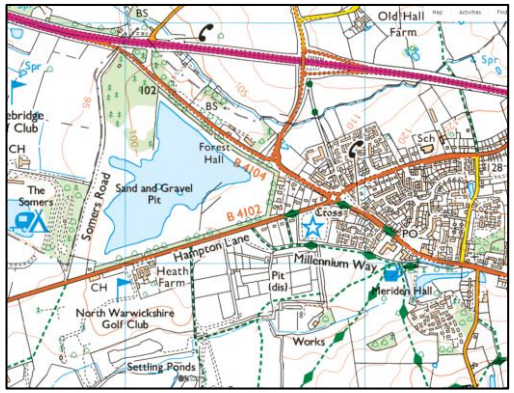
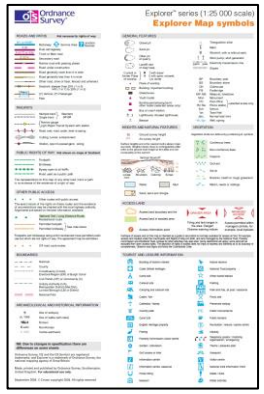
Introduction to geographical skills

Maps and symbols

OS maps use symbols to show human and physical features.
Maps have a **title, labels,** a **compass rose,** a **scale** and a **key.**





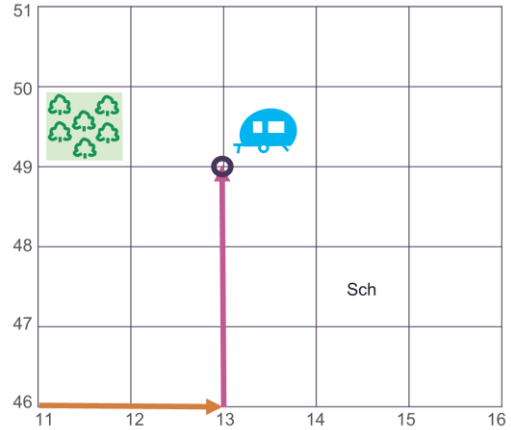
Key vocabulary

- **Continent** – One of the seven large land masses on Earth
- **Longitude** – The lines down the earth showing east or west
- **Latitude** – The lines across the earth showing north and south
- **Eastings** – The grid reference along the bottom
- **Northings** – The grid reference up the side
- **Contour lines** – Brown lines on a map that show height
- **Relief** – The height of the land
- **Topography** - The shape and physical features of an area
- **Altitude** - Height above sea level (measured in metres).
- **OS map** – Ordnance Survey is a map of areas of the UK

Four-figure grid references

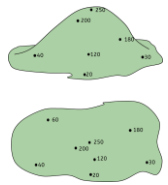
Four-figure grid references are used to describe locations on an OS map.

1. Look at the bottom-left corner of the square.
2. Find the **easting.**
3. Find the **northing.**
4. Write down the four-figure grid reference.

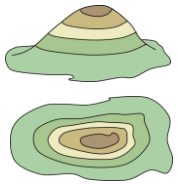


Relief

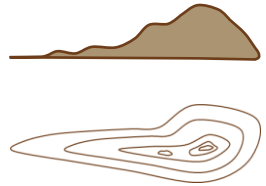
Height on a 2D map can be shown using three methods:



Spot heights – a dot giving the exact height of a specific point.



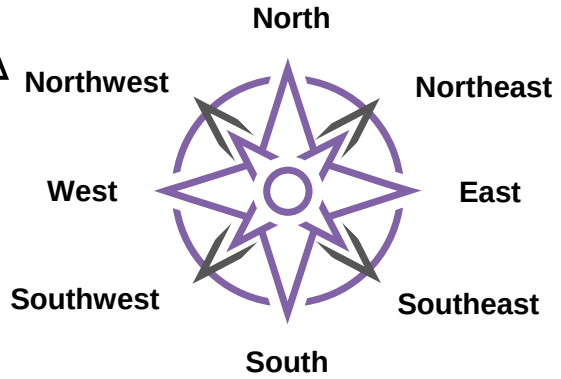
Colour layering - different heights are shown by bands of different colours.



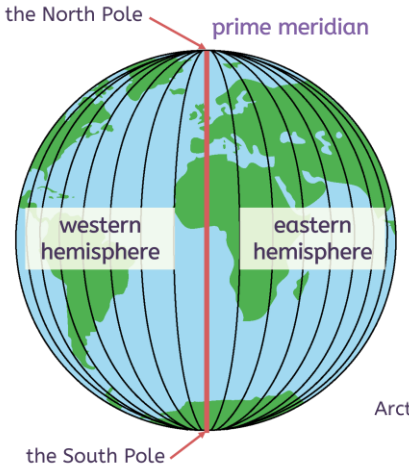
Contour lines – brown lines connecting areas of the same height.

