



ChrisQuigley
Education



Curriculum Companion

Geography

By Chris Quigley

Curriculum Companion

GEOGRAPHY

by Chris Quigley



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Education

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Contents

User guide	7
Introduction	8
Building a geography schema	9
Knowledge categories in the milestones	21
The route to a schema	26
What is a knowledge web?	27
What is a POP task?	28
How to use this companion	29
Milestone 1: Knowledge webs and POP tasks	31
Milestone 2: Knowledge webs and POP tasks	85
Milestone 3: Knowledge webs and POP tasks	137
Additional vocabulary	181
Subject leader resources	189
An example subject policy	190
Questions to prepare for school inspection	196
Subject effectiveness report template	198

Milestone 1: Knowledge webs and POP tasks

Mapping the world	34	Continents and oceans	58
Describing maps of the world 1	35	The Arctic Ocean	60
Describing maps of the world 2	36	The Atlantic Ocean	61
The United Kingdom	38	The Pacific Ocean	62
The United Kingdom: England	40	The Indian Ocean	63
The United Kingdom: Scotland	42	The Southern Ocean	64
The United Kingdom: Wales	44	Climate	66
The United Kingdom: Northern Ireland	46	Weather	69
England: London	48	Extreme weather	70
England: Newcastle upon Tyne	50	Australia	72
Scotland: Edinburgh	52	Australia: Aboriginal people	74
Wales: Cardiff	54	Australia: animals	76
Northern Ireland: Belfast	56	Australia: Great Barrier Reef	78
		Australia: Sydney	80
		Australia: Daintree Rainforest	82

Milestone 2: Knowledge webs and POP tasks

Describing maps of the world 1	88	International trade: food	118
Describing maps of the world 2	89	International trade: natural resources	120
Describing maps of the world 3	90	International trade: tourism	122
Europe	92	Earthquakes and volcanoes: plate tectonics	124
Europe: population	94	Earthquakes and volcanoes: the Pacific Ring of Fire	126
Europe: rivers	96	Earthquakes and volcanoes: impact	128
Europe: mountains	98	The water cycle: the cycle	130
Landscapes: weathering	100	The water cycle: clouds and precipitation	132
Landscapes: rivers	102	Climate change	134
Landscapes: mountains	104		
Erosion and deposition: rivers	106		
Erosion and deposition: coasts	108		
Erosion and deposition: management	110		
Transportation: cities	112		
Transportation: national	114		
Transportation: international	116		

Milestone 3: Knowledge webs and POP tasks

Using maps: features	140	North America	161
Using maps: four-figure grid references	143	North America: population	164
Using maps: six-figure grid references	144	North America: rivers	166
Ocean currents	146	North America: mountains	168
Biomes and climate zones	148	South America	172
Tropical rainforest biome	149	South America: population	174
Temperate deciduous forest biome	150	South America: rivers	176
Desert biome	151	South America: mountains	178
Tundra biome	152		
Taiga biome	153		
Grassland biome	154		
Savannah biome	155		
Marine biome	156		
Freshwater biome	157		
Ice biome	158		

User Guide

Introduction

This *Curriculum Companion* for geography is designed to aid teachers in helping pupils to form a geography schema within their long-term memories. It also helps pupils to meet the milestones in *The Essentials Curriculum: Threshold Concepts for long-term memory* (available from Chris Quigley Education). *The Essentials Curriculum* follows a simple model:

- **breadth of study** – the topics pupils will study
- **threshold concepts** – the ‘big ideas’ in geography that pupils will explore through every topic (Investigate places, Investigate patterns and Communicate geographically)
- **milestones** – the goals pupils should reach to show that they are meeting the expectations of the curriculum.

Meeting the milestones

Milestones are the goals that pupils are aiming for. However, the route to the goals is not as simple as stating the goal. Pupils need a strong schema, based on knowledge, vocabulary and tasks, to meet the milestones.

This *Curriculum Companion* provides teachers with three elements to help pupils to meet the milestones:

- the **knowledge** needed to build a geography schema (presented in various knowledge categories)
- the **vocabulary** needed to articulate an understanding of geography
- **POP tasks** (Proof of Progress).

In addition, to help with the leadership of the subject, this *Curriculum Companion* provides:

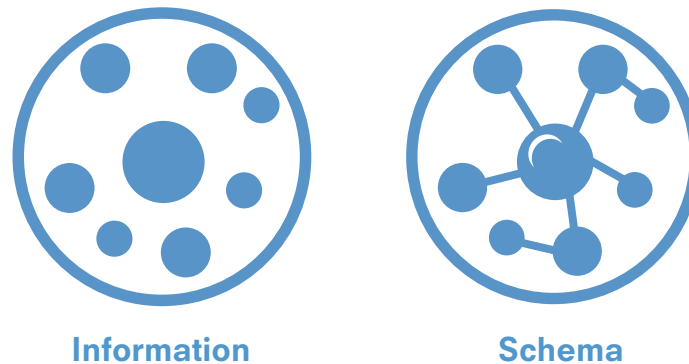
- an example subject policy
- questions to think about in preparation for school inspection
- a subject effectiveness report template.

Building a geography schema

What is a schema?

Schema theory states that all knowledge is organised into units. A schema is, therefore, a conceptual system for understanding knowledge.

A subject schema is a way of organising knowledge in a meaningful way; it is an appreciation of how facts are connected and the ways in which they are connected. A schema is distinct from information, which is just isolated facts that have no organisational basis or links. The diagram below shows the difference between information and a schema.

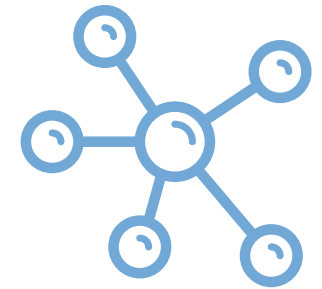


Information

Schema

This *Curriculum Companion* for geography helps teachers to help their pupils form a geography schema by:

- using concepts as the basis for the schema
- strengthening the schema with knowledge
- further deepening connections through tasks.



Knowledge categories explained



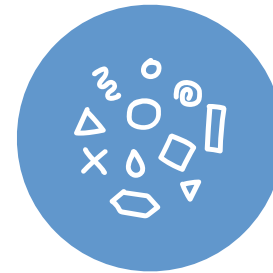
Location



Physical features



Human features



Diversity



Physical processes



Human processes



Techniques

What is a knowledge web?

A schema is created when pupils organise knowledge into meaningful units. Knowledge webs present topics around the threshold concepts (big ideas) in geography by using relevant knowledge categories. The example below shows how the topic for the Tropical rainforest biome has been presented using the relevant knowledge categories of location, physical features, diversity and human processes.

Tropical rainforest biome



Quick summary

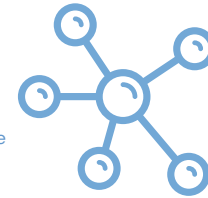


Tropical rainforests are rainforests that occur in the equatorial and sub-equatorial climate zones, which are in the tropics. They are hot, wet places with high levels of precipitation – sometimes up to 10 metres (33 ft) of rain can fall in a year.



Vocabulary

equatorial: at the equator
sub-equatorial: close to the equator
precipitation: rain, snow, sleet or hail
emergents: tall trees growing above the canopy
canopy: the thick layer of leaves covering a rainforest
under storey: trees just below the canopy
deforestation: cutting down large areas of trees



Location

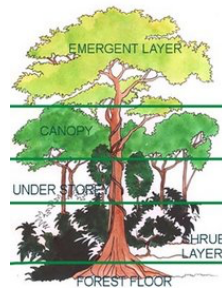


The countries in which the top five largest rainforests are located:

- Brazil
- Democratic Republic of the Congo
- Indonesia
- Peru
- Colombia



Physical features



Of the animals and reptiles in the rainforest, 80 per cent live in the canopy.



Human processes

We get many items of food such as bananas, chocolate, coffee, nuts, coconut, cinnamon and rubber from the rainforests. About 25 per cent of the medicines we use come from plants in the rainforest. Deforestation is a major problem for the world's climate.



Diversity

Animals and reptiles that live in rainforest habitats include: boa constrictor, capybara, forest elephant, giant anteater, jaguar, macaw, marmoset, poison dart frog, sloth, spider monkey, tamarin, tapir, toucan and tree frog.

Insects and bugs that live in rainforest habitats include: clear winged butterfly, dragonfly, goliath bird eater spider, leaf insect, leafcutter ant and long-horned beetle.

