

Biomes: rainforests of South America

Prior knowledge:

I know that hotter regions of the world are located nearer the Equator, and cold regions of the world are nearer the North and South Poles.

I can describe and understand the physical geography of different climate zones

I can use world maps, atlases and globes to identify other countries and continents around the world.

I have already studied the similarities and differences of The Alps in Y4 and The Lake District in Y3.

National Curriculum links:

Locational knowledge

Locate the world's countries, using maps to focus on South America, concentrating on their environmental regions, key physical and human characteristics, countries and major cities.

Place knowledge

Understand geographical similarities and differences through the study of human and physical geography of the United Kingdom, a region in a European country and a region within North or South America

Human and physical geography

Describe and understand key aspects of physical geography, including climate zones, biomes and vegetation belts, rivers,

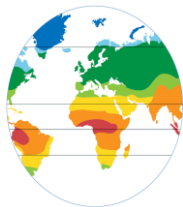
Vocabulary you will use:

Word	Definition
biome	Areas of our planet with similar climates, landscapes, animals and plants
canopy	The thick layer of leaves covering a rainforest
climate	The average measurements of weather over a long period of time
deforestation	Cutting down large areas of trees
emergents	Tall trees growing above the canopy
humidity	Water vapour in the air, which gives the feeling of being very damp
indigenous people	The first people who lived in any region
precipitation	rain, snow, sleet or hail
Under storey	Trees just below the canopy
Resource	Something which people can use which comes from the natural environment
(sub) equatorial	(close to) the equator
Sustainable	When humans interact with the environment in a way that ensures there will be enough resources left for future generations
Tropical rainforest	A tall, dense forest that receives lots of rain every year

Geographical skills and fieldwork:

- use maps, atlases, globes and digital/computer mapping to locate countries and describe features studied
- Visit biomes at Birmingham's botanical gardens – children will explore the physical features of a rainforest during an interactive session. Children will explore the impact of climate on nature and humans.

Quick Summary



Biomes are a way to categorise the Earth's surface. Based on their geographical locations, they each have distinct features – climate, plants and animals.

Scan the QR code to find out more!

Questions we'll ask you throughout the unit to check your knowledge and understanding

In less than 50 words, explain what biomes are and, using your previous knowledge, why they occur.

Compare the similarities and differences of the South African rainforest to the Lake District or The Alps

Summarise the physical characteristics of the Amazon (tropical rainforest)

What are the main threats to the tropical Amazon rainforest and what can be done to mitigate them?

Discuss how land use is affected by climate and travel / tourism

Biomes

Biomes are a way to categorise the Earth's surface. These categories are based on climate patterns, soil types and the animals and plants that inhabit an area.

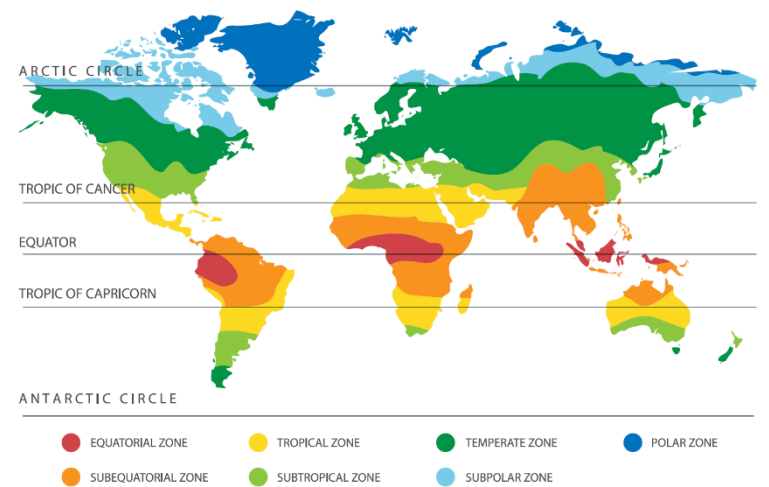
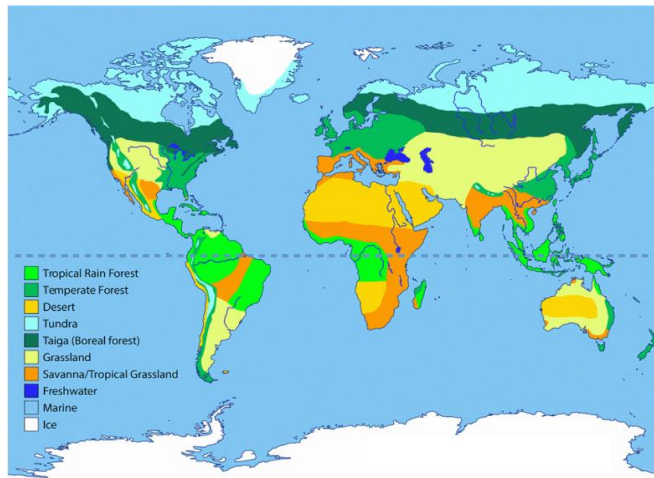
There are terrestrial biomes and aquatic biomes. Every part of the Earth's surface is a part of one or more biomes.