Introduction to geographical skills

Continents, oceans and countries in the UK

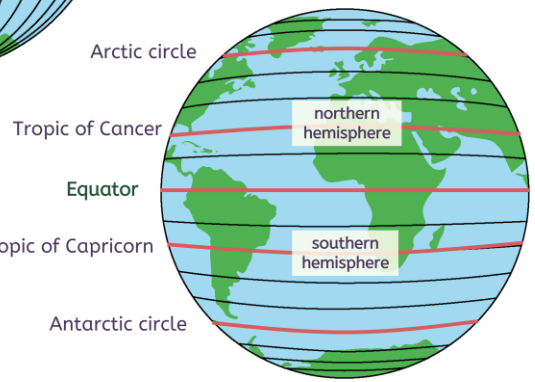


Longitude and latitude



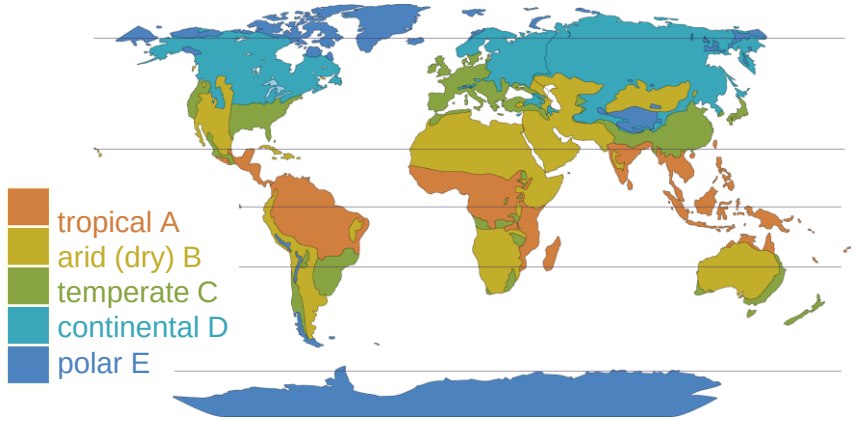
Longitude

Latitude



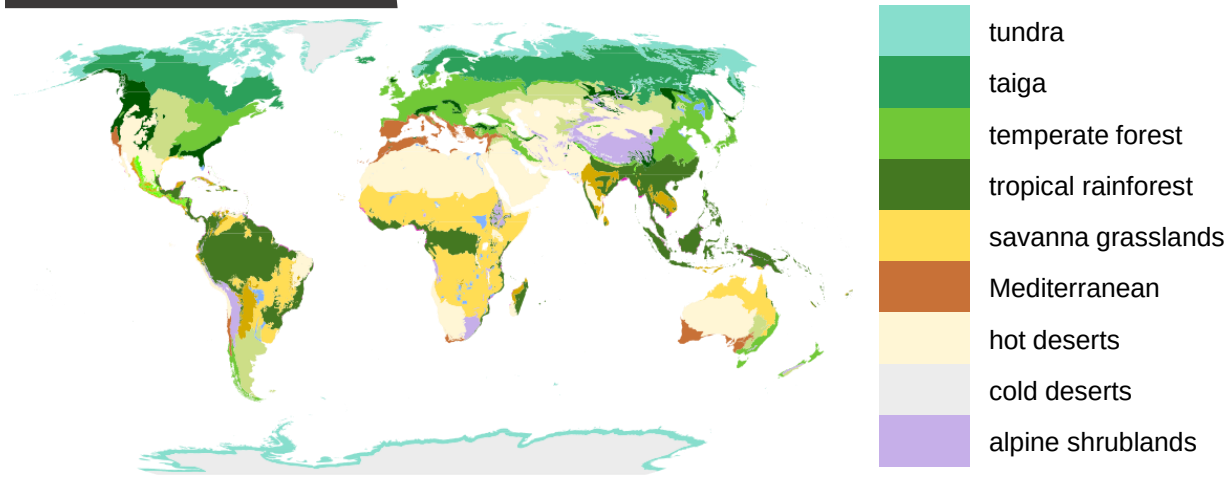
Introduction to global climate

Climate zones



Climate zones are areas in the world that have a similar climate. There are several major climate zones in the world, and the main six are shown on this map. The climate zones generally group together horizontally, following lines of latitude.