Trees and plants that live in rainforests include: bromeliad, cacao tree, carnivorous plants, epiphytes, lianas (vines), orchid and rubber tree.



Location



Physical features



Human features



Diversity



Physical processes



Human processes

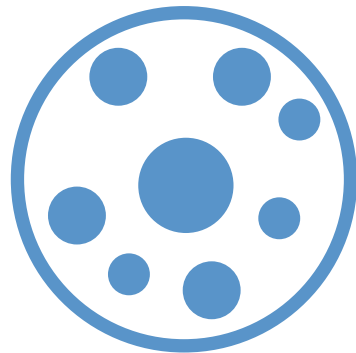


Techniques

What is a POP task?

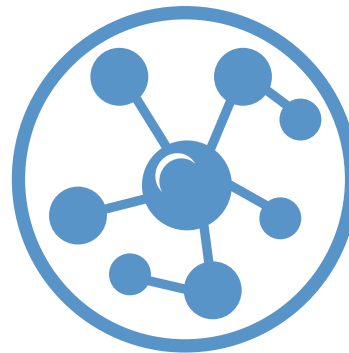
POP is an acronym for Proof of Progress. POP tasks further deepen connections in a schema by gradually changing the nature of thinking. POP tasks are categorised into three cognitive domains: basic, advancing and deep.

The way that they build the schema is represented in the diagram below:



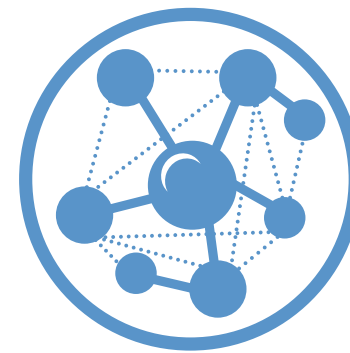
Basic tasks

First year of the milestone



Advancing tasks

Second year of the milestone



Deep tasks

Second year of the milestone if a schema is strong

How to use this companion

We recommend this companion is used in the following way:

Choose the knowledge webs that you wish to use to build a geography schema

We recommend you use as many as possible so that pupils re-visit the knowledge categories in many different ways. Each knowledge web is not intended to be used as an 'in-depth' topic. Instead, they should be viewed as 'micro-topics' used to reinforce schema concepts and knowledge. We also recommend re-visiting the same topics in both years of a milestone so that pupils have a chance to connect topics together.

Create activities to help pupils understand the knowledge in the knowledge webs

It is very important that the knowledge webs **are not** seen as a 'fact sheet' whereby, if pupils can recite the facts, they are judged to have learned something. Instead, teachers must use their professional expertise to create appropriate lessons to convey the knowledge.

Use the POP tasks to further strengthen the schema

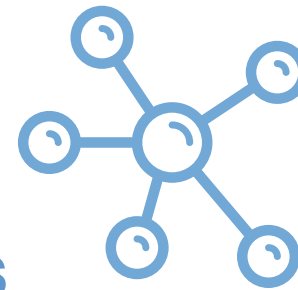
To help create appropriate activities that prove pupils are forming a stronger schema, use the POP tasks as follows:

- basic – in the first year of a milestone
- advancing – in the second year of a milestone
- deep – in the second year of a milestone once pupils have a strong schema.

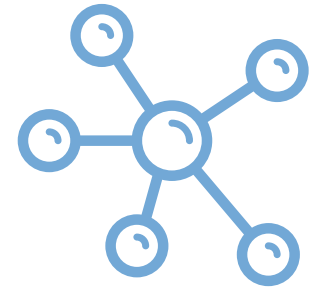
It is not intended that pupils move through the basic, advancing and deep POP tasks within the time-frame of one exploration of the topic.

Milestone 1:

Knowledge webs and POP tasks



Mapping the world



Quick summary



The **Earth** is the planet on which we live. It is a giant sphere.



Techniques

A technique is a method of doing something.



A **globe** is a sphere which shows the surface of the Earth.



Maps are pictures on flat pieces of paper, or on a screen, showing features of the Earth.



Atlases are books full of maps and information about the Earth.



Satellites are objects sent into space. Some of them take photographs of the Earth. The photographs are called **satellite images**. This is an image of a hurricane – a violent wind storm found in some parts of the world.



Location



Physical features



Human features



Diversity



Physical processes

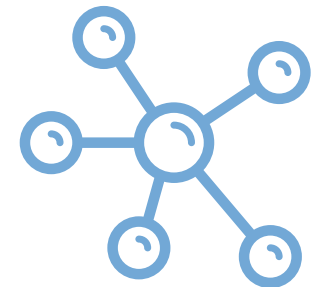


Human processes



Techniques

Describing maps of the world: 1



Map makers use terms to describe where in the world places are. These are some of the basic terms they use.

Quick summary

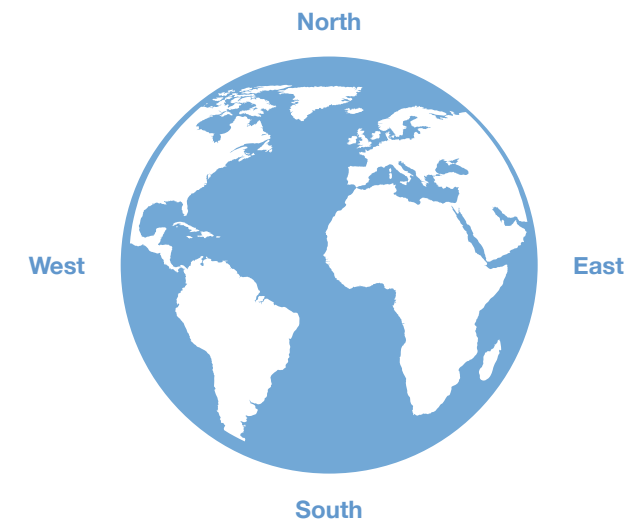
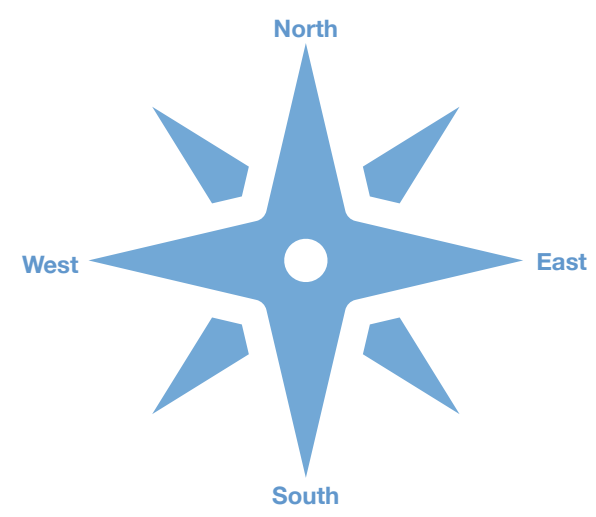


Techniques

A technique is a method of doing something.

The compass rose
A compass gives directions. The main directions are north, east, south and west.

When looking at images of the Earth we also use the same direction words.



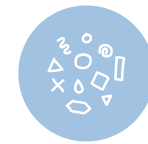
Location



Physical features



Human features



Diversity



Physical processes

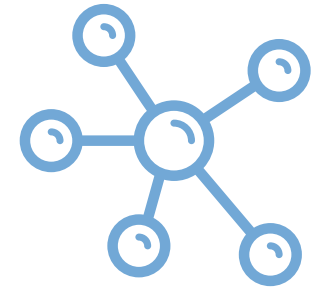


Human processes



Techniques

Describing maps of the world: 2



Quick summary

Map makers use terms to describe where in the world places are. These are some of the basic terms they use.

The Earth rotates (spins) on its axis.

