

Knowledge organiser: Year 7 Different climates

Hot deserts are usually found along the Tropic of Cancer and the Tropic of Capricorn.
The Sahara desert in Northern Africa is an example.

Plants adaptations in hot deserts

Some plants have horizontal root systems, just below the surface

Some plants have long taproots (7-10 metres deep) to reach groundwater

Small leaves or spines, glossy and waxy leaves all reduce water loss

Some plants store water in their roots, stems, leaves, or fruit (these are called **succulents**)

Seeds can stay dormant for years, but can germinate quickly when it rains

Weather	Conditions in the atmosphere that happen during the day.
Climate	Climate is the average weather conditions in a place over a long period of time.
Microclimate	The climate of a very small or restricted area, especially when this differs from the climate of the surrounding area.
High pressure/anticyclone	The air sinks. An area of high pressure over the UK means dry weather.
Low pressure/depression	The air rises. An area of low pressure over the UK means rain.

The climate of hot deserts:

The climate is very **hot**. Summer daytime temperatures can exceed 40°C. However, at night the temperature can drop below 0°C.

The climate is very **dry** with less than 250 mm of rainfall a year.

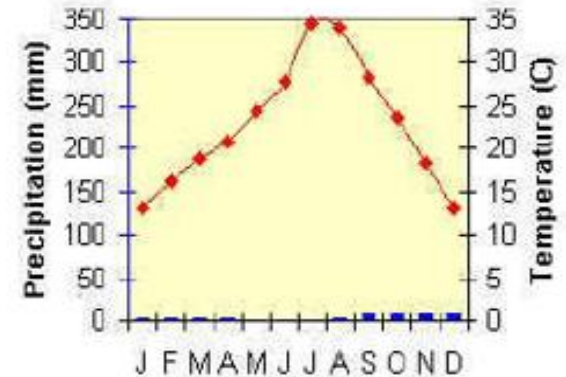
Study the desert climate graph.

Precipitation is shown by the bars.

Temperature is shown by the line.

The precipitation is 0mm in July.

The temperature is 35C in July.



Knowledge organiser: Year 8 China and Malawi

China is located in Asia. Beijing is the capital city. China has a long coastline.
Malawi is located in Southern Africa. Lilongwe is the capital city. Malawi is landlocked.

Reasons to explain why China is richer than Malawi:

China is a BRIC economy; this means it is a Newly Emerging Economy. China's economy has increased from \$2 trillion to \$14 trillion in twenty years. China exports more manufactured goods than any country. It has the world's second biggest economy. China has a 'Belt and Road' strategy. China's 'Belt and Road' strategy is an attempt to secure trade routes with other countries. The 'belt' refers to ocean routes and the 'road' refers to overland routes. Securing trade routes means that China can continue to sell to other countries. China has also invested in establishing export processing zones, to encourage foreign companies to locate in China. These EPZs have lots of factories which foreign companies can move in to and they are found along the east coast. During the last 50 years the Chinese government has invested in the health and education of its population. Its large population is also an advantage. Export processing zones (EPZs) - industrial zones with special incentives set up to attract foreign companies.

Malawi is poor because:

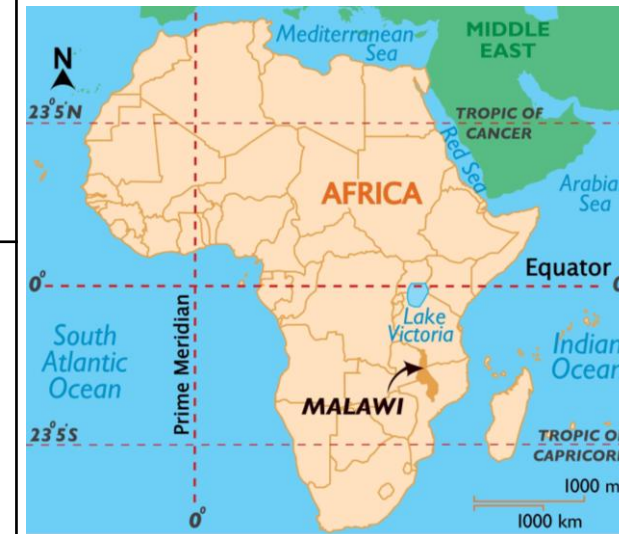
Agriculture (farming). Droughts occur (lack of rain). There is not enough rain to grow crops
Disease – people have HIV and are too ill to farm
Malawi exports tobacco, this is a primary good (from the ground), which does not make much money.
Malawi is in debt. It took loans from richer countries to build infrastructure (roads, airports). Malawi has to pay this debt back; this reduces the amount of money it can spend on schools.