Biomes



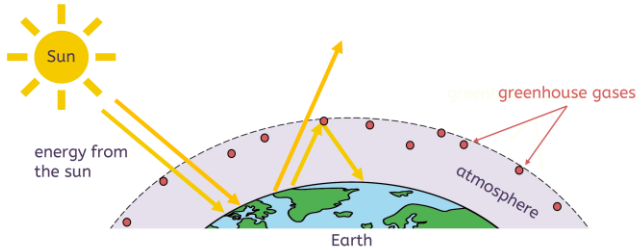
Biomes are areas of the world that, because of similar climates, have similar landscapes and wildlife. Biomes are shown on the map.

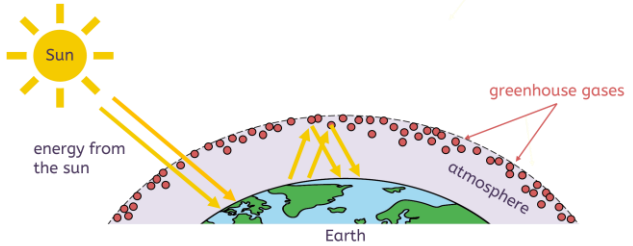
Key Vocabulary

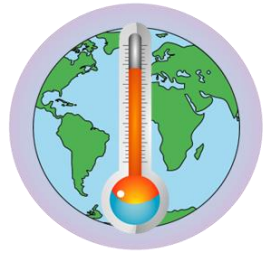
- **greenhouse gases** – gases such as carbon dioxide that trap heat within the atmosphere
- **the greenhouse effect** – the natural warming of the planet to its habitable temperature, caused by trapping heat in the Earth's atmosphere
- **the enhanced greenhouse effect –** the unnatural warming of the Earth due to increased greenhouse gases in the atmosphere
- **global warming** – the increase of average temperatures on Earth; this happens naturally but happens faster due to the enhanced greenhouse effect
- **climate change** – the change in the Earth's long-term weather patterns, including precipitation, wind and temperature
- **fossil fuel** – a (chemical) store of energy formed over millions of years from dead plants and animals

Introduction to global climate

Global warming







The **greenhouse effect** is the **natural process, which** has always taken place, that keeps the Earth warm. Without it, the Earth would be too cold to live on.

The light and heat energy are trapped in the atmosphere by greenhouse gases, such as carbon dioxide. This warms the Earth.

The **enhanced greenhouse effect** causes an **unnatural increase in temperature**. Human activities (such as burning fossil fuels, transport, waste, agriculture, deforestation) increase the amount of greenhouse gases in the atmosphere. The Earth warms more quickly, and global warming increases.

Accelerated global warming can also lead to other changes in the Earth's long-term weather patterns, such as precipitation, wind and storms. The changes to the Earth's wider climate – not just temperature – are called **climate change**.

The causes of climate change

Climate change is caused by:

- burning fossil fuels for transport and electricity generation, which releases greenhouse gases
- deforestation, which reduces the absorption of greenhouse gases
- agriculture and waste disposal, which release greenhouse gases


deforestation


electricity generation


transport

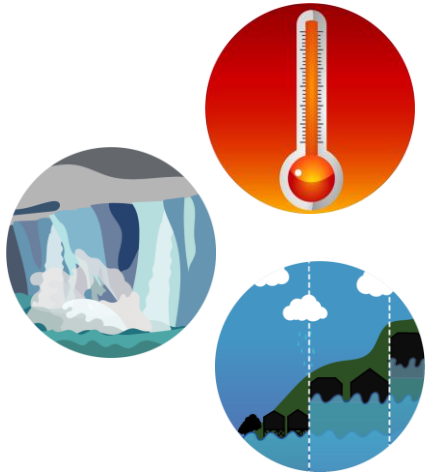

agriculture


waste

The effects of climate change

Climate change can cause:

- more extreme weather events, such as heatwaves
- melting sea ice and ice caps
- rising sea levels and flooding of coastal areas



7.03: Development

Background

	Across the world, the standard of living and quality of life can be very different.
A	**Countries therefore have different classifications based on the quality of life within them.**
B	**How developed a country is can be measured in different ways.**
C	**Development levels can vary within and between countries. There are many reasons why some countries are more developed than others.**
D,E	**Countries can become more developed in many ways, including through economic growth from tourism, top-down development projects and bottom-up development projects.**

A) Country classification

1	**developed**	(n) countries with high standards of living, advanced infrastructure and strong economies.
2	**emerging**	(n) countries transitioning between developing and developed, showing rapid improvements in infrastructure.
3	**developing**	(n) countries with lower standards of living, less advanced infrastructure and economies that are growing but not yet strong.

