THE DUSTON SCHOOL 4-19
Knowledge itself is power

Year 7 Geography Knowledge Booklet

Term 5

South America

Name:

Class:

Geography

Geography

Enquiry Question:
Geography—South America

Big questions that will help you answer this enquiry question:

Big Q 1: Where is the continent of South America and what is it like

Big Q 2: Why are the Galapagos Islands so unique?

Big Q 3: How has tectonic activity helped shape other physical features in South America

Big Q 4 and 5: What are the key biomes of South America?

Big Q 6 and 7: What is the weather and climate like in South America?

Big Q 8: How does the phenomenon of El Niño impact the climate of South America?

Big Q 9: What are the Amazon River's key characteristics?

Big Q 10: What are the key characteristics of the Amazon rainforest?

Big Q 11: How have plant and animals adapted to live in the Amazon rainforest?

Big Q 12: How do people live in and use the rainforest?

Big Q 13: How are humans affecting the rainforest?

Big Q 14: How can we continue to use the rainforest more sustainably?

Big Q 15: What do we know about the different countries of South America?

Big Q 16: What are the birth and death rates like in South America?

Big Q 17: Brazil Case Study: What is happening to Brazil's population?

Big Q 18 and 19: Brazil Case Study: Where do people live in Brazil?

Big Q 20: Brazil Case Study: How are inequalities being challenged?

Big Q 21: Brazil Case Study: How are cities managing urban growth in a sustainable way?

Big Q 22: Brazil Case study: What impact did the 2016 Olympics have on Brazil and its population?

Big Q 23: Peru Case study: What fantastic places can be found within a South American country?

Big Q 24: Peru Case study: Why is sustainable tourism important?

South America topic — Key Words

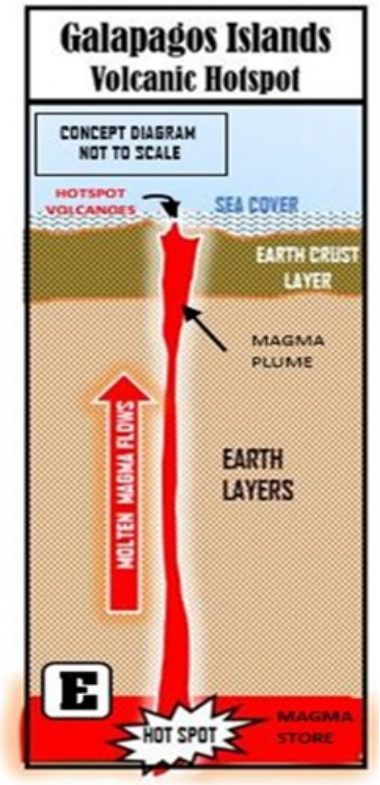
Key term	Definition
Abiotic	relating to things in the environment that are not living
Archipelago	a group of small islands or an area of sea in which there are many small islands:
Biodiversity	the number and types of plants and animals that exist in a particular area
Biomes	a region of the earth's surface and the particular combination of climate (general type of weather), plants, and animals that are found in it
Biotic	involving, caused by, or relating to living things in the environment
Birth rate	the number of births that happen during a period of time in a particular place
Canopy layer	the branches and leaves that spread out at the top of a group of trees forming a type of roof
Climate	the general weather conditions usually found in a particular place.
Climate Change	changes in the world's weather,
Confluence	the place where two rivers flow together and become one larger river
Congestion	too blocked or crowded
Conservation	the protection of plants and animals, natural areas, and interesting and important structures and buildings, especially from the damaging effects of human activity
Continent	one of the seven large land masses on the earth's surface, surrounded, or mainly surrounded, by sea and usually consisting of various countries:
Continental plate	one of the large pieces of the surface of the earth that move separately
Death rate	the number of people who die in a particular group or area in a particular period of time.
Debt	something, especially money, that is owed to someone else, or the state of owing something
Deforestation	the cutting down of trees in a large area, or the destruction of forests by people
Dense	having parts that are close together so that it is difficult to go or see through
Drainage Basin	an area of land from which the rain flows into a particular river or lake, etc.
Economic	relating to trade, industry, and money
Ecosystem	all the living things in an area and the way they affect each other and the environment
Ecotourism	the business of organizing holidays to places of natural beauty in a way that helps local people and does not damage the environment
El Nino	an unusual ocean current that happens along the western coast of South America every two to ten years, killing large numbers of sea creatures and causing noticeable and often severe changes in weather conditions in many areas of the world
Elevation	the front or side of a building as shown on a drawing
Equator	an imaginary line drawn around the middle of the earth an equal distance from the North Pole and the South Pole
Erosion	the fact of soil, stone, etc. being gradually damaged and removed by the waves, rain, or wind
Fauna	all the animals that live wild in a particular area
Favela	a very poor and crowded area of a city in Brazil
Feature	a typical quality or an important part of something
Flora	all the plants of a particular place or from a particular time in history
Indigenous	naturally existing in a place or country rather than arriving from another place
Inequality	the unfair situation in society when some people have more opportunities, money, etc. than other people
La Nina	the cooling of the water in the central and eastern Pacific Ocean that happens every few years and that affects the weather in many places
Landmass	a large area of land such as a continent that is in one piece and not broken up by oceans
Latitude	the position north or south of the equator measured from 0° to 90°
Lianas	a woody plant that grows in tropical forests
Longitude	the distance of a place east or west of an imaginary line between the North Pole and the South Pole, measured in degrees
Magma	hot liquid rock found just below the surface of the earth
Metamorphic rocks	(of rock) changed into a new form and structure by very great heat and pressure:
Mouth	the place where a river flows into the sea
Population distribution	the way in which people or things are spread out in a place
Precipitation	water that falls from the clouds towards the ground, especially as rain or snow
Pull factor	something that attracts people to a place or an activity
Push factor	something that makes people want to leave a place or escape from a particular situation