Strategies to encourage development in Malawi:

The Tiwoloke Project aims to increase the number of teachers in Malawi. The number of teachers fell from 1300 to 800 in 5 years because they died of HIV/AIDS. This resulted in children not being taught and the country getting poorer. The UK government sent £700,000 to Malawi. This money was spent on training all teachers about HIV/AIDS. Teacher could then pass their knowledge on to their students.

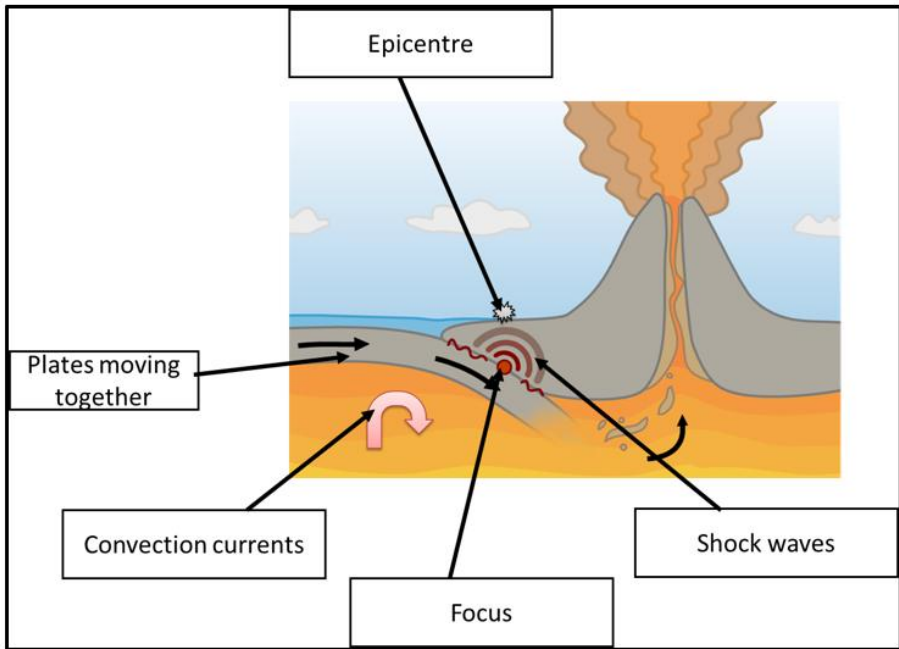
Recently Malawi has discovered rare metals underground which can be used in X-ray equipment and computer hard drives. China has set up a trade deal with Malawi to buy these metals, generating money for Malawi.

The World Bank has allowed Malawi to cancel its debt. This means the money it would have spent on repaying the debt can now be spent on farming, education, and health care.



Knowledge organiser: Year 8 Indonesian earthquake

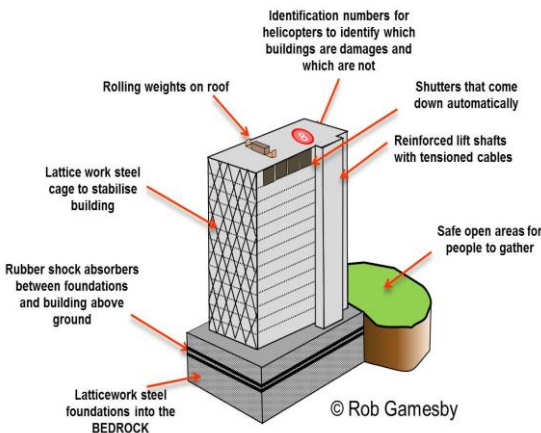
Indonesia is in Asia. The country is located on a plate margin. See the map. The earthquake in 2019 was located near the town of Palu.



The map shows the Pacific region with several tectonic plates: North America Plate, Eurasian Plate, Indian Plate, Australian Plate, Philippine Plate, and Pacific Plate. Countries like India, Bangladesh, China, Japan, Philippines, and Indonesia are also labeled. Red arrows indicate the direction of plate movement.