B) Measuring development

1	**GNI per capita**	(n) the average income of a country's citizens.
2	**infant mortality rate**	(n) the number of babies that do not survive to one year old per 1,000 births.
3	**life expectancy**	(n) the average number of years a person is expected to live.
4	**literacy rate**	(n) the percentage of people in a specific age group, typically aged 15 and above, who can read and write.
5	**average years of schooling**	(n) the average number of years of education that individuals aged 25 and older have completed.
6	**Human Development Index (HDI)**	(n) a composite measure of development that is used to categorise the development of countries using GNI per capita, life expectancy and average years of schooling.

C) Factors that hinder development

Human	Physical
uneven distribution of income	challenging relief
corruption	extreme climate
conflict	lack of natural resources
low-value goods and services for trade	landlocked
high levels of debt	tectonic hazards
poor education systems	extreme weather
poor healthcare systems	lack of water resources

D and E) Development Projects

D) Top-down project: The Grand Inga Dam DRC

Advantages	Disadvantages
It provides a reliable source of renewable energy for the DRC.	It would flood 22,000 hectares of land in the Bundi Valley.
It provides electricity for Kinshasa at a lost cost.	Natural habitats will be destroyed by the reservoir.
It produces electricity that the DRC can sell the other countries.	35,000 people would be displaced from their homes by the dam reservoir.
It produces electricity to power more coltan and copper mines.	Electricity will be sold to other countries, and many people in rural DRC will still be without electricity.

E) Bottom-up project: WECAN DRC

Advantages	Disadvantages
It protects the habitats of 100,000 species of animals and plants.	It is small scale, so it has limited reach.
It empowers indigenous women.	It does not stop illegal logging.
Women earn money from selling fruit and herbs from the trees planted.	The project currently supports only 700 women.
It reduces the impact of climate change through reforestation.	It takes a long time for the full benefits to be achieved.

7.04 Rivers

Background

Rivers affect the landscape and the lives of the people who live near them.

A	**Rivers are found within their own drainage basin and have their own distinct features.**
B	**As a river moves from its source in the upper course to its mouth in the lower course, its profile changes.**
C	**There are many different river processes that can impact the landscape.**
D–F	**The processes of erosion and deposition can lead to the formation of different river landforms.**
G	**Flooding is a key feature of rivers, and drainage basin processes play a significant role in this. By altering the drainage basin of a river, we can interfere with these processes.**
H	**There are many examples of floods. Today, many strategies have been put in place to manage the flood risk.**

A) Drainage basin features

1	**drainage basin**	**(n)** an area of land drained by a river and its tributaries
2	**source**	(n) the start of a river
3	**mouth**	(n) the place where the river enters a lake, sea or ocean
4	**tributary**	(n) a smaller river that joins a larger river
5	**confluence**	(n) the point at which two or more rivers meet
6	**watershed**	(n) the dividing line between two drainage basins

B) The river profile

1	**upper course**	the narrow, steep, upper part of a river, which contains waterfalls
2	**middle course**	the wider, deeper channel, which contains meanders and oxbow lakes
3	**lower course**	the widest, flattest part of the river near the mouth, which contains the floodplain.

C) River processes

	river load	(n) the material carried along in the river
1	**erosion**	(n) the breaking down or wearing away of material.
	vertical erosion	(n) erosion which takes place downwards into the land.
	lateral erosion	(n) when erosion moves across the land from side to side, causing the bends of meanders to widen.
2	**transportation**	(n) when rivers carry rocks and sediment along their journey
3	**deposition**	(n) when a river drops its load

D) River features - waterfalls

1	**waterfalls**	**(n)** water falling from a height when a river or stream flows over a steep drop (upper course)
2	**plunge pool**	(n) an area at the base of a waterfall that undercuts the hard rock layer
3	**gorge**	(n) a steep sided valley left behind when a waterfall retreats upstream

E) River features - meanders

1	**meander**	(n) a bend in a river (middle course)
2	**slip-off slope**	(n) the sloping bend of a meander from the inside (shallow) to the outside (deep)
3	**river cliff**	(n) the undercut bank on the outside bend of a meander

F) River features - floodplains

1	**floodplain**	(n) a wide, flat area of land that is flooded frequently when a river bursts its banks (lower course)
2	**levee**	(n) banks found at the side of a river in the lower course
3	**silt**	(n) the fine, fertile eroded material transported by a river