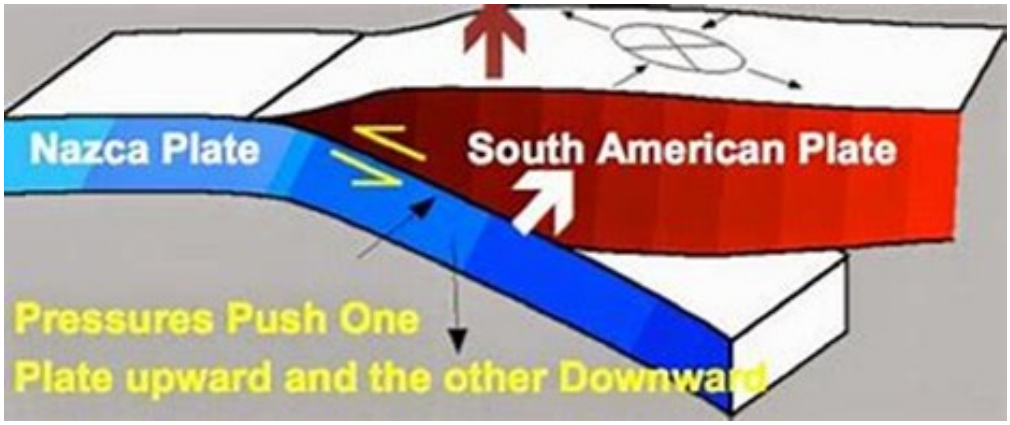
South America topic — Key Words

Key term	Definition
Rural	in, of, or like the countryside
Sedimentary rocks	(of rock) made from sediment left by the action of water, ice, or wind:
Social	relating to society and living together in an organized way:
Source	The start of a river
Sparse	small in numbers or amount, often spread over a large area
Subduction zone	an area where two continental plates (= large layers of rock that form the earth's surface) meet and where there are often earthquakes
Sustainability	the quality of causing little or no damage to the environment and therefore able to continue for a long time
Tectonic plate	one of the parts of the earth's surface that move in relation to each other
Transpiration	the process of losing water through the surface or skin of a body or a plant
Tributary	a river or stream that flows into a larger river or a lake
Tropic of Cancer	the northern tropic
Tropic of Capri-corn	the southern tropic
Urban	of or in a city or town
Watershed	an area of high ground from which water flows down to a river
Weather	the conditions in the air above the earth such as wind, rain, or temperature, especially at a particular time over a particular area

