Atlas maps, dot maps, choropleth maps, isopleths maps

18. Atlas maps

An atlas is a book containing many different maps

- Political maps show countries and cities
- Physical maps show mountains, lowlands and rivers
- Other maps may include information on population, land use, climate and a variety of other topics

19. Atlas: parts

The contents page at the front of the atlas shows on which page each map can be found. The index at the back of the book shows exactly where a particular place is located

20. Dot maps

They are used to show distribution, or the way in which something is spread over an area. They are most often used to show population distribution

![Dot map example](image)

1 dot represents 100 000 people

21. Choropleth map

Choropleth maps use different colours or shading to show variations between places
22. Isopleth maps

Or isolines, join places of the same value

23. Types of isopleths

- Isobars: they join places of equal pressure
- Isotherms: they join places of equal temperature

How can we use graphs in geography?

24. Graphs

They are diagrams that show information in a clear and simple way. They show patterns and trends and can be used to describe a situation and show how one thing is related to another

25. Types of graphs

Bar graphs, line graphs, pie graphs, scatter graphs

26. Bar graphs

Or bar charts, they present information in the form of a bar or column (either horizontally or vertically)
27. Line graphs

They show information as a series of points that are joined up to form a line. They show changes and trends over a period of time and can help forecast future changes.

28. Compound line graph

It has more than one line drawn on the same graph outline and can show how a total is broken up.

29. Pie graphs

A pie graph or pie chart is drawn as a circle which is the divided into several pieces or sectors. The whole circle is always equal to 100 per cent.
30. Scatter graphs

It has data plotted as a number of dots or crosses. They are used to see if information about two different things is linked or related, for example between temperature and height of land, or average income and literacy.

31. Comparing scatter graphs

To show if there is a relationship between the two variables a best fit line should be drawn. This is a line that comes as close to as many points as possible.

32. Types of scatter graphs

- Positive correlation
  - Slopes up from left to right
  - As one value increases, so does the other

- Negative correlation
  - Slopes down from left to right
  - As one value increases, the other decreases

- No correlation
- Points are scattered and no best fit line can be drawn
- No relationship can be seen

How can we use the internet?

33. Tips for searching

- Use nouns as search keywords (desert, climate...) avoiding using a, the, he, it, and, or, to, from

- Use about 6 to 8 keywords per search (birth rate change developing countries 20th century)

- Where possible, combine keywords into phrases by using quotation marks, as in ‘frontal rainfall’

- Spell carefully and use alternative spellings (organization or organization)

- Try using different search engines. Google.co.uk is the most widely used but ask.com and search.yahoo.com are also very good

- Use the Key Geography website at nelsonthornes.com/key geography which is specifically for geographers and gives website addresses that will be useful in your studies

34. Tips for reliability

- Who published the information?

  An university or government organization is more reliable than one set up by a private individual

- Who wrote the information?

  Material provided by a known expert or reputable organization is likely to be reliable
- How old is the material?
  
  Check the date of origin and when it was last updated

- Why does the material exist?
  
  Special interest groups have web pages which may or may not be biased. Treat this information carefully. Think about whether they might have some reason, other than pure helpfulness, for posting information

35. Internet based maps

<table>
<thead>
<tr>
<th></th>
<th>What it is best for...</th>
<th>What it is not so good for...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ordnance survey</td>
<td>The ‘get-a-map’ section has full coverage of the UK at a variety of scales. Map sections can be printed free. Searchable by postcode and generally easy to use. Good for project work</td>
<td>Difficult to look at a large area as the section provided free is really quite small</td>
</tr>
<tr>
<td>Multimap</td>
<td>Coverage of most major countries. Possible to overlay map information onto an aerial photo of a selected area. Also gives latitude and longitude</td>
<td>Resolution of detail is poor at large scales, especially in rural areas. Lots of adverts on the site</td>
</tr>
<tr>
<td>Streetmap</td>
<td>Simply an electronic street map which is easy to use. Roads clearly marked and maps easy to read. Variety of scales. Good range of search options</td>
<td>Large number of adverts. No one-way system details</td>
</tr>
<tr>
<td>Google</td>
<td>Covers most major countries. UK coverage very good. Easy to use. Has ability to search for specific features (banks) which are then shown on the map</td>
<td>Detail best in urban areas; no contours, few boundaries, etc. Satellite imagery is poor form much of the UK, especially rural areas</td>
</tr>
<tr>
<td>About</td>
<td>The ‘About Geography’ website has lots of good map resources and free outline maps for most countries in the world. Also provides links to other map sites</td>
<td>Lots of adverts make the site a little tricky to navigate. There are also many ‘sponsored links’ which you should avoid clicking</td>
</tr>
<tr>
<td>Mapquest</td>
<td>Provides maps of the world at varying scales. Can search for specific features. Also has good country summaries, including ‘current environmental issues’</td>
<td>Fairly heavy on adverts and sponsored links. Strong US bias. Can be tricky to use</td>
</tr>
<tr>
<td>Oldmaps</td>
<td>Specializes in free downloads of old maps from around 120 years ago. Easy search system and maps are scaleable. Covers most of Britain</td>
<td>The resolution of maps is not great, especially at large scale. Sometimes difficult to match old and new maps – best to use roads as guides</td>
</tr>
</tbody>
</table>

How can computers help us with presentation?
36. Spreadsheets

They can help considerably in the processing and analysis of geographical data, particularly large sets of statistics. They are also a good way of presenting data in a clear and professional way.

37. Spreadsheets tools

- Sort: this function sorts values in cells from highest to lowest or lowest to highest, or alphabetically
- Formulas: additions, multiplication, etc. It can also work out averages and apply formulas
- Filter: You can filter out unwanted data such as top or bottom figures, or data that is unreliable
- Fill: You can enter data automatically, such as days in the month or a series of numbers
- Colour: This can help improve clarity, put emphasis on important data

38. Graphs

They may be drawn on a computer from spreadsheet information. Computer-drawn graphs also have the advantage of being easy to change should you want to alter the data, graph style, size, or other features. Remember to add a title and labels to your finished graph.

39. Writing-up

Word-processing makes work look more professional and much easier to read than handwriting. Other reasons:

40. Writing-up tools

These are the reasons:

- Spell check: This will ensure that your spelling is correct. Make sure the dictionary is set to English
- Word count: It will tell you how many words you have used. This is particularly important when coursework is involved and there is a stated word limit to apply
- Editing: Work can easily be changed and altered as you work through it. Sections can also be moved around using the ‘cut’ and ‘paste’ commands
- Saving: Work can easily be saved either on CDs or memory sticks. This is easy to do and means that you will never lose your work. You can also send copies somewhere else by email
41. Presentation

Computers are great for presenting work in a way that is attractive to look at and easy to read

- Powerpoint (presentations)
- Prezi (presentations)
- Google Drive (store)
- Dropbox (store)
- Slideshare (slides)
- Timetoast (timelines)
- Dipity (timelines)
- Tiki-toki (timelines)
- Youtube