

Rainforest Key Word	Definition
Equator	The imaginary line that runs around the middle of the Earth
Latitude	How far north or south you are from the equator
Photosynthesis	The process where plants make energy using sunlight and carbon dioxide
Weather	The day to day changes in the atmosphere
Climate	The average weather conditions measured over 30 years
Convictional rainfall	Rainfall caused by the sun heating the ground
Cumulonimbus	Large anvil shaped clouds that produce heavy convictional rainfall
Humidity	The amount of moisture in the air
Biodiversity	The range of organisms in an ecosystem
Competition	Where plants or animals fight for resources
Habitat	The place where plants and animals live
Evaporation	Where water turns from a liquid into a gas (water vapour)
Condensation	Where water vapour cools and turns into a liquid
Equatorial	The name of the type of climate where rainforests are found
Predation	Where one animal kills another for food
Biome	A very large ecosystem
Amazon	The largest rainforest in the world
Forest floor	The ground layer of the rainforest with very little light. Covered in leaf litter and host to many insects and big animals.
Under-canopy	The layer of the rainforest in between the forest floor and the canopy. A cool, dark environment.
Canopy	The second tallest layer of the rainforest (30-45 metres). Contains the most plant and animal species. Blocks sun from lower layers and intercepts rainfall.
Emergent	The tallest layer of the rainforest (over 40 metres). Giant trees that stick out above the canopy. Birds and insects. Plants made for living in dry conditions because it's very sunny.
Distribution	The way something is spread out or arranged over a geographic area
Decompose	Where bacteria breaks down dead material
Nutrients	The chemicals that plants and animals need to grow
Infertile	Where the soil has a lack of nutrients
Interception	Where the leaves of trees catch rainfall
Infiltration	Water soaking into the soil
Surface run-off	Water moving over the land
Leaching	Where nutrients are washed out of the soil

## Plant Adaptations

- **Tall tree trunks with no branches** so trees can grow rapidly to the **canopy** so they can absorb more **sunlight** so they can make more **energy** through **photosynthesis**.
- **Leaves are waxy and have drip tips** so **water** can run off them quickly so they aren't damaged or broken so they can continue to absorb sunlight so...  
**Large leaves** in the **ground layer** so they can absorb more **sunlight** so...
- **Large buttress roots** so the trees are supported so they can grow tall without falling so they can reach the **canopy** so they can absorb more **sunlight** so they can make more **energy** through **photosynthesis**.
- **Shallow roots** because most of the nutrients are in the top layer of the soil.
- **Lianas** wrap around the trunk so they can climb to the canopy so...



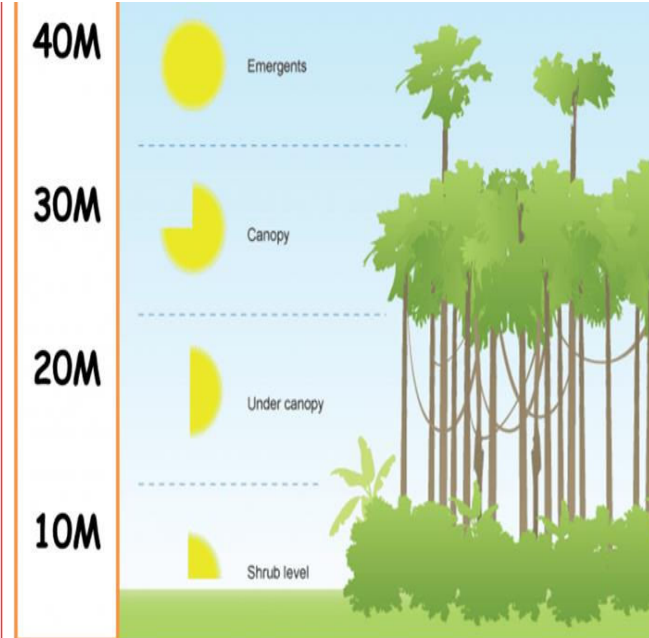
## Structure of the Rainforest

**40m – Emergent Layer:** Tallest trees shoot out of the canopy.

**30m – Canopy:** Continuous layer of tree tops.

**20m – Under-canopy:** Trees competing to get into the canopy, competition for sunlight is fierce.

**10m – Forest Floor Layer of shrubs and young trees.** Very dark and damp.







## Animal Adaptations

- **Jaguars** have **sharp teeth** and **can run fast** so they can kill their prey quickly so they can eat and get nutrients so they don't starve.
- **Poison arrow frogs** have **poisonous skin** and **bright colours** so they can put off predators so they can survive. **Macaws** have **bright colours** so they can attract a partner so they can mate.
- **Spider monkeys** have **claws** and **prehensile tails** so they can climb to the canopy so they can access food.
- **Sloths** are **slow** animals with **long arms** and **claws**. **This means that** they can hang in the canopy and be safe from predators.