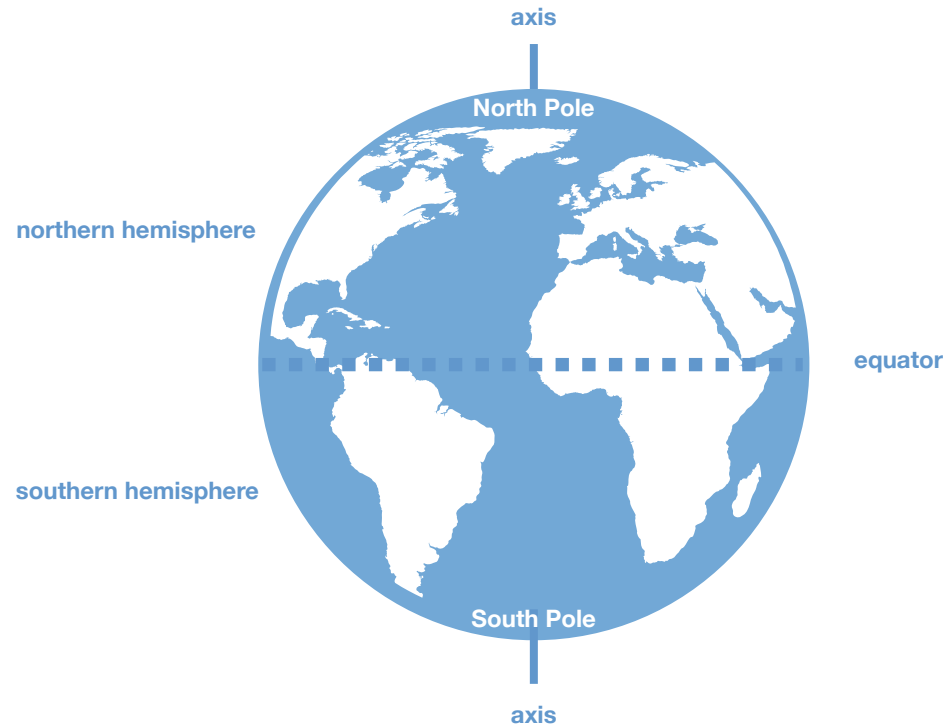
The Earth has two poles: the North and the South Pole. They are not poles like long pieces of wood but poles like those that magnets have. This is because the Earth is a giant magnet with a core of iron.



Techniques

A technique is a method of doing something.

Halfway between the North and South Poles is an imaginary line called the equator. Everything north of the equator is in the northern hemisphere and everything south of the equator is in the southern hemisphere.



Location



Physical features



Human features



Diversity



Physical processes




Human processes



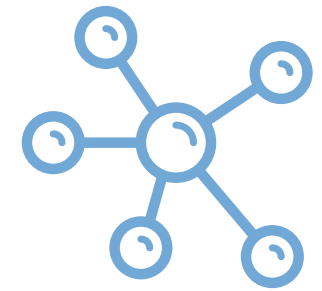
Techniques

POP tasks: Milestone 1 – Describing maps of the world

Students will increase their understanding of the concepts in this topic by exploring:

	Basic	Advancing	Deep
 <p>Techniques</p>	<ul style="list-style-type: none">• What is a globe?• What is a map?• What is an atlas?• What is a satellite image?• Label a compass rose showing: north, south, west and east.• Label an image of Earth showing: north, south, west and east.• Label an image of Earth showing: North Pole, South Pole, axis, equator, northern hemisphere and southern hemisphere.	<ul style="list-style-type: none">• Compare and contrast a map of Earth with a satellite image.• Point out the main differences between a globe and a map.• Use an atlas and explain the method to find the:<ul style="list-style-type: none">• United Kingdom• five oceans• seven continents• location of the school.	<ul style="list-style-type: none">• Recommend the best technique to track the course of a hurricane.• True or false? Maps are more detailed than globes.• Do you agree? Satellite images are not very useful for giving day-to-day directions from one place to another.

The United Kingdom



Quick summary



The United Kingdom of Great Britain and Northern Ireland (UK) is made up of four countries. England and Wales united in 1284. Scotland became part of the union in 1707 and Northern Ireland in 1921. **England, Wales** and **Scotland** are known as Great Britain. **Northern Ireland** is part of the island of Ireland. The flag of the United Kingdom is called the Union Flag and is red, white and blue. When flown at sea, the flag is known as the Union Jack. The UK has a monarchy and a democratic government. The queen is Queen Elizabeth II and first in line to the throne is her eldest son, Prince Charles.



Location

The UK is part of the continent of Europe. Seas that surround the UK are: the Irish Sea and the Atlantic Ocean to the west, the North Sea to the east and, separating the UK and France to the south, the English Channel (called La Manche by the French).

The UK is part of the British Isles – an archipelago in the North Atlantic Ocean made up of Great Britain and over six thousand smaller islands.



Vocabulary

united: joined together

union: the joining together of different groups

monarchy: the king or queen and royal family

democratic: relating to a form of government in which people choose the leaders by voting

government: the group of people who make the laws in a country

archipelago: a group of islands



Location



Physical features



Human features



Diversity



Physical processes




Human processes



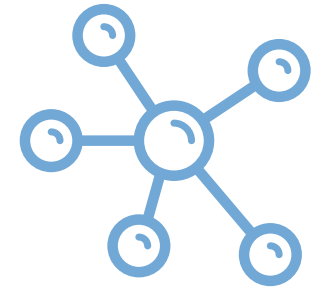
Techniques

POP tasks: Milestone 1 – The United Kingdom

Students will increase their understanding of the concepts in this topic by exploring:

	Basic	Advancing	Deep
 <p>Location</p>	<ul style="list-style-type: none"> • List (and show on a map) the countries that make up: <ul style="list-style-type: none"> • Great Britain • The United Kingdom • The British Isles. • In which ocean is the United Kingdom? • Which country is south of the United Kingdom? • What is an archipelago? • What does it mean if a country is described as a union? • What is a monarchy? • What is a democratic government? 	<ul style="list-style-type: none"> • Describe the geographical location of the United Kingdom. • Point out the differences between the make up of: <ul style="list-style-type: none"> • Great Britain • the United Kingdom • the British Isles. • Explain some of the features of the United Kingdom's government. • Compare and contrast a republic (e.g. the Republic of Ireland) with a monarchy (e.g. the United Kingdom). 	<ul style="list-style-type: none"> • True or false? Great Britain is an island. • Investigate some of the most remote islands of the British Isles archipelago. • Suggest reasons why people may live in remote areas of the British Isles.

Continents and oceans



Quick summary

The biggest continent is Asia and the biggest ocean is the Pacific. Oceans are made up of saline water and cover about three quarters of the Earth's surface. Oceans contain hundreds of thousands of known species. Oceans that are enclosed are called seas. The closest seas to the UK are the North Sea, Irish Sea and the English Channel.



Physical features

- The Earth is the planet on which we live.
- It is a sphere.
- It has a core, mantle and crust.
- The crust is the rock that covers the entire surface of the Earth.
- Below the crust is the mantle which is made of hot liquid rock called magma.
- Some of the crust is submerged by the oceans of the world.
- Under the oceans there are some high mountains and deep trenches that cannot be seen from the land.
- The part of the crust that is not submerged by the oceans is called land.
- Some of the land has formed into high mountains and some into low valleys
- Land is divided into continents, which are very large areas of land.



Human features

Continents usually have many countries within them, apart from Australia which is a continent and a country. Antarctica has no countries and no inhabitants as it is a landmass entirely covered in ice. Because the country of India is so big, it is called the Indian sub-continent of Asia.



Vocabulary

- continent:** a large area of land
- ocean:** a large area of saline water
- saline:** salty
- species:** plants or animals
- enclosed:** surrounded by something
- seas:** smaller, enclosed or partly enclosed areas of saline water
- magma:** hot, liquid rock
- submerged:** covered by water



Location



Physical features



Human features



Diversity



Physical processes






Human processes



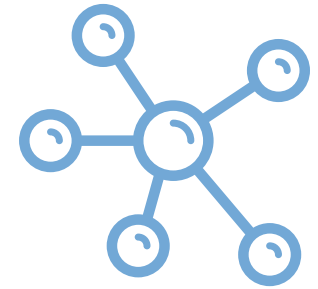
Techniques

POP tasks: Milestone 1 – Continents and oceans

Students will increase their understanding of the concepts in this topic by exploring:

	Basic	Advancing	Deep
 <p>Location</p>	<ul style="list-style-type: none"> • Locate and mark on a map the seven continents. • Locate and mark on a map the five oceans. • What are the closest seas to the United Kingdom? 	<ul style="list-style-type: none"> • Organise the continents in order of size. • Organise the oceans in order of size. 	<ul style="list-style-type: none"> • Which best describes the location of the continent of Africa: <ul style="list-style-type: none"> • the second biggest continent • a continent in the northern and southern hemisphere • a poor continent?
 <p>Physical features</p>	<ul style="list-style-type: none"> • What is the part of the Earth's crust that is not submerged by water? • What is a continent? • Which is the biggest continent? • What does 'saline' mean? • What are oceans that are enclosed called? 	<ul style="list-style-type: none"> • Explain the difference between: <ul style="list-style-type: none"> • a continent and a country • an ocean and a sea. 	<ul style="list-style-type: none"> • True or false? Land floats on the oceans.
 <p>Human features</p>	<ul style="list-style-type: none"> • What is a country? • Which continent is uninhabited? 	<ul style="list-style-type: none"> • Explain why Antarctica is not inhabited. 	<ul style="list-style-type: none"> • True or false? Countries would not exist without people but continents would.

