

TROPICAL RAINFORESTS

What is a rainforest?

Rainforests are very dense, warm wet forests. They are home to millions of plants and animals. Forests are areas of dense trees and vegetation combined with more open areas. Rainforests cover 6% of the world's land surface, but contain half the world's species.



Rainfall

It is almost always raining in a rainforest, with a minimum of 150cm of rainfall each year. Half of the rain that falls never reaches the floor, but is caught in the layers of broad leaves.

Temperature

Because of their location, there is little variation throughout the year. It never freezes and never gets exceptionally hot, averaging around 25°C to 30°C. There is usually a consistent 12 hours of sunshine each day and it is very humid.

Layers of the rainforest

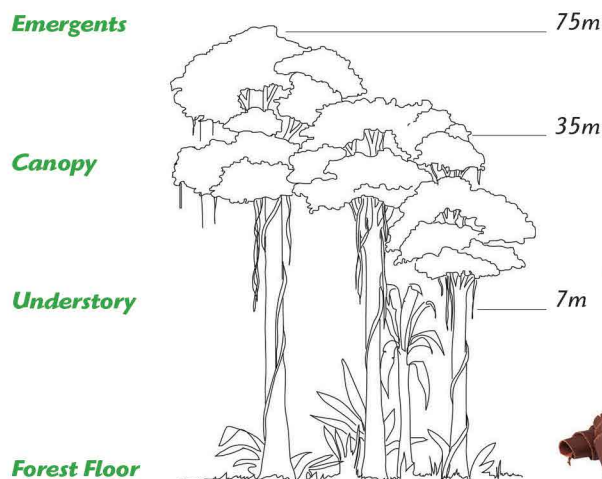
Different animals and plants live in different parts of the rainforest. The rainforest can be divided into the following layers:

Emergents: Giant individual trees that can reach 75 metres. These trees get the most sunlight and are the home of many birds and insects.

Canopy: The upper parts of the majority of trees, which can grow to 30 to 40 metres. This leafy environment is full of life with insects, birds, reptiles, mammals and amphibians.

Understory: Young trees and shrubs growing up to about seven metres. A dark, cool area as little sunlight gets through the canopy.

Forest Floor: The largest animals in the rainforest usually live here, but there is also a mass of insects, fungi and fallen leaves.



Where are they found?

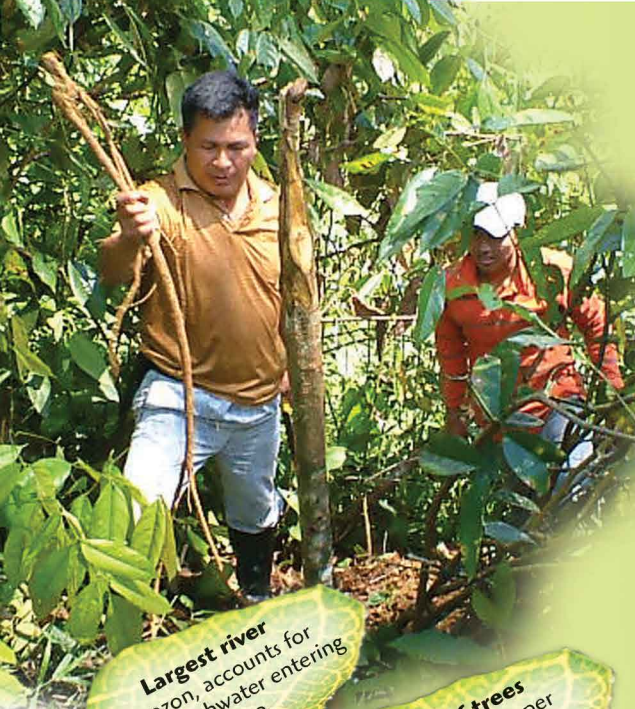
Tropical rainforests are found in a belt around the middle of the earth (the Equator). There are rainforests in South America, Central America, Africa, south-east Asia and Australia.