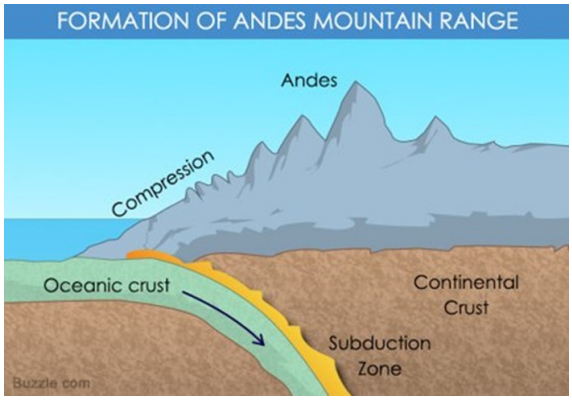
Maps showing the political boundaries and key physical geographies of South America

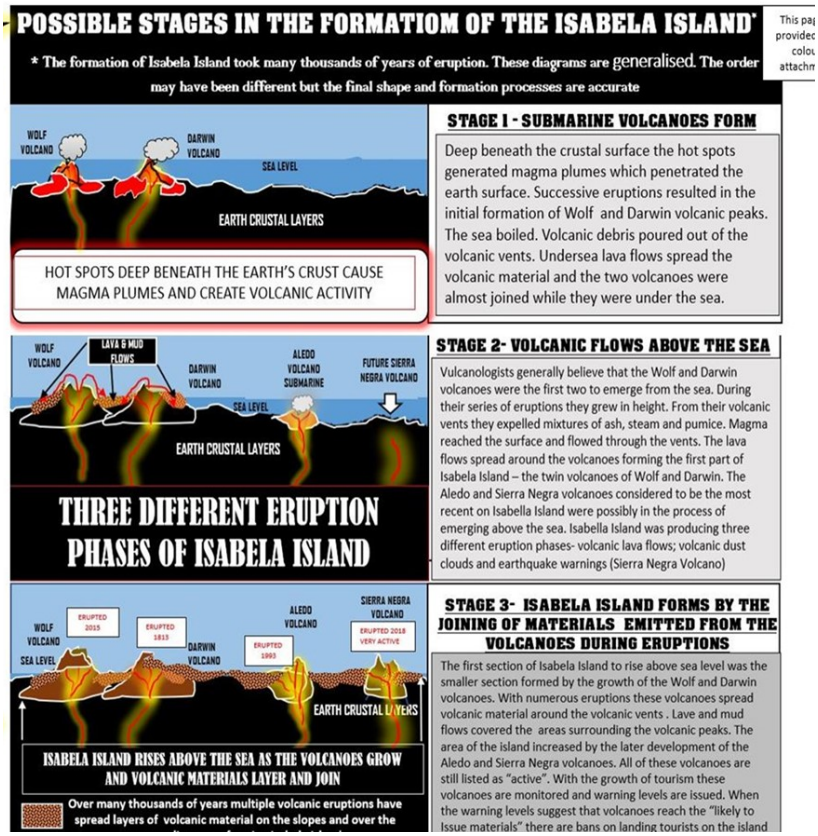
The Galapagos Island—Hotspots vs Destructive Plate Boundaries





Whilst most volcanoes around the world are formed along destructive plate boundaries (above) where oceanic plates are melted by heat and pressure during subduction. The Galapagos Islands are formed from volcanic hostpots (left). Hotspots are areas of the mantle where large amounts of magma rises to the surface through the plate above it. The magma plume stays stationary whilst the plate moves over the top, the results in chains of islands like the Galapagos Islands, such as the Isabella Island, below.

