



Year 6 Rainforests

***Exploring the link between climate and flora and fauna in the Amazon Rainforest.**

***Understanding the human impact on Earth's biomes.**

Respect, Believe, Achieve

As a Geographer, what do I already know?

- ♦ In Year 4, we learnt about biomes and their climates, describing the characteristics of these and locating them on maps.
- ♦ In Year 5 we explored how climate affects vegetation (food production).

Key Words

Biome	A biome is a large community of vegetation and wildlife adapted to a specific climate. The five major types of biomes are aquatic, grassland, forest, desert, and tundra.
Climate change	Climate change is the long-term alteration of temperature and typical weather patterns in a place. Climate change could refer to a particular location or the planet as a whole. Climate change may cause weather patterns to be less predictable. These unexpected weather patterns can make it difficult to maintain and grow crops in regions that rely on farming because expected temperature and rainfall levels can no longer be relied on. Climate change has also been connected with other damaging weather events such as more frequent and more intense hurricanes, floods, downpours, and winter storms.
Precipitation	Precipitation is any form of moisture which falls to the earth. This includes rain, snow, hail and sleet. Precipitation occurs when water vapour cools.
Deforestation	Deforestation is the purposeful clearing of forested land. Throughout history and into modern times, forests have been razed to make space for agriculture and animal grazing, and to obtain wood for fuel, manufacturing, and construction.

Key Skills

Knowledge Location



- I can locate places and regions of South America, and can identify the distinct characteristics of some regions.
- I can locate places studied in relation to the equator, the Tropics of Cancer and Capricorn, the Arctic and Antarctic Circles, latitude and longitude, and relate this to their time zone, climate, seasons and vegetation.

Understanding Place



- I can describe, compare and contrast key physical and human characteristics, and environmental regions of South America.
- I can understand how climate and vegetation are connected in a range of biomes, such as the tropical rainforest, a hot desert, or the Arctic.
- I can explain climate patterns of a region, describe the characteristics of a biome, what its climate is like and how plants and animals are adapted to it.
- I can explain some ways biomes (including the oceans) are valuable, why they are under threat and how they can be protected.
- I can explain several threats to wildlife/habitats (e.g. make an animation to show why the Amazon Rainforest is valuable and under threat, and why it should be protected).
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Enquiry and Skills



- I can use physical and political maps to describe key physical and human characteristics of regions of South America.
- I can use globes and atlases to locate places studied in relation to the Equator, latitude and longitude and time zones.
- I can use and draw thematic maps for specific purposes (e.g. to show average annual precipitation/ vegetation/climate in South America).
- I can work confidently with a range of maps from large-scale street maps to 1: 50,000 maps.
- I can design, plan and carry out a fieldwork investigation in an urban area and/or a rural area using appropriate techniques (e.g. design, plan and carry out an enquiry to investigate how sustainable one aspect of the school's work is; collect evidence from surveys, photographs and interviews, and present findings to the Head teacher).

Key information—What do I need to know?

♦ Why we have different climates on Earth:

The Earth's climate is driven by energy from the sun which arrives in the form of heat. Half of this energy travels through our atmosphere and reaches the Earth's surface.

The other half is either absorbed by the atmosphere or reflected back into space. Because the Earth is a sphere, the sun's rays reach the earth's surface in polar regions at a much more slanted angle than at equator. So straight away, we know that the Poles are colder than the Equator.

When things aren't in balance, nature likes to even things out. So the extra energy at the Equator needs to be spread across the planet and it's this that creates different climate zones across the world.

Warm air rises at the equator and moves toward the poles. Where warm, wet air rises, we get thunderstorms and tropical rainforests. Where air sinks, it stops clouds from forming – so it rains less, even making deserts.

♦ What the threats to rainforests are:

Logging interests cut down rain forest trees for timber used in flooring, furniture, and other items.

Power plants and other industries cut and burn trees to generate electricity.

The paper industry turns huge tracts of rain forest trees into pulp.

The cattle industry uses slash-and-burn techniques to clear ranch land.

Agricultural interests, particularly the soy industry, clear forests for cropland.

Subsistence farmers slash-and-burn rain forest for firewood and to make room for crops and grazing lands.

Mining operations clear forest to build roads and dig mines.

Governments and industry clear-cut forests to make way for service and transit roads.

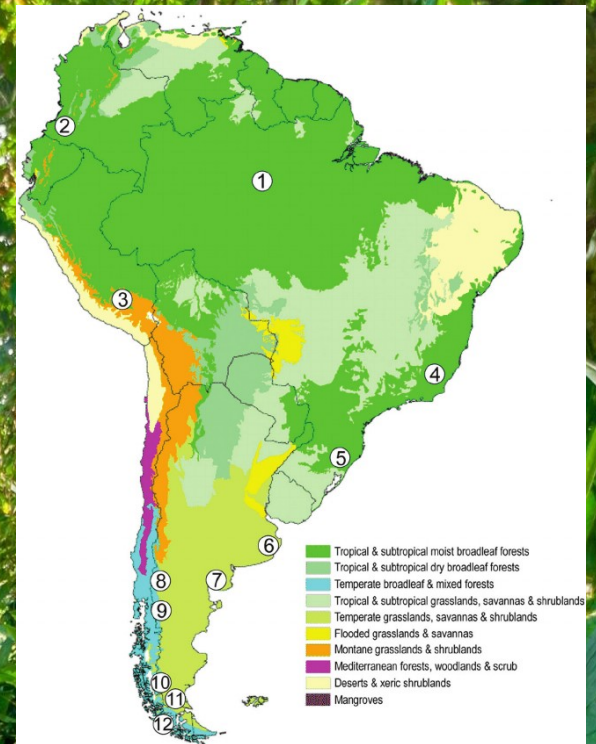


RAINFORESTS 101

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Clear-cut swaths of the Amazon rain forest in Quiandeua, Brazil, are often planted with manioc, or cassava, a shrub grown for its starchy root. Farmers slash-and-burn large parcels of forest every year to create grazing and crop lands, but the forest's nutrient-poor soil often renders the land ill-suited for agriculture, and within a year or two, the farmers move on.



As a Geographer, here's the knowledge, skills and understanding I will have by the end of the unit:

1. I will begin by recapping Y4 and solidifying my understanding of how climate and vegetation are connected in biomes, and understanding why Earth has different biomes.
2. I will be able to locate countries in South America and their capitals, and hypothesise what the biome will be like in these regions based on their proximity to/from the equator, the Tropics of Cancer and Capricorn and the Antarctic Circle, before checking my hypotheses with thematic maps that highlight the different biomes found in South America.
3. I will be able to draw thematic maps to show the average annual precipitation of cities in South America, and link this to my understanding of biomes.
4. I will be able to draw graphs to show the average annual temperatures (high and low) of cities in South America, and link this to my understanding of biomes.
5. I will be able to explain the climatic patterns of the Amazon Rainforest, using my graphs and thematic maps to assist me, and describe how plants have adapted to these conditions.
6. I will have researched my own choice of animal and will be able to explain how it has adapted to the rainforest biome.
7. I will be able to explain several threats to the Amazon Rainforest due to human activity, referring to climate change and deforestation, and will be able to explain why it should be protected.
8. I will also be able to explain threats to ocean and polar regions, and why they should be protected.
9. I will finish the unit by designing, planning and carrying out a fieldwork investigation into how sustainable one aspect of the school's work is; collecting evidence from surveys, photographs and interviews, and presenting my findings to the Head teacher.