Extreme weather



No matter where on Earth you go, weather can sometimes cause disruption. Even in the UK we sometimes have extreme weather conditions. Here are some extremes of weather.

Quick summary



Physical processes



Techniques



Sunny



Rain



Snow



Windy



Vocabulary

heatwave: a long period of extremely hot weather

drought: a lack of water due to hot weather

flood: a large amount of water covering places that are usually dry

monsoon: seasonal heavy rain in the continent of Asia

blizzard: heavy snow, usually with wind

gale/storm: strong winds

cyclone/hurricane: very strong winds in a circular pattern

tornado/twister: a large column of rotating air



Heatwave



Flood



Blizzard



Gale/storm



Cyclone/hurricane



Tornado/twister



Drought



Monsoon



Location



Physical features



Human features



Diversity



Physical processes





Human processes



Techniques

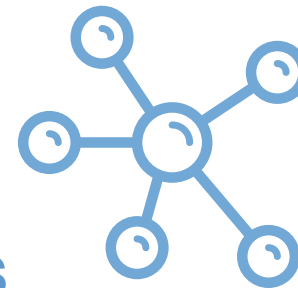
POP tasks: Milestone 1 – Weather

Students will increase their understanding of the concepts in this topic by exploring:

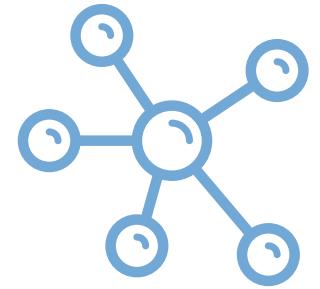
	Basic	Advancing	Deep
 <p>Physical processes</p>	<ul style="list-style-type: none"> • Observe and record the weather for a whole school year. • Define the word 'weather'. • Where does the physical process of weather take place? • What is the atmosphere? • Define the word 'climate'. • What is a physical process? • What is a heatwave? • What is a drought? • What is a flood? • What is a monsoon? • What is a blizzard? • What is a gale (or storm)? • What is a cyclone (or hurricane)? • What is a tornado (or twister)? 	<ul style="list-style-type: none"> • Compare and contrast three different types of extreme weather. • Compare and contrast the weather across all four seasons. • Summarise the effect of floods from monsoons in Bangladesh. 	<ul style="list-style-type: none"> • Always, sometimes or never? It is hot in summer and cold in winter. • Do you agree? A drought is less damaging than a flood.
 <p>Techniques</p>	<ul style="list-style-type: none"> • Label common weather symbols. • Label common extreme weather symbols. 	<ul style="list-style-type: none"> • Categorise types of weather in different ways. (Teacher note: e.g. mild, stormy, fair, extreme.) 	<ul style="list-style-type: none"> • Which mapping technique is most useful for weather forecasting: <ul style="list-style-type: none"> • globes • satellite images • weather symbols?

Milestone 2:

Knowledge webs and POP tasks



Describing maps of the world: 1



These are some more advanced terms used by map makers to describe where places are.

Quick summary

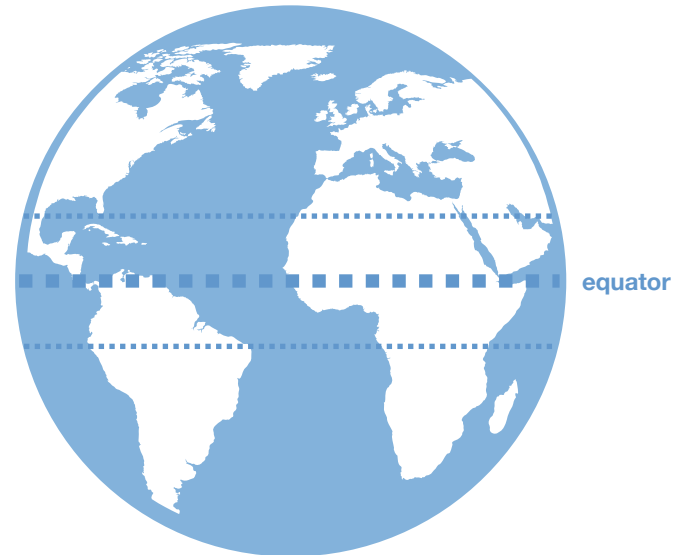


Techniques

Near to the equator are two more imaginary lines called the Tropic of Cancer and the Tropic of Capricorn.

Places between the Tropics of Cancer and Capricorn are known as tropical. They have a hot climate all year round.

Tropic of Cancer
Tropic of Capricorn



Location



Physical features



Human features



Diversity



Physical processes

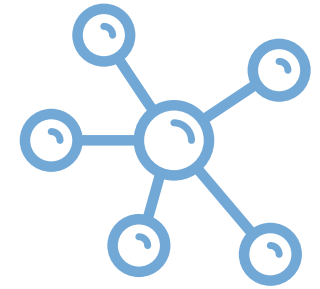


Human processes



Techniques

Describing maps of the world: 2



Quick summary

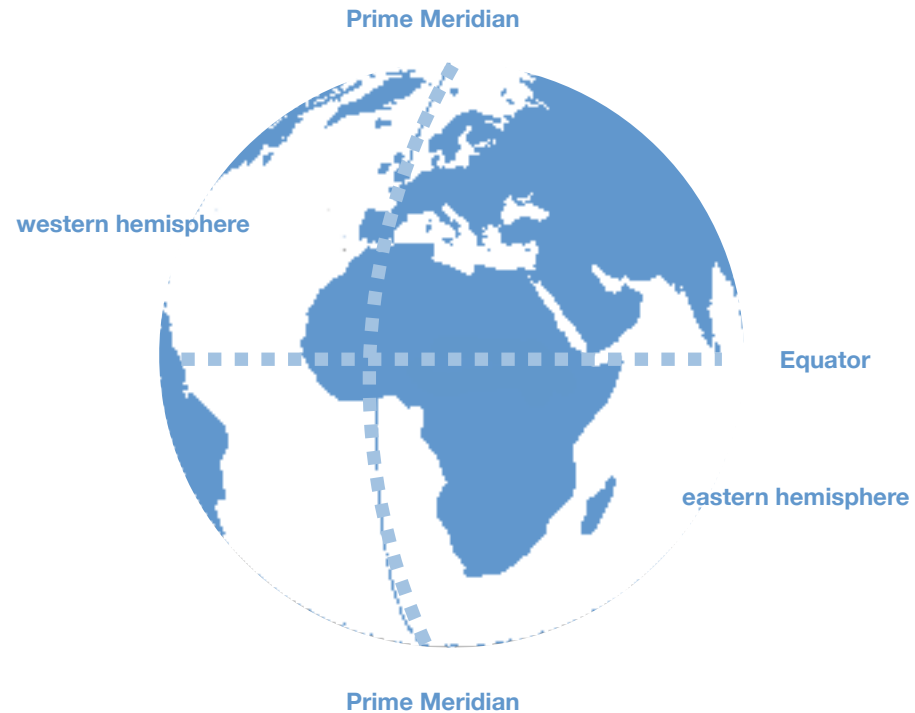
These are some more advanced terms used by map makers to describe where places are.



Techniques

Running from north to south is another imaginary line called the Prime Meridian.

This splits the Earth into two more hemispheres: the western hemisphere and the eastern hemisphere.