Plate margin	Where two tectonic plates meet.
Focus	It is the point below the Earth's surface where shock waves originate.
Epicentre	The point on the earth's surface directly above the focus of an earthquake.
Earthquake	The shaking of the ground.
Destructive plate margin	Two tectonic plates meet and the heaviest plate sinks.
Primary effects	Primary effects occur immediately, as a result of the earthquake itself. Example of primary effects include buildings and bridges collapsing and death and injury to people.
Secondary effects	Secondary effects can occur from hours to days after the initial earthquake. Secondary effects include tsunamis and disease due to lack of medical facilities.
Responses	Actions human take to reduce death and damage, can be immediate and long term

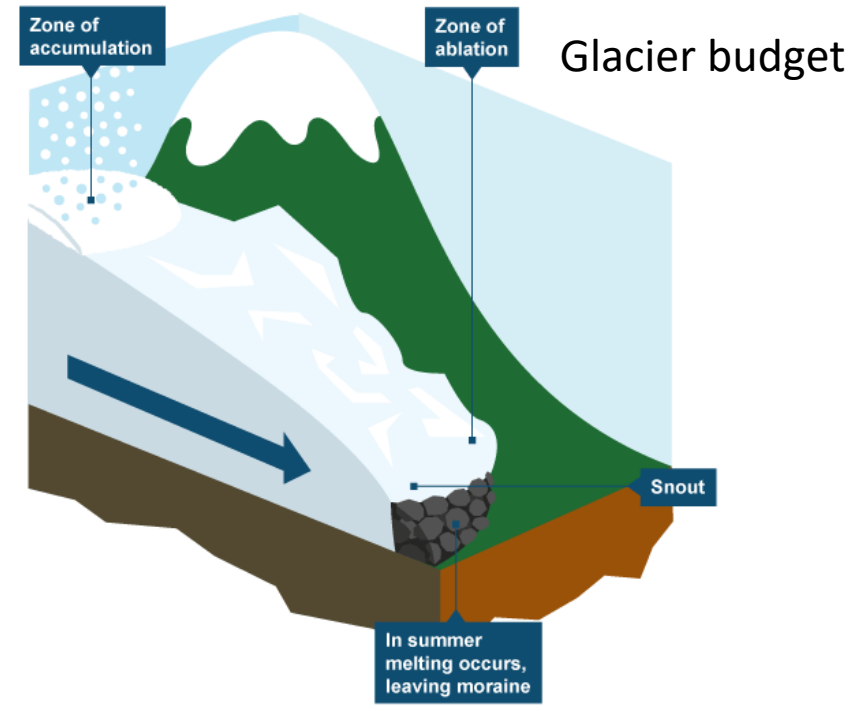
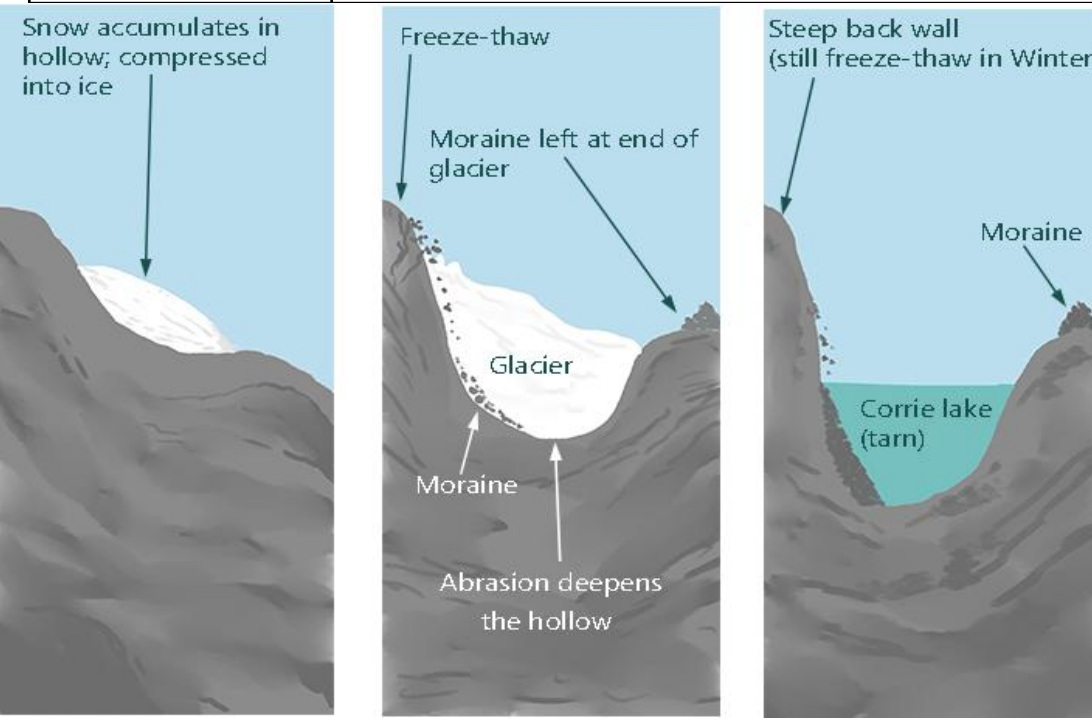
Responses:
 Immediate – look for survivors; give out food, water and medical supplies.
 Long term – educate the public about drop, cover, hold on. Ensure buildings are earthquake proof.



