

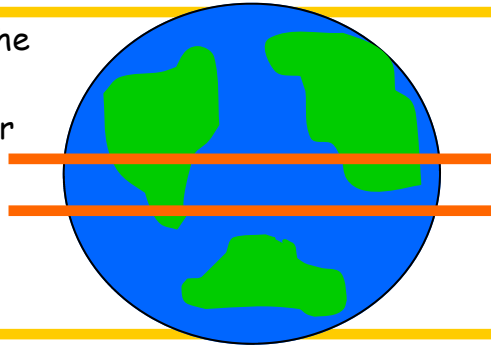


tropical rainforests

# What is a Tropical Rainforest?

Tropical rainforests are found along the Tropic of Cancer and Capricorn, which are two imaginary lines, that run either side of the earth's equator.

The three rainforest regions are the Neotropics, Africa and Australasia



A large amount of rainforest life is found high up in the canopy layer. Very little sunlight can penetrate the thick foliage, making life below the canopy dark and humid.

The trees concentrate their leaves at the very top of their trunks to ensure that they absorb as much sunlight as possible using *photosynthesis*.

The understory is broken up into three layers; The Lower Tree, the Shrub and the Field Layers. These layers include young trees waiting for a chance to reach the sunlight when an older tree dies and smaller plants that can survive with little light.

Plants in the understory often produce large white flowers to attract nocturnal animals

The Forest floor is made up of a thin layer of rotting vegetation and whilst it may seem uninviting is actually teeming with life.

Fungi and insects on the floor feed on the vegetation and act as vital *decomposers*, allowing the nutrients in the rotting plants be reabsorbed back into the living forest.

This cycle is vital to rainforest's survival.



## Did You Know...?

Over half of the species in the entire world are found in rainforests.

Scientific research has estimated that it may actually be closer to 90% of all species!



The jaguar is one of the Amazon's most feared and successful predators. With his mottled coat he can blend into the sun-spotted undergrowth and stalk his prey silently.

Jaguars are carnivores and feed on everything from small bird to alligators!

One hectare of rainforest can contain 42,000 species of insect, 1,500 species of plant and up to 750 species of tree!



The toucan has a beautiful bright beak which it uses to attract a mate.

They are among countless other bird species making their home in the rainforest environment

One of the few ground-dwelling mammals of the Amazon is the largest rodent in the world—the capybara. They can be the size of a fully grown pig!

One type of poison arrow frog defends itself by carrying enough toxins in its skin to kill 1,000 people if it enters the bloodstream through a wound!

Forest people extract the poison by rubbing their darts on the frog's skin and using them as a hunting aide.

Found in the forests of south east Asia, the Rafflesia bloom is the largest flower in the world and measure 1 metre across.

They are known as the corpse flower because it smells like rotting meat to attract insects.



The harpy eagle is one of the largest birds in the world with a wingspan of 2 metres and a height of nearly a metre.

Harpy eagles are a predator of the woolly monkey.



# How do People Use the Rainforest?

Tribes like the Yanomami have used the rainforest for thousands of years without causing it any lasting harm. We will learn more about these people in the pages following but for now we will look at the ways in which the rainforest is used by countries like the UK, or otherwise known as "Western" or "developed" countries.

There are 3 main ways in which people use the rainforest:

## Wood

The main export from the rainforest is timber, such as mahogany and teak. This type of wood is known as a tropical hardwood and is very expensive and sought after in furniture making in the western world.

The problem with chopping down hardwoods is that the demand by far outstrips the supply with more than 120,000m<sup>2</sup> being exported from central and south America each year.

The oldest rainforest trees can be 1,400 years old and so when they are chopped down, it will be many, many lifetimes before that tree can be replaced by another, if it can indeed ever be replaced at all.

As well as killing the trees this practice threatens and kills the wildlife that make their home in that tree and the surrounding area

## Mining

Mining for metals such as iron, copper and tantalum require large areas of the forest to be cleared using the "*Slash and Burn*" process.

This is devastating for the forest and all of its inhabitants.

This is a particular problem in the Congo area of Africa, which is home to a critically endangered species of gorilla. As long as illegal mining continues, more of the gorilla's habitat is destroyed and the less chance they have of survival.

Tantalum is used in mobile phones, computer game consoles and other electronic equipment. Recycling your mobile phone is a way in which you can reduce rainforest destruction.

## Land

Another reason for land clearance in the rainforest is to make way for the rearing of cattle and the growing of *cash crops* such as coffee, bananas or soya (which is used as a cheap animal feed) and palm oil.

The reason that the land is used is because it is so cheap and easily available, meaning the rainforest states lose land but do not gain any real benefit from its sale.

If you eat beefburgers from your local fast food restaurant, it is likely that the cattle that the meat comes from have been fed on soya from the rainforest.

# Rainforest People

The rainforest is not just home to plants and animals, but to people too. One of the most well-known tribes that live in the Amazon jungle are the Yanomami. It is thought that they have lived in the rainforest for thousands of years and know much more than we in the western world could possibly learn about the Amazon and its amazing *ecosystem*.