G) The drainage basin system

1	**precipitation**	(n) water falling to the ground in all forms (rain, snow, sleet and hail)
2	**interception**	(n) when the leaves of trees stop precipitation reaching the ground
3	**surface runoff**	(n) the movement of water over the surface of the land back into a river
4	**surface storage**	(n) water stored on the surface in lakes or puddles
5	**infiltration**	(n) the movement of water from the surface into the soil
6	**throughflow**	(n) the movement of water through the soil back into the river

H) Case study: Somerset levels UK

Where/when	Southwest England, flood 2014 Rivers Parrett and Tone	
Causes	Effects	Responses
deforestation on the floodplain	600 homes flooded	20,000 sandbags provided to protect homes
saturated ground from heavy rainfall	£200 million lost from the collapse of the tourist industry	65 pumps installed to drain millions of cubic metres of floodwater
low-lying land with four rivers flowing through it	6,800 hectares of agricultural land flooded	Hundreds of people were evacuated from their homes.
build-up of sediment in the channel from lack of dredging	Native bird species couldn't hunt on the flooded ground.	The Environmental Agency is spending £6 million a year on dredging the rivers Parrett and Tone.

7.05: World of work

Background

A	**The world of work can be classified into four different employment sectors.**
B	**Many factors influence the type of employment sector which will be found within a particular country.**
C	**Industrial location is influenced by some key factors, which are more important for some industries in comparison to others.**
D	**Employment structure within countries varies based upon the level of development.**
E	**Trade, imports and exports.**
F	**Employment sectors and impact of industry in Russia.**

A) Employment sectors

1	**employment**	(n) when people are in work, receiving a wage and paying tax.
2	**unemployment**	(n) when people are not in work, therefore do not receive a wage and do not pay tax.
3	**primary industries**	(n) industries which collect or extract natural resources from the environment, such as farming or fishing.
4	**secondary industries**	(n) industries which manufacture goods into products, such as builders, car manufacturers or food processing
5	**tertiary industries**	(n) industries that provide a service, such as teachers, doctors, sales, hairdressers or bus drivers.
6	**quaternary industries**	(n) industries that involve using technology, design and research, including computer scientists, game designers, computer engineers and research scientists.

B) Influences on employment structures

1	**industrialisation**	(n) a move from primary employment to secondary employment, with a rise in manufacturing.
2	**mechanisation**	(n) when machinery begins to do the jobs which once required humans.
3	**disposable income**	(n) the money a person has left to spend after they have paid all their bills.
4	**public services**	(n) a service that is given or funded for the benefit of the community.

C) The location of industries

1	**site**	(n) the actual place where a settlement first grew up. This refers mainly to its physical setting.
2	**situation**	(n) the location of a place relative to other features nearby.
3	**footloose**	(adj) industries which are not tied to a specific location and can operate from anywhere.
4	**raw materials**	(n) natural resources that are used to make other things.
5	**labour**	(n) workers, employed people.
6	**market**	(n) a place where things are bought and sold.

E) Trade

1	**trade**	(n) the exchange of goods and materials between countries.
2	**import**	(v) goods brought into a country.
3	**export**	(v) sending goods to another country for sale.
4	**trade bloc**	(n) an arrangement in which participant countries lower trade barriers with one another.
5	**tariff**	(n) a tax imposed on goods when they are imported or exported between countries.

D) Employment structures and development

Countries	Industries
developing countries	Large primary sector, growing secondary sector and a moderate tertiary sector.
emerging countries	large secondary sector, rapidly falling primary sector and growing tertiary sector.
developed countries	A large tertiary sector, a growing quaternary sector, both secondary and primary employment is low.

Change	Cause
Falling primary and secondary sector	1. Cheaper to import. 2. Mechanisation has taken jobs. 3. Raw materials have been exhausted in certain areas.
Growing tertiary sector	1. Disposable income has increased, so a greater demand for services. 2. A large public sector e.g. health and education, due to a high tax revenue.

F) Case study: World of work in Russia

Factors effecting trade in Russia	
Opportunities	**Challenges**
With a working population of over 75 million people, Russia has one of the largest workforces in the world.	Russia is at war with Ukraine which affects international relationships.
The Steppe and temperate woodlands of western Russia are fertile and flat.	Russia has the largest land mass of any country.
Russia has an extensive network of roads, railways, ports and pipelines.	Russia does not have a warm water port.
Russia has vast reserves of natural resources including oil and natural gas.	Many countries aim to buy and use less oil and natural gas in the future to mitigate the effects of climate change.
Russia's education system puts a strong focus on science, technology, engineering and maths (STEM).	