Products of the rainforest

There are many foods and other products that originate from the rainforest. Approximately one in four medicines originally came from rainforest animals or plants. Other products with their origins in the rainforest are rubber, mahogany, rattan (for ropes and mats) and jewellery made from metals mined from the rainforests.

Many foodstuffs started their journey to our table from tropical rainforests including bananas, cashew and brazil nuts, pineapples, cocoa (chocolate), coffee, peanuts, rice, sugar cane, oranges, and spices such as vanilla, nutmeg, ginger, cinnamon, pepper and cloves.





People in the rainforest

It is not just animals and plants that live in the rainforest. Millions of indigenous tribal people have lived in rainforests for thousands of years, using the forests natural resources in ways that do not endanger the survival of the planet or animals. Their way of life reflects a deep understanding of the rainforest and yet in recent years many people have found they are fighting to keep their land and way of life. This is due to the unceasing encroachment of development into the forests.

Another threat to indigenous people is the introduction of 'western diseases', introduced by people such as missionaries, miners, loggers and ranchers. It has been estimated that today there are 30 million indigenous people living in the Amazon rainforest, consisting of 350 different ethnic groups, and found across nine countries.

Threats to the rainforest

The rainforests are among our planets most valuable natural wonders, and yet they are being destroyed, for one reason or another, at an incredible rate.

Habitat destruction results in the loss of 150,000 square kilometres of rainforest every year (an area the size of England and Wales). The main reasons for habitat destruction is logging (mainly for timber export), farming, road building, mining, population pressure and development projects.

There are many countries in the world where much rainforest has already been completely destroyed. Some reforestation schemes are underway, but areas can never be fully restored and it takes many years to make up for the loss of diversity in animal and plant life.

RAINFOREST animals at Drusillas

You will find many animals which originate from the rainforest at Drusillas.

The following is a list of our rainforest animals:

silvery marmoset, pygmy marmoset, emperor tamarin, Goeldi's monkey, Capuchin monkey, Sulawesi crested macaque, common marmoset, cotton-topped tamarin, squirrel monkey, agouti, Rodrigues fruit bat, binturong, two-toed sloth, lar gibbon, capybara, black lemur, coati, giant anteater and various invertebrates.

Giant African millipede (*Diplopoda sp.*)

Sub-Saharan Africa. These are detritivores - they eat rotting fruit and vegetation from the forest floor. Some species can have over 1000 legs when fully grown. They have two pairs of legs on each body segment. Millipedes power walk through foliage and can climb trees.



Madagascan hissing cockroach (*Gromphadorhina portentosa*)

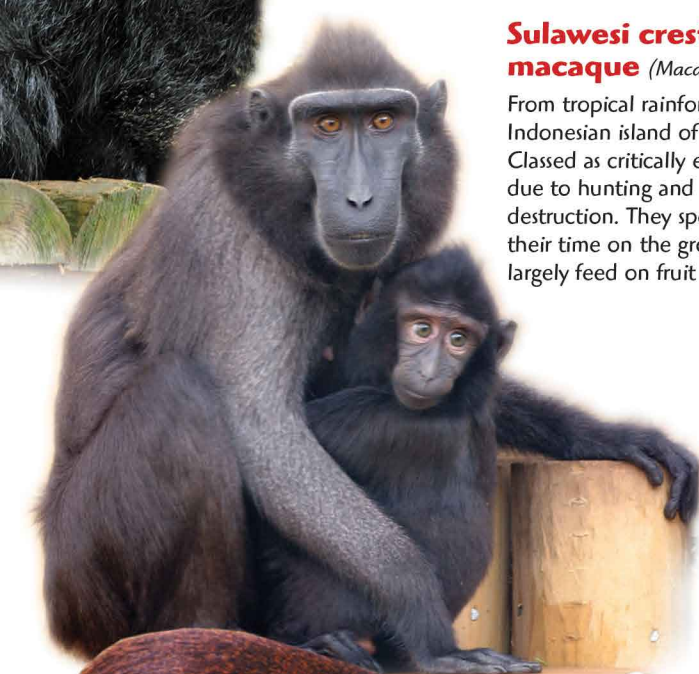
Madagascar. These live on the forest floor, eating rotting fruit and vegetation. They have several different hisses - they hiss if threatened, or during courtship to attract a mate. Cockroaches are one of the oldest terrestrial species, having been around for well over 300 million years.