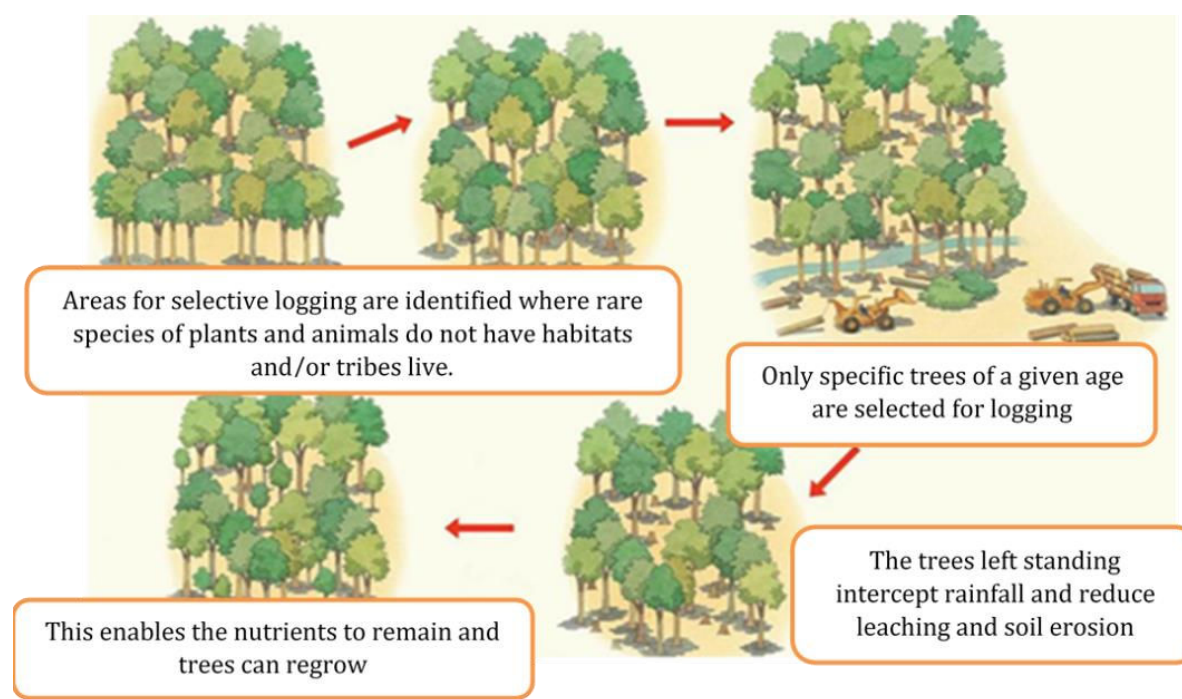


# Deforestation in the Rainforest

Cause	Description	Effects
<p data-bbox="300 218 435 254">Logging</p> 	<p data-bbox="751 218 1429 368">Cutting down trees for <b>timber</b>, which is usually sold to HICs (High Income Countries).</p>	<ul data-bbox="1490 218 2300 425" style="list-style-type: none"> <li>• Heavy machinery compacts soil <b>so</b> it's more vulnerable to <b>erosion</b>.</li> <li>• <b>Silt</b> is washed into rivers <b>so</b> <b>biodiversity</b> is reduced .</li> </ul>
<p data-bbox="300 492 435 528">Farming</p> 	<p data-bbox="751 492 1429 749">Clearing land for:            -Planting cash crops such as <b>palm oil</b>.            -Grazing cattle.            Most crops and cattle are eventually sold to HICs.</p>	<ul data-bbox="1490 492 2300 642" style="list-style-type: none"> <li>• Reduces soil fertility <b>so</b> it can't be used in the future <b>so</b> even more land will have to be cleared.</li> </ul>
<p data-bbox="300 766 703 852">Mining for minerals and metals</p> 	<p data-bbox="751 766 1429 916">Land is completely deforested. Soil is removed with high-pressure hoses and chemicals.</p>	<ul data-bbox="1490 766 2300 866" style="list-style-type: none"> <li>• <b>Run-off</b> goes into local rivers and pollutes them <b>so</b> <b>biodiversity</b> is reduced.</li> </ul>
<p data-bbox="300 1089 524 1125">Dam-building</p> 	<p data-bbox="751 1089 1416 1132">Hydro-electric dams provide energy.</p>	<ul data-bbox="1490 1089 2150 1196" style="list-style-type: none"> <li>• <b>Flooding</b> of large areas of forest.</li> <li>• <b>Displacement</b> of people.</li> </ul>



# The Nutrients Cycle and Selective Logging in the Rainforest



## Ecotourism: Amazonat

- Amazonat is an example of **sustainable ecotourism** which **conserves** the **environment** and improves the well-being of **locals**.
- Guides stick to specific footpaths and routes through the forest **so habitats** are not damaged **so** the **biodiversity** and **ecosystem** is protected. **For example**, leaves and insects are not trampled on and **soil erosion** is reduced.
- The hotel employs local people **so** they have an **income** **so** they can support their family and have a better **quality of life**.
- All the wood used has the **'Smartwood' label** which means that the wood hasn't been illegally logged. **Therefore** the deforestation is less damaging.



*Designated footpath*