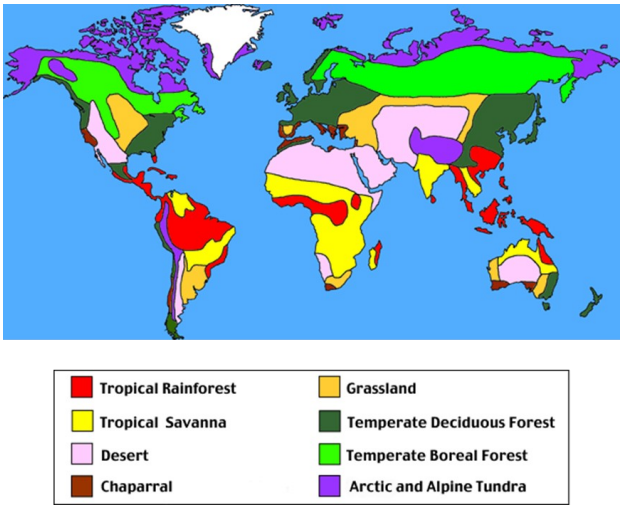




Fold Mountains

Fold mountains are formed from tectonic plates that are compressed from the edges forcing the edges of the plates to crumple, forming peaks and valleys. The Andes is a mountain chain stretching down the western side of South America formed by oceanic crust being forced into and under the South American Plate

South America—Climate



The climate of South America can be broadly divided into seven different climate types:

Desert - Warm to high temperatures with very little rainfall.

Grassland - Hot summers and cold winters with above average rainfall.

Deciduous forest - Four distinct seasons with warm summers and cold, wet winters. The trees shed their leaves in autumn.

Rainforest - High temperatures and high rainfall throughout the year.

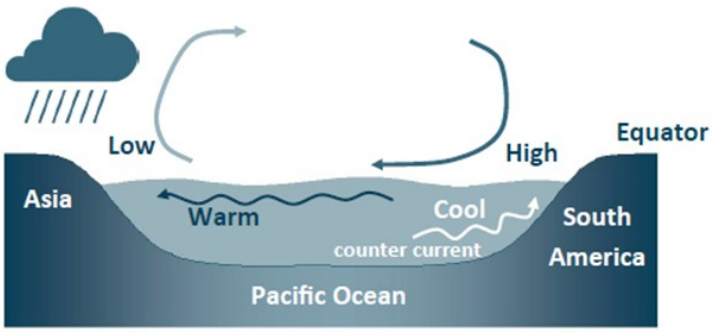
Savanna - This region has very high temperatures all year and rain during the summer season only.

Mediterranean - Warm to high temperatures with rainfall in the autumn and winter months.

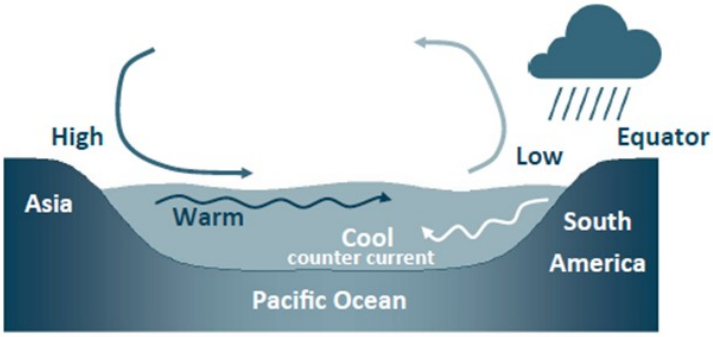
Alpine/mountain - Cold, windy and snowy. It is winter from October to May with temperatures below freezing, while summer is from June to September where the temperature can reach 15°C.

El Niño and La Niña's influence on climate

In 'normal years' an upwelling of colder, nutrient rich water rises up along the west coast of South America



In 'El Niño years', warm dry air descends in the western Pacific creating droughts and South America receives warmer waters off its west coast.