Binturong (*Arctictus binturong*)

South-east Asia. Large carnivores also known as bear cats, they have a prehensile tail (like many monkeys). They can turn their ankles backwards to aid grip when walking down trees head first and their scent is supposed to smell like buttered popcorn!



Sulawesi crested macaque (*Macaca nigra*)

From tropical rainforests on the Indonesian island of Sulawesi. Classed as critically endangered due to hunting and habitat destruction. They spend most of their time on the ground, and largely feed on fruit and plants.



Azara's agouti (*Dasyprocta azarae*)

Southern Brazil, Paraguay and Argentina. Agouti are a little like large, shiny-brown guinea pigs. They forage on the forest floor, and are largely responsible for distributing Brazil nuts throughout the forest - perhaps if it weren't for the agouti, we wouldn't have Brazil nut trees.

Black lemur (*Eulemur macaco*)

From tropical rainforests in northern Madagascar. Male black lemurs are black, whilst females are brown. They eat lots of fruit and appear to be the sole seed-disperser for many tree species. They are cathemeral (active in bursts during the day and night).



Linne's two-toed sloth

(*Choloepus didactylus*)

South America. Sloths spend most of their time hanging upside down from branches by their four limbs. Their fur often turns greenish due to algae growing in it; this acts as camouflage and also can be food for them. Sloths move very slowly, have a lower body temperature than other mammals and only urinate and defecate about once a week.



Giant anteater (*Myrmecophaga tridactyla*)

From grasslands and tropical forests in Central and South America, they can tear into ant hills and termite mounds using the large claws on their front feet. Giant anteaters can eat 30,000 ants and termites a day. Their tongue is 50cm long and is sticky to pick up the insects.

Cotton-topped tamarin

(*Saguinus oedipus*)

North-west Colombia. Critically endangered due to habitat destruction, only 6,000 remain in the wild. Live in family groups in which only the dominant male and female breed. They have two babies at a time that are carried around by their father. Mainly feed on fruit, nectar and insects.





Your Rainforest session @ DRUSILLAS PARK

Your booked 30 minute education session will explore the wonder of tropical rainforests, and starts by establishing where rainforests are located, what they are like and the layers of the forest. To introduce rainforest animals, images are shown and artefacts such as crocodile and snake skins are shown to the group. These artefacts are on loan from H. M. Revenue & Customs and allow an opportunity to touch items that pupils may not otherwise come into contact with. In addition, a rainforest goody bag is examined to show the sort of products we all use on a daily basis.

At any point during the session, threats to the rainforest and its inhabitants can be discussed with the group, depending on the emphasis that is preferred. At the end of the session live animal encounters, with rainforest animals, takes place. Animals introduced vary and could include a snake, rat, hissing cockroach, millipede or snail.

Naturally, health and safety is considered throughout and everyone is asked to clean their hands after touching animals and artefacts.



Activity Ideas

- * Children write about 'their adventure' through the rainforest, why they packed items for their journey, the climate, flora and fauna they see, food and drink they consume, any medicines needed etc.
- * Compare a climate graph of the rainforest with a climate graph of the U.K.
- * Field study in school grounds or local park. Children take measurements and/or descriptions of trees they find - e.g. height, leaf size, trunk thickness etc., and compare with descriptions they can find of rainforest trees.
- * Children study native people from the rainforest comparing lifestyles and their sustainable use of the rainforest - e.g. rubber tappers. This can lead on to the study of deforestation and its effects.
- * Rainforest harmony - rainforests are noisy places! Children can explore this by taking inspiration from rainforest sounds or pictures. A class activity is to get the children one by one to make a rainforest animal / rain/ wind noise until whole class is participating.

FIND OUT MORE...

Useful websites:

www.drusillas.co.uk

www.mongabay.com

www.bbcearth.com/nature

kids.nationalgeographic.com/animals



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