Location



Physical features



Human features



Diversity



Physical processes

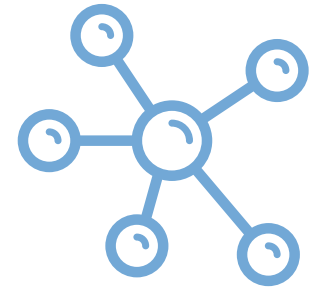


Human processes



Techniques

Describing maps of the world: 3

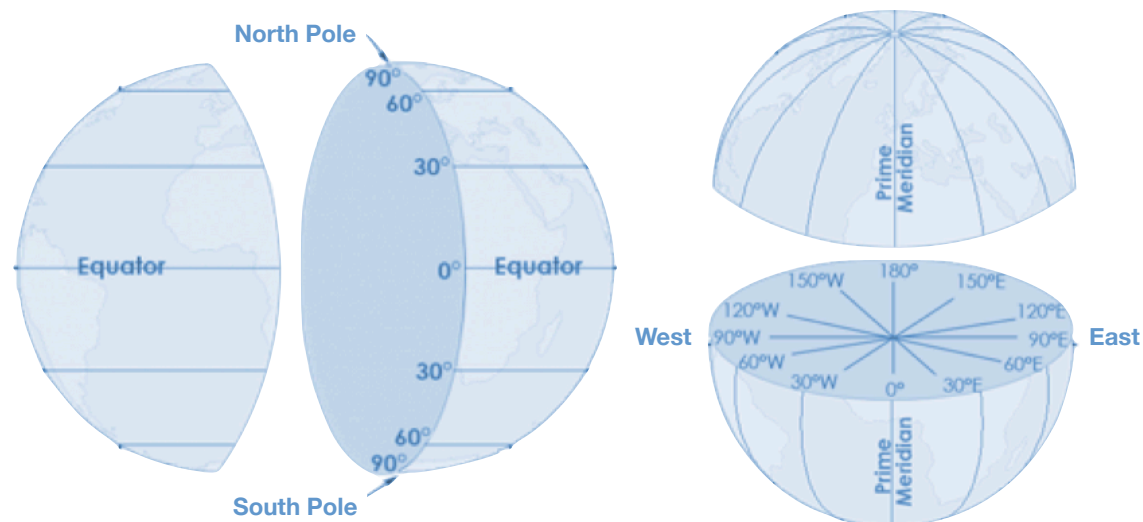


Latitude and longitude are a system of lines used to describe the location of any place on Earth. Lines of latitude run in an east–west direction across Earth. Lines of longitude run in a north–south direction.

Quick summary



Techniques



Location



Physical features



Human features



Diversity



Physical processes




Human processes



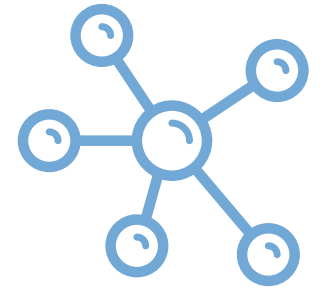
Techniques

POP tasks: Milestone 2 – Describing maps of the world

Students will increase their understanding of the concepts in this topic by exploring:

	Basic	Advancing	Deep
 <p>Techniques</p>	<ul style="list-style-type: none">• Locate and label the equator and the tropics.• Describe the climate in the tropics.• Locate and label the prime meridian.• What is the prime meridian?• Label the western and eastern hemispheres.• What are the names of the lines used to describe any place on Earth?• Label these lines on a diagram of the Earth.	<ul style="list-style-type: none">• Apply your knowledge of map techniques to describe the locations of:<ul style="list-style-type: none">• Greenwich in the United Kingdom• your school• the capital cities of the four countries of the United Kingdom• five European capital cities.	<ul style="list-style-type: none">• Relate your knowledge of lines of longitude to time zones by:<ul style="list-style-type: none">• explaining the concept of time zones• investigating the international date line and its relationship to the prime meridian.

Europe: rivers



Quick summary



There are five primary rivers in Europe: the Volga, the Danube, the Rhine, the Elbe and the Loire. The Volga and the Danube are the longest rivers in Europe but there are longer rivers than the Rhine, Elbe and Loire. However, many see these three as very important rivers. Europe has numerous other rivers. For example, the Thames, which runs through London; the Seine, which runs through Paris and the Rhône, which flows through Germany and France. The Po is Italy's longest river, traversing the northern part of the country to the Adriatic Sea, and the Oder River stretches across the Czech Republic and Poland, ending in the Baltic Sea.



Location

The **Volga** is the longest river in Europe, stretching 2,294 miles (3,691 km) across Russia. It flows from its source in the remote Valdai Hills to the Caspian Sea, and half of Russia's river cargo is transported along the river. The **Danube**, at 1,780 miles (2,865 km) long, is the second longest river in Europe. The river stretches through ten countries: Germany, Hungary, Serbia, Croatia, Austria, Slovakia, Romania, Moldova, Ukraine and Bulgaria. It flows through several cities, such as Vienna and Budapest, and drains into its delta in the Black Sea. It is the most important commercial waterway in Europe. The **Rhine** flows 766 miles (1,233 km) from its source in the Swiss Alps. It flows northwest from the mountains into the lowlands, crossing Germany, France, the Netherlands and Liechtenstein before coming to an end in the North Sea. The **Elbe** has its source in the Czech Republic and flows through towns such as Prague. It then flows northwest through Germany to the North Sea. It is 724 miles (1,165 km) in length. The **Loire** runs north from its source in the the Massif Central (a highland region in the middle of southern France) to Orleans and then west to the Atlantic Ocean. It is 629 miles (1,012 km) long. The Loire Valley is famous for its wines and historic towns.



Physical features

The Black Sea, into which the Danube flows, and the Caspian Sea, into which the Volga flows, are both landlocked seas. This means that they are surrounded by land. Another landlocked sea is the Dead Sea between Jordan, Israel and the West Bank.



Vocabulary

primary: important
numerous: many
traversing: crossing
source: where something comes from
remote: far away from towns and cities
delta: where a river splits and spreads out into several branches before entering the sea or a lake
commercial: the buying and selling of goods



Location



Physical features



Human features



Diversity



Physical processes





Human processes



Techniques

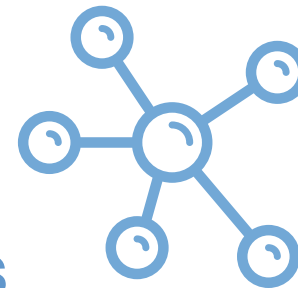
POP tasks: Milestone 2 – Europe: rivers

Students will increase their understanding of the concepts in this topic by exploring:

	Basic	Advancing	Deep
 <p>Location</p>	<ul style="list-style-type: none"> • There are five primary rivers in Europe. Define the word 'primary'. • Mark the routes of the five primary rivers in Europe on a map and label them. • On the same map, label their sources and the bodies of water into which they flow. • Label the length of each river. • Name some other important rivers in Europe. 	<ul style="list-style-type: none"> • Organise information about the location of Europe's primary rivers. 	<ul style="list-style-type: none"> • Investigate the route of one of the primary rivers of Europe, including the places through which it flows and any other significant information about the river.
 <p>Physical features</p>	<ul style="list-style-type: none"> • Define the word 'source'. • Define the word 'delta'. • What is a landlocked sea? • Locate and label the landlocked seas in Europe (and elsewhere). • Italy's Po River traverses the country. Define the word 'traverse' (traverses, traversing). 	<ul style="list-style-type: none"> • Point out the features of a delta. 	<ul style="list-style-type: none"> • Research and make generalisations about the areas of a river's source. Include information about the terrain.

Milestone 3:

Knowledge webs and POP tasks



Using maps: features



Quick summary

Maps contain several features that help us to better understand the information presented about a specific place. For instance, a map generally has a title, compass rose, map key and map scale. Some maps also have map insets to represent land that is too small or out of frame. Maps of the world usually show the lines of longitude and latitude.



Techniques

Compass rose:

A compass rose is a cross-like figure that shows direction. Compass roses display the four cardinal directions – north, east, south and west – as well as the ordinal directions: northeast, southeast, northwest, southwest.

Lines of longitude and latitude

The meridian lines of longitude and parallels of latitude create a grid on the map. The coordinates, specific numbered points, on this grid make it easier to find an exact place on the map.

Title: Each map has a title that describes what the map represents.



Key: Most maps use symbols and colours that represent certain things, so they have map keys, also called legends, which tell you what the symbols mean.

Map scale: A map has to 'shrink' a large area of land to represent it at a much smaller size. To demonstrate how much they have had to 'shrink' things, cartographers use a map scale. A map scale, which looks like a tiny ruler in the corner of the map, shows the relationship between the distance on the map and the distance in real life.



Location



Physical features



Human features



Diversity



Physical processes



Human processes



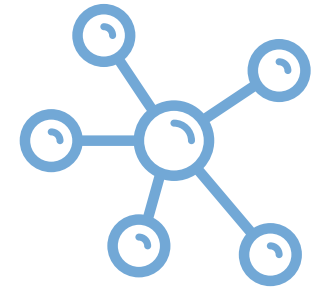
Techniques

POP tasks: Milestone 3 – Using maps: features

Students will increase their understanding of the concepts in this topic by exploring:

	Basic	Advancing	Deep
 <p>Techniques</p>	<ul style="list-style-type: none">• On a map of Europe, locate and label the:<ul style="list-style-type: none">• title• compass rose• key• lines of longitude and latitude• scale.• Describe the purpose of each of these features.	<ul style="list-style-type: none">• Apply your knowledge of map features to your own maps of places you are studying by:<ul style="list-style-type: none">• describing maps using the features• using the features to create your own maps.	<ul style="list-style-type: none">• Investigate how different scales of maps of the same place give the user differing levels of detail. Draw some conclusions.