El Nino ('little boy')- dry conditions/drought

Warmer than normal ocean temperatures across the central and eastern tropical Pacific Ocean.

Increased cloudiness in the central tropical Pacific Ocean - the focus of convection (heat associated with water build up) moves from the Australian/ Indonesian region eastward towards the central tropical Pacific Ocean.

Weaker than normal (easterly) trade winds.

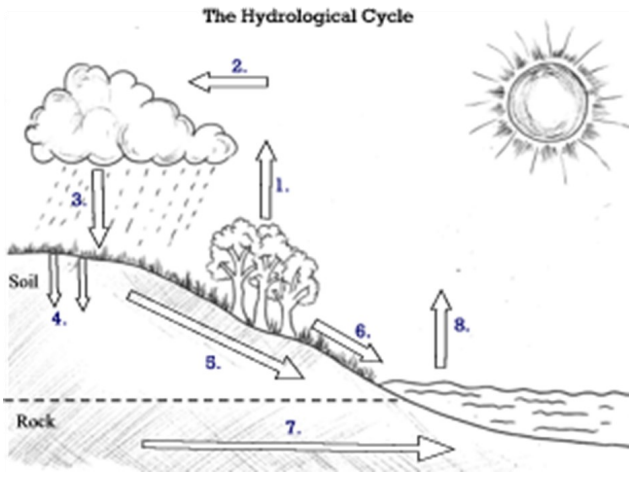
La Nina ('little girl')- wet conditions (often too much rain, flood etc.)

Cooler than normal ocean temperatures across the central and eastern tropical Pacific Ocean.

Increased cloudiness over tropical Australia, Papua New-Guinea, and Indonesia.

Stronger than normal (easterly) trade winds across the Pacific Ocean (but not necessarily in the Australian region).

The Hydrological Cycle



1 & 8. Evapotranspiration, trees absorb water from the ground and breathe out moisture. Rainfall also evaporates from their leaves. + 8. water also evaporates from oceans and the land to form water vapour.

2. Air cools water vapour to form clouds that are blown over land.

3. Clouds cool further to produce rain, hail, sleet and snow (precipitation)

4. Some water infiltrates into the soil.

5. Some infiltrated water flows through the soil (throughflow) to reach rivers, lakes and oceans.

6. Some water is unable to infiltrate into the soil and flows as surface runoff to rivers, lakes and oceans.

7. Water that has infiltrated may also percolate down through rocks and flow as groundwater flow back to rivers, lakes and oceans.

The Drainage Basin

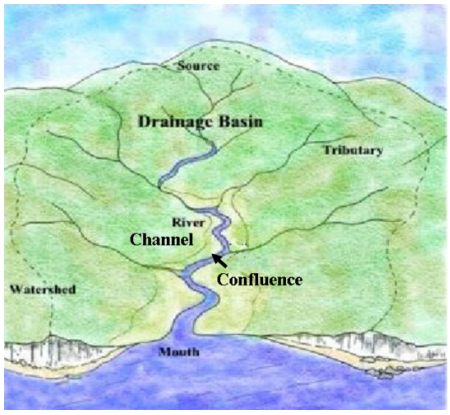
Source—the start of a river, usually found in mountainous areas or from natural springs.