The Yanomami way of life is *sustainable*. They are hunter-gatherers who also grow their own crops for food and medicine. All food is shared between the community and gardens are replanted in different areas every few years to allow the land to *regenerate*.

The Yanomami do not take any more than they need and so preserve the delicate balance of forest life.



The Yanomami's way of life is threatened by deforestation and land clearance by large companies, who are destroying their homes and long-standing traditions.

The Yanomami people live in huge communal houses called yano.

These houses can comfortably house up to 300 people, with each family occupying an area. The houses have a large opening in the centre with no roof. This area is used for celebrations and socialising.



"Western" diseases, such as *malaria* is being brought to tribal communities by outsiders. The Yanomami have no *immunity* to these illnesses and are dying in large numbers.

# Activities

Your teacher or group leader will help you to work your way through the following rainforest-related activities:

## Deforestation Forum

*TreeCo is a large company who has just been granted permission by the Brazilian Government to clear a section of the Amazon Rainforest and export the timber for sale in Europe and the USA. The land has been sold to them by the government.*

*When the area is cleared, TreeCo plan to sell the land to BeefCo, who plan to rear cattle on it and export the meat to Europe and the USA.*

*TreeCo has created jobs in the area for local people to help with the logging and BeefCo will need to employ people to run the ranch.*

*Brazil has a debt of over £100 billion and the two companies would help to bring some money into the country.*

Your teacher will split you into groups and each of your groups will have to consider a different person's view on the above situation.

Those people are:

1. A tribesperson affected by the forest clearance
2. The Managing Director of BeefCo or TreeCo
3. A local person with a large family who is currently unemployed
4. A government official
5. A member of an environmental group in the UK
6. A furniture retailer in the USA

Come up with ideas and then present your view to the rest of the class.

## Rainforest Research

Use the internet, books, or any other type of media you can find to research a rainforest creature or plant. Your research will be used as part of a display on rainforest inhabitants or as part of a "Rainforest Encyclopedia" that you can put together as a class.

You can use the following questions as guides for your research, or come up with your own line of investigation:

1. What is it that makes this plant or animal unique?
2. Is this plant or animal dependent on any other plant or animal for its existence?
3. Is any other plant or animal dependent on this plant or animal for its existence?
4. What special attributes does this plant or animal have that helps it to survive in the rainforest?
5. Is the plant or animal common or rare? Why is this?

There are some incredible creatures and plants living in the rainforest and you might be surprised to find out which ones depend on others and the amazing way in which they have adapted to life in their tropical climate.

### Tribal Living—Primitive or Innovative?

*You are the founding members of a tribe of people living in the Amazon rainforest. You have abandoned modern civilization to discover a different way of life.*

*You have no access to modern technology, electricity, running water or any of the things that we in the western world might consider to be necessities. Do you think you could survive in the jungle?*

First of all sit down as a whole group and decide on a name for your tribe and then split down into smaller groups, when you will each have an aspect of tribal life to consider. There may be problems to be overcome or systems to be set up to ensure that life in your tribe runs smoothly.

You will be given the "problem" your group has to consider by your teacher. Come up with as many ideas as possible and then present them to the rest of the group.

At the end of the task, decide whether you think your tribe would survive or not!

### Design a Rainforest Home

*You are a member of a tribe which is being forced out of your home due to deforestation and clearing of rainforest land.*

*You have to find a new site for your tribe and have been given the job of finding an appropriate location and coming up with a design for your new rainforest home.*

Think about what you might have to consider when trying to find a site, and then design a home for you and your family to live in.

Think about the materials you will have available and the tools. Think about how your house will be furnished. What will you do for heat and light.

Ask your teacher how you should present your design.

### A Day in the Life

*You are a member of an indigenous tribe in the Amazon rainforest. You can choose whether you want to be an adult or a child and then decide what your role might be in your community. Think about what might happen to you in a normal day.*

Present your ideas by creating a roleplay with other members of your group, write a story entitled "A Day in the Life of a Tribesperson", or create a piece of artwork depicting you and the common features of your day-to-day life.

Compare how life in a tribe might differ from your life. Which would you prefer and why?

### Design an Amazon Animal

The rainforest is home to an amazing and vast array of creatures who have made incredible adaptations to life in the unforgiving climate of the rainforest.

Your task is to "design" a new creature that could live in the rainforest.

You might want to consider the following factors when designing your creature:

1. Which part of the rainforest will your creature live in and what features should it have to survive in this area?
2. What will your creature eat?
3. Will your creature be predator or prey?
4. What colour will it be? Will it be bright or camouflage?
5. Is it diurnal (active in the daytime) or nocturnal (active at night)?
6. What will the name of your creature be?

Your design can be a fun piece of artwork or a more complicated design which take into consideration the real-life criteria for rainforest survival

### How Important is the Rainforest to Me?

In this short activity you will be asked by your teacher to think about whether you think the rainforest is important to you and whether you think it has an effect on your everyday life.

Can you think of any products that you might use that come from the rainforest? What part of the forest do you think they come from?

Your teacher will show you a number of objects and you have to decide as a group whether or not you think those items come from the rainforest. You might be surprised at the results!

Why not find out more about rainforest products by researching on the internet. Do you think some of the products you have learned about are good for the forest or bad?