Using maps: four-figure grid references

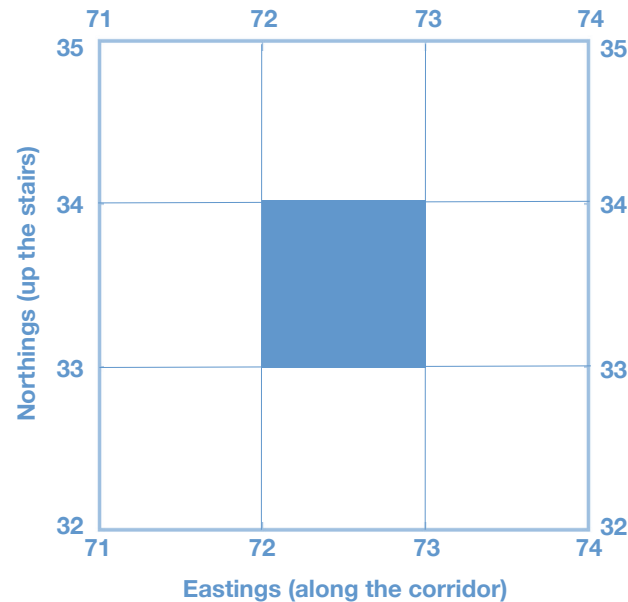


Quick summary

Maps have a grid system to help locate places with accuracy. The horizontal lines that divide the map are known as **eastings** and the vertical lines are known as **northings**. All of the eastings and northings are labelled with numbers that can be seen on all four edges of the map. By combining the numbers of the eastings and northings a **grid reference** is formed. A **four-digit grid reference** corresponds to a specific square on the map, allowing you to accurately describe an area on the map.



Techniques



To find a place using a four-figure grid reference

Remember the rule: always go 'along the corridor' before going 'up the stairs'.

In this example, you are looking for the grid reference 7233. First use the eastings to go 'along the corridor' until you come to the first two-digit number in the reference (72). Then use the northing to go 'up the stairs' until you find the second two-digit number in the reference (33). The reference takes you to the bottom left-hand corner of the square you are looking for on the map.



Location



Physical features



Human features



Diversity



Physical processes

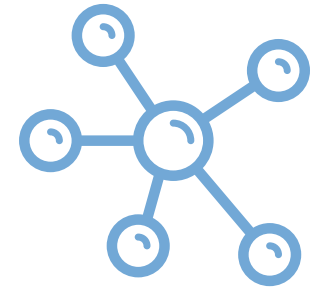


Human processes



Techniques

Ocean currents



Quick summary

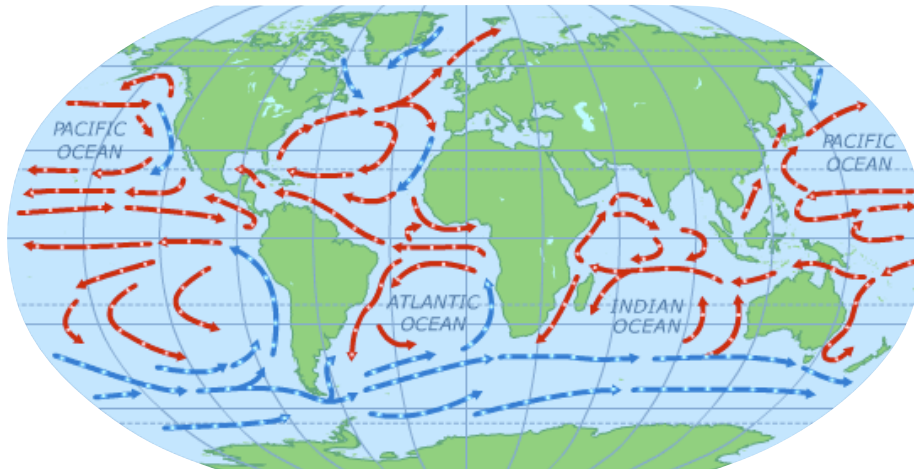


An ocean current is a continuous movement of ocean water from one place to another. Ocean currents are created by wind, water temperature, salt content and the gravity of the moon. The currents are called gyres and can flow for thousands of miles. One major example of an ocean current is the Gulf Stream in the Atlantic Ocean. Gyres travel clockwise in the northern hemisphere and anticlockwise in the southern hemisphere. Ocean currents affect weather patterns around the world: they transport warm water to colder areas and cold water to warmer ones. Plastic pollution is also transported by ocean currents.

The main ocean currents of the world



Physical processes



--- warm water
--- cold water



Human features

The Great Pacific Garbage Patch is a big area of rubbish in the middle of the northern Pacific Ocean. It is caught in the water currents. It formed because the gyres are circular, which traps rubbish, like floating pieces of plastic.



Vocabulary

continuous: happening all of the time without a break
gyres: circular movements
pollution: a poisonous or dirty substance
garbage: American word for rubbish



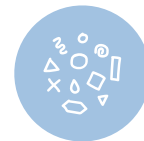
Location



Physical features



Human features



Diversity



Physical processes





Human processes



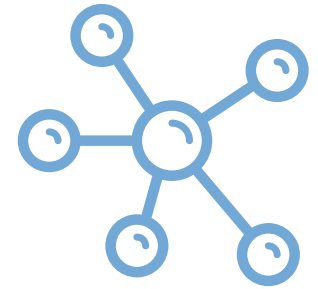
Techniques

POP tasks: Milestone 3 – Ocean currents

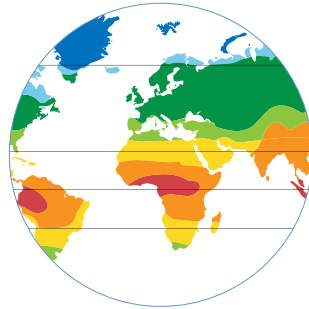
Students will increase their understanding of the concepts in this topic by exploring:

	Basic	Advancing	Deep
 <p>Physical processes</p>	<ul style="list-style-type: none"> • What is an ocean current? • What creates an ocean current? • Give some examples of gyres. • Describe the rotation of gyres in the northern and southern hemispheres. • Identify and label on a map the main ocean currents of the world. 	<ul style="list-style-type: none"> • Explain how ocean currents affect the world's climate. 	<ul style="list-style-type: none"> • Investigate how melting polar ice caps may lead to changes in ocean currents. • Investigate the benefits to the United Kingdom's climate of the Atlantic Ocean Gulf Stream.
 <p>Human features</p>	<ul style="list-style-type: none"> • Describe what is known as the Great Pacific Garbage Patch. 	<ul style="list-style-type: none"> • Explain the term 'plastic pollution' and how this relates to ocean currents. 	<ul style="list-style-type: none"> • Investigate how knowledge of ocean currents may help search and rescue teams when a boat or person goes missing at sea.

Biomes and climate zones

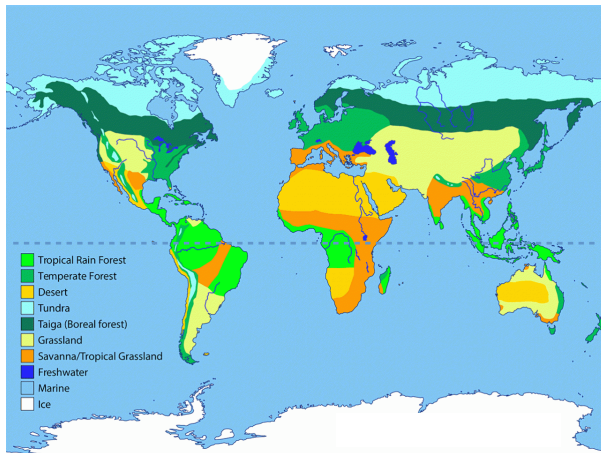


Quick summary

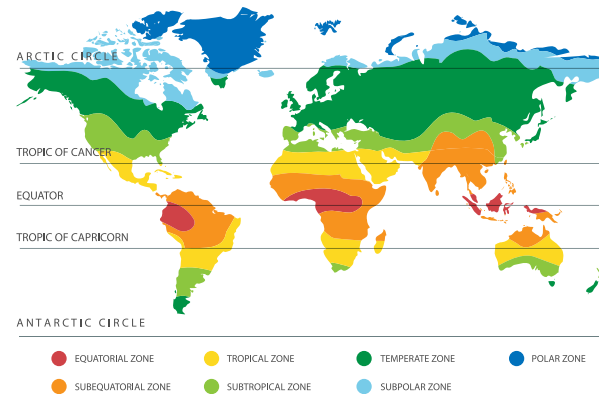


Biomes are a way to categoryse the Earth's surface. These categories are based on climate patterns, soil types and the animals and plants that inhabit an area. There are terrestrial biomes and aquatic biomes. Every part of the Earth's surface is a part of one or more biomes. There are ten biomes: tropical rainforest, temperate deciduous forest, desert, tundra, taiga, grassland, savannah, marine, freshwater and ice. Climate is the average weather expected in a place (weather is the day-to-day conditions in a place). Earth has seven zones of expected climate: polar, sub-polar, temperate, tropical, sub-tropical, equatorial and sub-equatorial. Biomes are directly linked to climate zones.