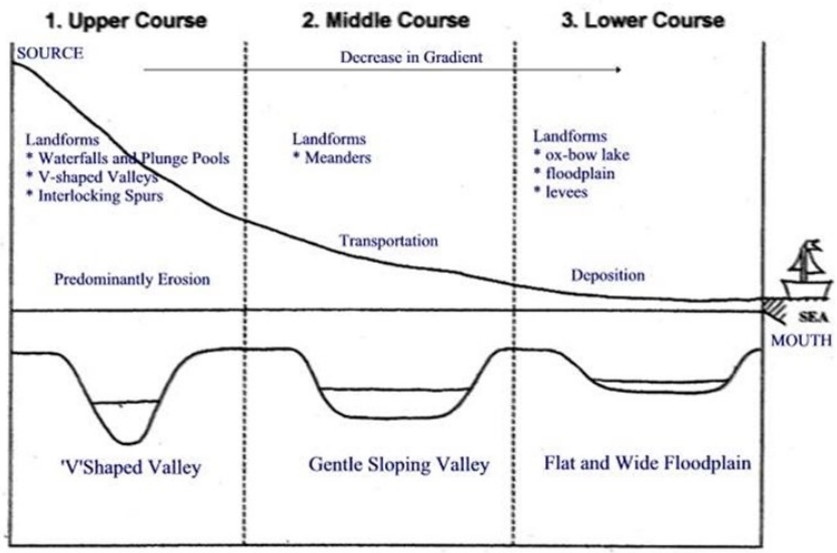
Tributary—a smaller river that flows into and adds its water to another.

Confluence—the meeting point of two joining rivers.

Mouth—where a river empties into an ocean or lake

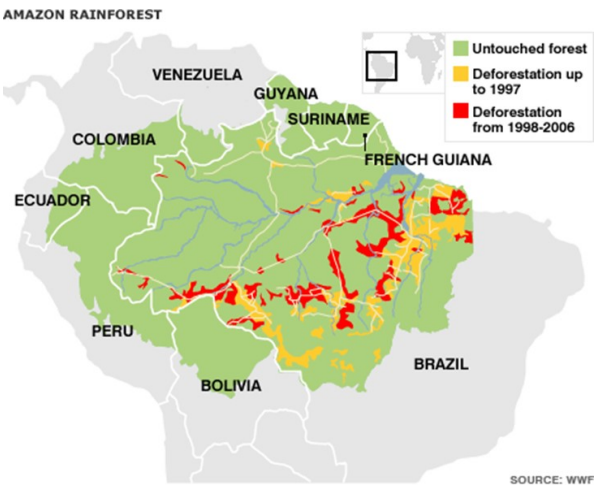
Watershed—the boundary (edge) of the drainage basin. Any precipitation that falls within the watershed will flow into it's drainage basin. The watershed is usually found in mountains/hills.





The Long Profile

The long profile shows the changes found along a river's course, the landforms that are found at different stages and how the importance of different processes changes over distance from the source of a river.



Topical Rainforest Exploitation

Reason	Detail
Repaying debt	In 27 tropical countries, one quarter of all the money they earn from exports is used to repay debt to banks and governments in the rich countries of the North (MEDCs).
Building HEP Dams	Huge hydroelectric power (HEP) projects, funded from countries in the rich 'North' (MEDCs) have flooded large areas, killing animals, drowning forest and poisoning rivers.
Selling timber	Enormous quantities of tropical hardwoods are shipped to industrial countries, especially from South East Asia to Japan.
Cattle ranches	Cattle ranchers growing meat for their own home markets and for export, e.g. the 'beef burger' market of North America, have cleared huge areas of the tropical rainforests.
Farmland for the poor	Poor families, e.g. from the dry North East of Brazil have a choice between moving to overcrowded cities, clearing forest for farmland or starving to
Finding minerals	It is estimated that more than 200,000 gold miners are working in the Brazilian Amazon rainforest. The Carajas iron ore project (partly funded by the World Bank) will destroy 16% of the Amazonian rainforest.