Knowledge organiser: Year 8 The Lake District

The Lake District is located in the North west of England. It is a glaciated area. 18,000 years ago, the ice melted and left behind new landforms.

Glacier	A large body of ice.
Accumulation	The inputs of snow into the glacier.
Ablation	The output of melting from the glacier.
Corrie	An armchair shaped hollow at the side of a mountain (see the diagram below for the formation of a Corrie).
Abrasion	The moraine in the glacier scratches the land (like sandpaper) as the glacier moves.
Plucking	The glacier sticks to the mountainside and as it moves it pulls out loose rock.
Moraine	The name given to rock on top of the glacier and inside the glacier.
Deposition	The process when the glacier melts and drops the moraine it is carrying.



Knowledge organiser: Year 9 Liverpool

Liverpool is in the North West of England. It is located on the Mersey estuary.

The growth of Liverpool

In 1841 the population was 286, 487

Liverpool is on the coast and had docks.

Sugar and tobacco from the European-owned slave plantations in the Americas were imported into Liverpool.

These raw goods had to be processed before they could be sold.

The growth of new industries in Liverpool to process the goods meant new jobs, and people moved into the city to find work.

There were no cars in the 1700s so workers had to live in terraced houses near their place of work, they walked to work.

By 1891 the population was 617,032.

Urbanisation has slowed down over recent years, but people are still moving to Liverpool for work, new houses are built on the edge of the city (these people come from within the UK and from other countries).

Today the population is 917,032.

The opportunities and challenges of living in Liverpool.

Opportunities:

Liverpool in the 5th most visited place in the UK for overseas visitors.

Lots of employment opportunities in Liverpool Science Park, Baltic Triangle Area and Liverpool 2 Port.

Chavasse Park in Liverpool One is made up of 5 acres of green space, fountains and places to sit.

Liverpool contains 5 out of the top 10 museums in Northern England.

Liverpool One boasts 170 shops , an Imax Cinema, bars and restaurants.

Sustainability – living walls to encourage bees (harvest honey and they pollinate plants)

Challenges:

Some parts of the inner city have been left empty and have become targets for graffiti and vandalism.

Poor housing in Liverpool causes 500 deaths a year and up to 5000 illnesses a year

There has been industrial decline (closing factories), leaving some areas such as Anfield and Toxteth very deprived.

In more deprived areas the students achieve lower exam results.

Urbanisation	The increase in percentage of people living in urban areas.
Millionaire city	More than 1 million people live in the city.
Urban areas	Town or city.
Opportunities	Favourable circumstances.
Challenges	Something difficult, which needs to be overcome.
Environmental	The world around us and the impacts humans have on it.
Inequalities	Differences, for example Anfield has more crime than Woolton.
National Migration	Moving home within a country.
International Migration	Moving to another country.
Sustainable urban area	A town/city which promotes the environment and quality of life for people.



Knowledge organiser: Year 9 Global impacts of climate change

Bangladesh is a small country, in Asia. It is to the east of India. Bangladesh is already experiencing some of the effects of climate change. As a result, it has started to adapt.

International mitigation to climate change: Forests play an important role in climate change. There is an 8,000 km wall of trees being built in Africa. The wall aims to spread across the width of Africa and through more than 20 countries including Nigeria. These trees will be an important carbon store. Every year international meetings take place to discuss climate change. The aim is for countries to reduce their greenhouse gas concentrations in the atmosphere to a level that would prevent dangerous harm to our climate. COP26 saw ambitious new goals. Countries agreed to limit global temperature rises to 1.5°C (the level that that scientists agree will substantially reduce the harmful effects of climate change). However, current policies put us on course for a very dangerous 2.4°C limit.

Adapting to climate change: Houses on stilts and sea walls help countries deal with the effects of raising sea levels.



Climate change	The long-term increase in temperature.
Wildfires	An uncontrollable fire.
Environmental effects	The impacts of climate change on the natural world.
Social effects	The impacts of climate change on people.
Economic effects	The impacts of climate change on jobs.
Responses	The strategies human put in place to reduce (mitigation) and adapt to climate change.
Mitigation	The strategies put in place to reduce the causes of climate change.
Adaptation to climate change	Making changes today to live with the effects of climate change.