Location

Identify the different biomes on a world map, a globe and through the use of digital mapping on Google Earth.

There are ten biomes: tropical rain forest, temperate deciduous forest, desert, tundra, taiga, grassland, savannah, marine, freshwater and ice.



South America



Location



South America stretches from just above the Equator, all the way down to the Antarctic, and is also connected to North America by land.

40% of Brazil is covered by the tropical Amazon rain forest, however the rain forest is also found in 8 other countries. Tropical rain forests are only found in the equatorial and sub-equatorial climate zones (in the tropics)



South America is the fourth largest continent on Earth. It is made up of 12 countries, Brazil being the largest in size.

Identify the where South America is on a world map, a globe and through digital mapping. Look at where it is in relation to the UK.

The Amazon River runs through South America and is surrounded by the world's largest rain forest.

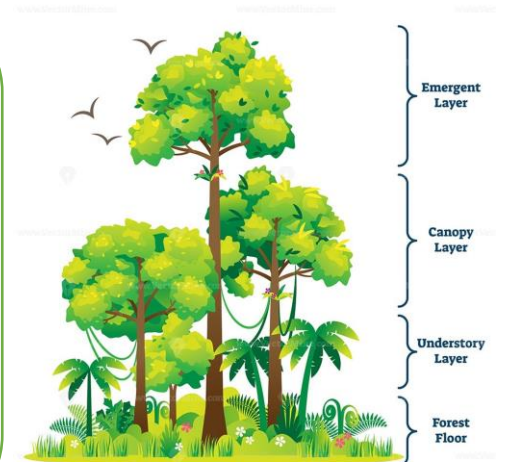
Rainforests: physical geography



The canopy layer is a thick layer of vegetation below the emergent layer. It is made up of leaves and branches from the canopy trees, which all crowd together blocking out 98 per cent of the sunlight to the layers below it. It also stops 80 per cent of the rain fall from reaching the ground. This is the main layer of the rain forest and most of the animals live here.

The emergent layer is the tallest layer of the rain forest. Trees here can grow as tall as skyscrapers (between 40 m and 80 m) and have thin trunks. The emergent layer is home to lots of birds, monkeys and insects.

RAINFOREST LAYERS



Because they are in the tropics, rain forests like the Amazon are hot, wet (humid) places with high levels of precipitation. The average annual temperature in the Amazon is around 25-28°C and it does not have distinct summer or winter seasons. It does, however, have a low-water and a wet season. The Amazon gets around 2500mm of rain annually.

The understory is a dark, damp place because the canopy blocks most of the sunlight. Only small shrubs and trees can grow there. However, the conditions are perfect for moss and algae and it is home to lots of insects and reptiles.

The forest floor is the bottom level of the rain forest. It has poor soil but gets nutrients from the rotting plant debris. Forest litter and dead creatures fall on the ground. These decay quickly thanks to insects, fungi and the hot conditions. Many insects make their home in the forest litter. The forest floor is also home to large mammals.

There are four main layers of rain forest vegetation: the emergent layer, canopy, understory and forest floor. Each layer has distinct characteristics which means it is suited to specific flora and fauna.

Rainforests: human geography

The Amazon is a vital resource. We get many items of food such as bananas, chocolate, coffee, nuts, coconut, cinnamon and rubber from the rain forests. About 25 per cent of the medicines we use come from plants in the rain forest.

Deforestation is a major threat to the Amazon and other tropical rain forests. The main causes of deforestation includes agriculture - clearing land for farming and raising cattle.



Indigenous groups such as the Yanomamo and Kayapo have been living in the **Amazon** for thousands of years, slowly accumulating a detailed knowledge of the **rain forest** and how to exist alongside it sustainably.