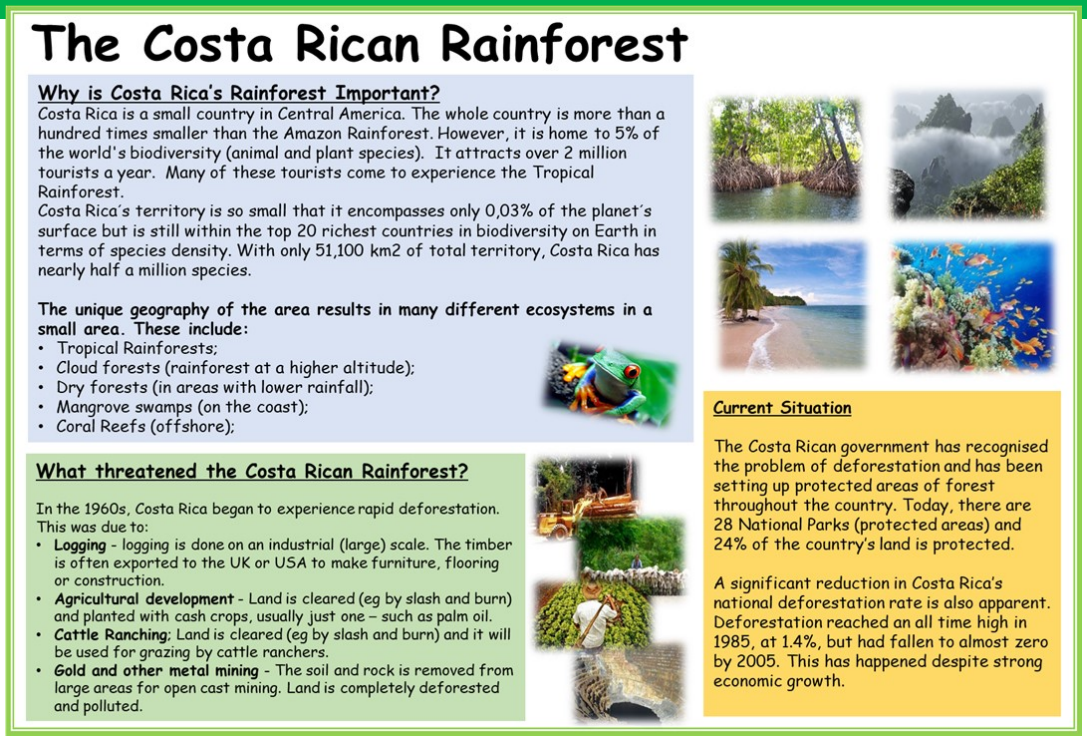
Tropical rainforests in South America are under severe threat from a variety of human activities. This pressure on TRF biomes is predicted to grow as global populations continue to grow and develop.

With more people in the world more resources and space are required to feed, house and provide resources for. As countries develop their populations also have access to more wealth that increases the amount of goods pur-

Topical Rainforests—Sustainable Management & Costa Rica Case Study

Tropical rainforests are sensitive to human activity but there is potential for managing them in a way that allows us to continue to extract resources but limit the damage and maintain most of health of the biome (sustainable management)

Selective logging — only cut down specific, fully grown trees, avoiding the need to 'clear cut' which involves cutting all trees down and



The Costa Rican Rainforest

Why is Costa Rica's Rainforest Important?

Costa Rica is a small country in Central America. The whole country is more than a hundred times smaller than the Amazon Rainforest. However, it is home to 5% of the world's biodiversity (animal and plant species). It attracts over 2 million tourists a year. Many of these tourists come to experience the Tropical Rainforest.

Costa Rica's territory is so small that it encompasses only 0,03% of the planet's surface but is still within the top 20 richest countries in biodiversity on Earth in terms of species density. With only 51,100 km2 of total territory, Costa Rica has nearly half a million species.

The unique geography of the area results in many different ecosystems in a small area. These include:

- Tropical Rainforests;
- Cloud forests (rainforest at a higher altitude);
- Dry forests (in areas with lower rainfall);
- Mangrove swamps (on the coast);
- Coral Reefs (offshore);

What threatened the Costa Rican Rainforest?

In the 1960s, Costa Rica began to experience rapid deforestation. This was due to:

- **Logging** - logging is done on an industrial (large) scale. The timber is often exported to the UK or USA to make furniture, flooring or construction.
- **Agricultural development** - Land is cleared (eg by slash and burn) and planted with cash crops, usually just one – such as palm oil.
- **Cattle Ranching**; Land is cleared (eg by slash and burn) and it will be used for grazing by cattle ranchers.
- **Gold and other metal mining** - The soil and rock is removed from large areas for open cast mining. Land is completely deforested and polluted.