Location of Earth's biomes



Location of Earth's climate zones



Vocabulary

categoryse: to put into groups (categories)

inhabit: to live in

terrestrial: on land

aquatic: in water

climate: the average expected weather in a place



Location



Physical features



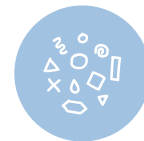
Location



Physical features



Human features



Diversity



Physical processes

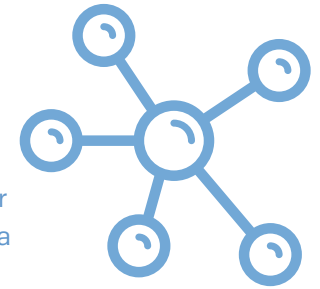


Human processes

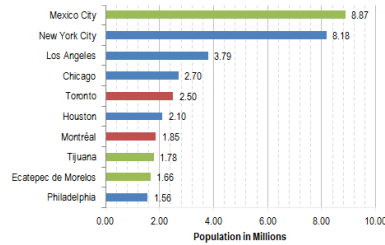


Techniques

North America: population



Quick summary



Before the arrival of Europeans in the 1500s and 1600s, the population of North America consisted of Native American tribes in the United States, and the Aztec and Mayan civilisations in what is now Mexico. In the 1600s, Europeans quickly colonised much of North America. Now the indigenous peoples are far fewer and the majority of people have a European heritage.



Vocabulary

colonised: took control over
indigenous: originally from a country
populous: with a large population
sparsely: with only a small number of people
metropolitan: relating to a large city



Diversity

North America has an estimated population of 580 million. The most populous cities are:

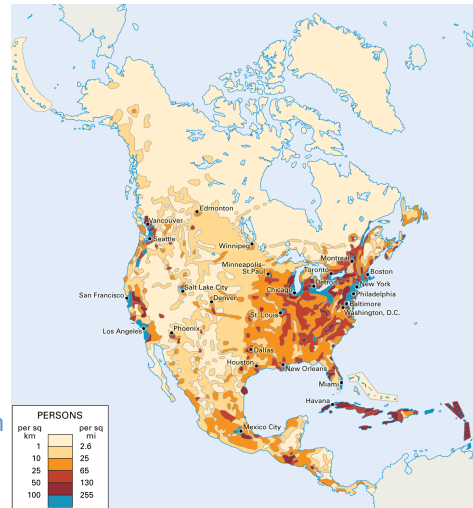
1. Mexico City, Mexico
2. New York City, USA
3. Los Angeles, USA
4. Chicago, USA
5. Toronto, Canada



Human features

The northern half of North America – Canada and Greenland – is sparsely populated. This is largely due to the sub-polar and polar climate zones which makes agriculture, transport and living more difficult.

Population density in North America



Mexico City is the largest city, both in size and population. Its population is 21.3 million, which makes it the largest metropolitan area of the western hemisphere and the largest Spanish-speaking city in the world.



Aerial view of part of Mexico City



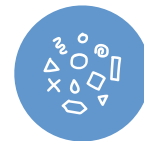
Location



Physical features



Human features



Diversity



Physical processes



Human processes



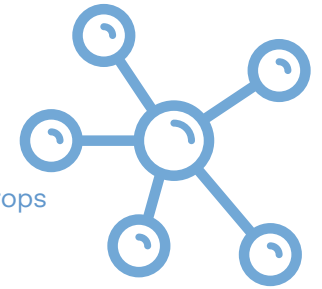
Techniques

POP tasks: Milestone 3 – North America: population

Students will increase their understanding of the concepts in this topic by exploring:

	Basic	Advancing	Deep
 <p>Human features</p>	<ul style="list-style-type: none"> • Describe the changes in the population of North America from the 1500s to the 1600s. • Define the word 'colonise'. • Define the word 'indigenous'. • Define the word 'metropolitan'. 	<ul style="list-style-type: none"> • Graph information about the population of the ten most populous cities in North America. • Compare and contrast the housing for a typical person* in Mexico City and in New York City. <p>(*a typical person is someone who has the average income compared with others living in that location).</p>	<ul style="list-style-type: none"> • Investigate the phrase 'primate city'.
 <p>Diversity</p>	<ul style="list-style-type: none"> • Define the term 'most populous'. • Locate and label on a map the most populous cities of North America. • Define the term 'sparsely populated'. • Locate and label on a map the most sparsely populated areas of North America. • Define the term 'population density'. • Describe the population density of North America. 	<ul style="list-style-type: none"> • Compare and contrast the populations of the most and least populous places in North America. 	<ul style="list-style-type: none"> • Investigate the differences between the terms 'metropolitan' and 'cosmopolitan'.

North America: rivers



Quick summary



There are hundreds of rivers across North America. They are vital for irrigation for agriculture, fishing, the generation of hydro-electricity and as navigation routes for shipping. Rivers are also sacred to the Native American indigenous peoples who, for centuries before European colonisation, learnt to use this limited, precious resource wisely.



Vocabulary

irrigation: watering crops
rises: begins
numerous: many
confluence: where two or more rivers join together
pesticides: chemicals used to kill insects that eat crops



Location



Physical features

- **Brazos:** rises in the northern part of Texas and flows into the Gulf of Mexico. It is 840 miles (1,351 km) long.
- **Churchill:** this river is in Canada. It rises in Saskatchewan and flows into Hudson Bay. It passes through numerous lakes and is known for the rapids along its path. It is 1000 miles (1,609 km) long.
- **Colorado:** rises in the Rocky Mountains in Colorado, and flows into the Gulf of California. It is 1,450 miles (2,333 km) long and over the centuries has formed numerous canyons along its course. The most famous of these is the Grand Canyon in northern Arizona.
- **Columbia:** rises in the Canadian Rockies and flows into the Pacific Ocean. It is 1,152 miles (1,854 km) long.
- **Fraser:** rises in the Canadian Rockies and flows into the Strait of Georgia, just south of Vancouver. It is 850 miles (1,368 km) long.
- **Mackenzie:** the longest river in Canada. It is 1,200 miles (1,931 km) long.
- **Mississippi:** rises in Minnesota and flows into the Gulf of Mexico. It is 2,339 miles (3,764 km) long.
- **Missouri:** the longest river in North America at 2,500 miles (4,023 km) long. It rises in Montana in the Rocky Mountains and flows into the Mississippi River, just to the north of St Louis.
- **Ohio:** formed by the confluence of the Allegheny and Monongahela rivers, the Ohio flows into the Mississippi River at the Illinois border and is 975 miles (1,569 km) long.
- **Rio Grande:** rises in the San Juan Mountains of southern Colorado, then flows south through New Mexico. It forms the natural border between Texas and the country of Mexico and flows southeast to the Gulf of Mexico. In Mexico it is known as Rio Bravo del Norte. It is used for drinking water by both countries, but is becoming more polluted because of sewage and pesticides entering the water from population centres along the river that are growing in size.
- **St Lawrence:** flows out of Lake Ontario and on into the Gulf of St Lawrence. It is 760 miles (1,223 km) long. It forms part of the natural border, along with the Great Lakes, between Canada and the United States.
- **Yukon:** rises in the Yukon Territory of Canada, and then flows across the border into Alaska, ending at the Bering Sea. It is frozen from October to mid-June.



Location



Physical features



Human features



Diversity



Physical processes

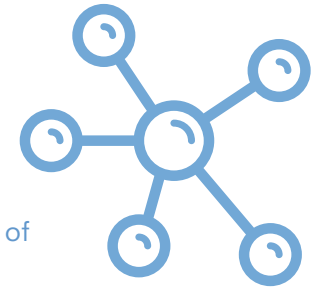


Human processes



Techniques

South America: rivers



Quick summary



South America is home to the largest river basin in the world – the Amazon. It is also home to the Angel Falls waterfall, which is the highest in the world at over 900 m (2,950 ft). This can be found on a tributary to the Orinoco River – the River Chúrún.