Wildfires:

Cause:

Dry vegetation due to less rainfall and hotter temperatures.

Effects:

Homes destroyed

Lives lost

Trees and habitats destroyed

Responses:

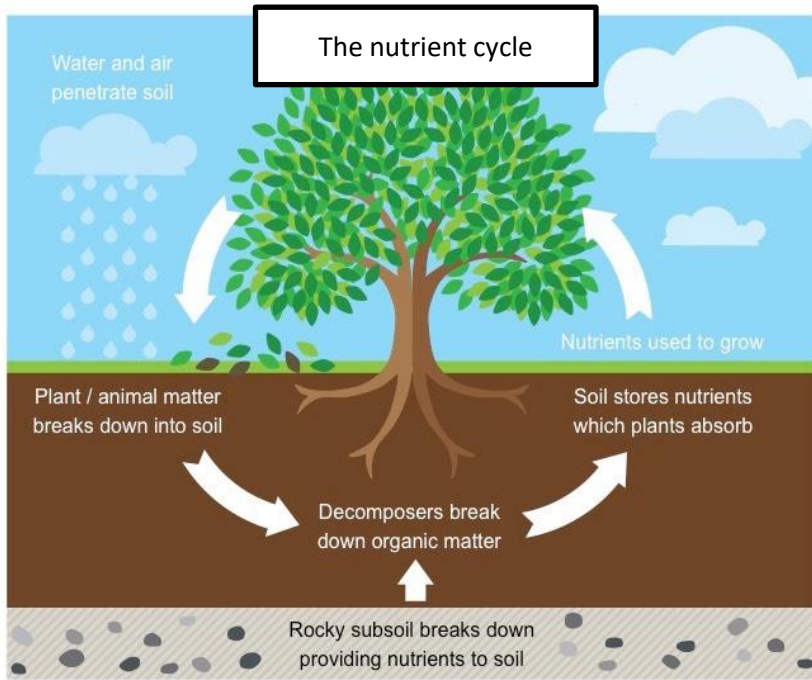
Spray ahead of wildfires to prevent the fire spreading

Create fire breaks by removing a line of vegetation or digging a trench to stop the fire spreading

Organise controlled burning to remove fuel

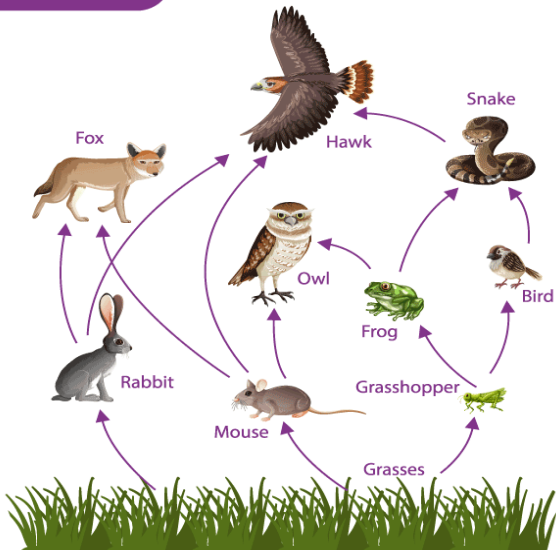
Back burning is where areas ahead of the fire are deliberately burnt in a controlled way to remove the fires fuel supply

Knowledge organiser: Year 9 Changes in local ecosystems



Producer	A producer is an organism that makes its own food. Most food chains start with a green plant, because plants make their own food by photosynthesis.
Food chain	A food chain shows how plants and animals get their energy.
Food web	It is a connection of multiple food chains.
Decomposer	Decomposers are any organism within a food chain that break down organic material, such as bacteria and fungi.
Consumer	Consumers are organisms that feed on plants or other animals for energy.
Temperate	Temperate is used to describe a climate or a place which is never extremely hot or extremely cold.
Deciduous forest	Trees or shrubs shedding it's leaves annually.

FOOD WEB



The climate in the deciduous woodland is temperate, which means there are no extremes of temperature or rainfall. Typically, there are four seasons, spring, summer, autumn and winter. Summer has the longest daylight hours and highest temperatures, averaging 15-17°C. Winter is the coolest season, with temperatures rarely dipping below 0°C. Rainfall is usually high, above 1000mm a year. Rainfall occurs throughout the year.