Current Situation

The Costa Rican government has recognised the problem of deforestation and has been setting up protected areas of forest throughout the country. Today, there are 28 National Parks (protected areas) and 24% of the country's land is protected.

A significant reduction in Costa Rica's national deforestation rate is also apparent. Deforestation reached an all time high in 1985, at 1.4%, but had fallen to almost zero by 2005. This has happened despite strong economic growth.

Ecotourism—providing unique holiday experiences that usually cost more but results in a holiday where the additional income is used to provide for the local community and environment. As earnings can be so much higher from ecotourism local people are invested in protecting the forests around them.

Reserves— Providing areas where hunting, logging and other harmful activities are banned or tightly controlled. Limits income but provides areas for plants and animals to continue to thrive whilst other areas are exploited.

Agroforestry— Growing food in the TRFs. Using the shade of the trees as a benefit to shelter crops from heavy rains, soil erosion and rapid evaporation. Helps to maintain habitats and makes farming more sustainable.

Geography

Homework 1: Spelling Test

Instructions: You will be given a list of 10 key terms that will be used with this topic.

1. Write the definition for each term .
2. Write the word within a sentence.
3. Practice spelling the word.

You will be tested on these spellings and your understanding of what the words mean.

Spellings

Confluence

Eruption

Boundary

Tectonics

Volcanic

Orogeny

Subduction

Metamorphic

Igneous

Sedimentary

Due date:

Homework 2: Knowledge

You will be sitting a world knowledge quick quiz on the following points:

- The formation of the Galapagos Islands
- The formation of fold mountains
- Biomes of South America

Due date:

Homework 3—Revision for Mid Unit test

Instructions: Revise for a mid unit test.

You will be tested on the following aspects about South America— tectonic activity, hotspots, fold mountains, biomes, weather and climate, El Nino/La Nina, the Amazon River and the management/resource extraction from tropical rainforests.

Please use this knowledge organiser as a clear focus for your upcoming mid unit test

Due date:

Geography

Homework 4: Knowledge

You will be sitting a quick quiz on the information found within this knowledge organiser.

HP's will be given to students who bring in an A4 sheet of revision notes.

Due date:

Homework 5—Geographical Skills Practice

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Av. Temp (*C)	27	27	27	27	27	27	28	28	28	28	28	27
Precipitation (mm)	267	261	295	282	210	109	76	56	77	125	165	222

1) Draw a climate graph for Manaus, Brazil using the data above. Use video guides and lessons from this topic to help you construct your graph. Ensure that your graph is accurately labelled, completed on graph paper and drawn in pencil.

2) Calculate the following:

A) Mean temperature

B) Median precipitation

C) Mean precipitation

D) Range of temperatures

E) Range of precipitation

F) Mode of average temperature

G) Percentage increase in precipitation between the coldest and warmest months.

Due date:

Homework 6—Revision for End of Year test

Instructions: Revise for a end of topic test

You will be tested on all aspects of the South America topic .

Please use this knowledge organiser as a clear

focus for your upcoming test.

Due date:

Geography

Population & Development

Wider Reading List

Videos

- Amazon with Bruce Parry—a series of documentaries covering a journey down the Amazon River whilst stopping and living with different tribes to experience their culture.
- Living on a Dollar a Day—a documentary that follows a group of US students that wanted to experience what living on $1 USD a day would be like in South America.
- Planet Earth—David Attenborough documentary series, some of which focus on plant and animal adaptations to the TRF biome.

Revision Websites

- CIA website—contains key facts and figures for all countries.
- BBC Bitesize—contains revision material aimed at GCSE students. There is no 'South America' topic but individual topic components such as plate tectonics, weather & climate, rainforests etc can be searched for.
- https://oceanservice.noaa.gov/ The US National Ocean Service—include student friendly videos and guides about ocean currents, climate and El Nino/La Nina.