Vocabulary

river basin: the portion of land drained by a river

tributary: a river that flows into another river

discharging: flowing into



Physical features



Location

A river basin is the portion of land drained by a river and its tributaries. South America has three important river basins: the Amazon, Orinoco and Paraná.

- The **Amazon River** basin has an area of almost 2.7 million square miles (7 million square km), making it the largest river basin in the world. It covers most of northern South America and is fed by tributaries from the glaciers of the Andes. Every second, the Amazon River empties 209,000 cubic metres (7,380,765 cubic feet) of fresh water into the Atlantic Ocean.
- The **Orinoco River** flows north of the Amazon. It flows in a giant arc for more than 1,700 miles (2,700 km), rising in northern Brazil and discharging into the Atlantic Ocean in Venezuela. The Orinoco River basin covers an area of about 366,000 square miles (948,000 square km) and covers approximately 80 per cent of Venezuela and 25 per cent of Colombia.
- The **Paraná River** basin covers almost 1.1 million square miles (2.8 million square km), which is much of southeastern Brazil and Bolivia, Paraguay and northern Argentina. The Paraná River includes Iguazú Falls, a massive series of waterfalls that extend for 1.7 miles (2.7 km). It discharges into the Río de la Plata estuary between Argentina and Uruguay.



Location



Physical features



Human features



Diversity



Physical processes





Human processes



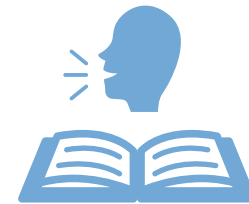
Techniques

POP tasks: Milestone 3 – South America: rivers

Students will increase their understanding of the concepts in this topic by exploring:

	Basic	Advancing	Deep
 <p>Location</p>	<ul style="list-style-type: none"> • Locate and mark on a map the location of South America’s three main river basins. • Describe the geographical location of South America’s three main river basins. • Locate and mark on a map the location of the highest waterfall in the world. 	<ul style="list-style-type: none"> • Compare and contrast the locations into which the Amazon and Volga rivers discharge. 	<ul style="list-style-type: none"> • Which best describes the geographical location of the Amazon River basin: <ul style="list-style-type: none"> • the world’s largest river basin with an area of almost 2.7 million square miles • a river basin fed by tributaries from the glaciers of the Andes • a river basin covering most of northern South America? • Create similar questions about the geographical locations of the other two main river basins in South America.
 <p>Physical features</p>	<ul style="list-style-type: none"> • Define the word ‘tributary’. • Describe what a river basin is. • List information about the physical features of South America’s three main river basins. 	<ul style="list-style-type: none"> • Compare and contrast the physical features of the Paraná and the Volga river basins. 	<ul style="list-style-type: none"> • Propose reasons why the Amazon does not have a delta whereas the Volga does. (Teacher note: the answer should relate to the physical features present at the mouth of each river – in particular the relative calmness of the sea/ocean activity.) • Investigate the physical features of some of the significant aspects of the Orinoco River basin.

Additional Vocabulary





The importance of vocabulary

Pupils with the most extensive vocabulary have:

- better reasoning, inference and pragmatic skills¹
- academic success and employment²
- better mental health in adulthood.³

According to Isabel L. Beck, and others, in their book *Bringing Words to Life* ⁴, pupils should be taught, systematically, a range of academic words so that they can articulate complex ideas.

In *The Essentials Curriculum*, each milestone introduces a range of geographical vocabulary. The next few pages provide a pupil-friendly glossary of these terms.

1 Law, J., Charlton, J., Dockrell, J., Gascoigne, M., McKean, C., Theakston, A (2017) Early Language Development, Education Endowment Foundation
2, 3 Law, J., Charlton, J., Asmussen, K. (2017) Language as a Child Wellbeing Indicator, Early Intervention Foundation/Newcastle University
4 Beck, Isabel L., McKeown, Margaret G., Kucan, Linda (2002, 2008) Bringing Words To Life, Guildford Press

Milestone 1 vocabulary



Vocabulary	Definition
place	A geographical point, such as a town, city, etc
investigate	To inquire into (a situation or problem, especially a crime or death) thoroughly; examine systematically, especially in order to discover the truth
pertinent	Relating to the matter at hand; relevant
city	A large town
town	A densely populated urban area, typically smaller than a city and larger than a village, having some local powers of government and a fixed boundary
village	A group of houses, together with other buildings such as a church and a school in the countryside
coastal	Relating to things that are in the sea or on the land near a coast
rural	Relating to, or characteristic of, the countryside or country life
continent	A very large area of land, such as Africa or Asia, that consists of several countries
surrounding	The conditions, scenery, etc, around a person, place or thing; environment
locate	To find out where something or someone is

Vocabulary	Definition
environment	External conditions or surroundings, especially those in which people live or work
characteristic	A distinguishing quality, attribute, or trait
map	A drawing of a particular area such as a city, country, or continent, showing its main features as they would appear if looked at from above
world	The planet that we live on
atlas	A book of maps
globe	A ball-shaped object with a map of the world on it, usually fixed on a stand
countries	Territories distinguished by its people, culture, language, geography, etc.
ocean	One of the five very large areas of sea on the Earth's surface
human features	Human geography looks at the impact and behaviour of people and how they relate to the physical world
physical features	Physical geography looks at the natural processes of the Earth, such as climate and plate tectonics
United Kingdom (UK)	England, Scotland, Wales and Northern Ireland; officially the United Kingdom of Great Britain and Northern Ireland

Subject Leader Resources

An example subject policy

Basic principles

1. Learning is a change to **long-term memory (see appendix)**.
2. Our aims are to ensure that our pupils experience a wide breadth of study and have, by the end of each key stage, long-term memory of an **ambitious body of procedural and semantic knowledge**.

Curriculum intent model

1. **Curriculum drivers** shape our curriculum breadth. They are derived from an exploration of the backgrounds of our pupils, our beliefs about high-quality education and our values. They are used to ensure we give our pupils appropriate and ambitious curriculum opportunities.
2. **Cultural capital** gives our pupils the vital background knowledge required to be informed and thoughtful members of our community who understand and believe in British values.
3. **Curriculum breadth** is shaped by our curriculum drivers, cultural capital, subject topics and our ambition for pupils to study the best of what has been thought and said by many generations of academics and scholars.
4. Our curriculum distinguishes between subject topics and threshold concepts. **Subject topics** are the specific aspects of subjects that are studied.
5. **Threshold concepts** tie together the subject topics into meaningful schema. The same concepts are explored in a wide breadth of topics. Through this 'forwards-and-backwards engineering' of the curriculum, pupils return to the same concepts over and over, and gradually build understanding of them.
6. For each of the threshold concepts three **milestones**, each of which includes the procedural and semantic knowledge pupils need to understand the threshold concepts, provide a **progression model**.
7. **Knowledge categories** in each subject give pupils a way of expressing their understanding of the threshold concepts.

Questions to prepare for school inspection

1. Tell me about your approach to curriculum design in your subject? How do you keep your knowledge and understanding of the curriculum up to date?
2. Describe briefly your aims and approach to the curriculum. What are the most important factors which shaped your thinking?
3. To what extent does the curriculum meet the needs of all pupils – particularly disadvantaged learners and learners who have additional needs/SEND?
4. How do you ensure access for pupils who have low prior attainment?
5. Tell me about curriculum coverage in your subject. How do you know that this coverage is achieved? How do you check? When did you last check? What did this tell you?
6. Is there sufficient coverage and progression of the curriculum in this subject? How do you know?
7. How well is the planned curriculum implemented? What checks do you make and what changes have you made as a result of your checks?
8. Which aspects of the curriculum are revised and repeated? What is the rationale for this? How well does the curriculum ensure progression and develop learning from one key stage to the next?

Subject effectiveness report template

1. Curriculum intent

Breadth

- a) How far does the geography curriculum enhance pupils' cultural capital?
- b) How far does the geography curriculum provide a broad range of topics?

Concepts

- a) How far does the geography curriculum identify concepts that will be repeated and re-visited over time?
(Give examples.)
- b) Why is this important? (Cite research.)

Progression

- a) How clear is the geography progression model? (Give examples.)
- b) What is the rationale underpinning the progress model? (Cite research.)