

Year 9 Living World

Game Changer – 'I can recognise human impacts on a range of ecosystems and consider how we can manage these.'

This unit focuses on the characteristics of ecosystems and global biomes. Developing understanding of both the biodiversity of contrasting environments and their opportunities and threats.



Ecosystem

A community of plants and animals that interact with one another and their physical environment.

Abiotic

Relating to non-living things.

Biotic

Relating to living things.

Producer

An organism or plant that is able to absorb energy from the sun through photosynthesis.

Primary consumer

Creature that eats plant matter. Also known as a herbivore.

Secondary consumer

Creature that eats other animals. Also known as a carnivore.

Decomposer

An organism that breaks down dead plant and animal matter.

Find out more:

BBC Bitesize

Case Studies



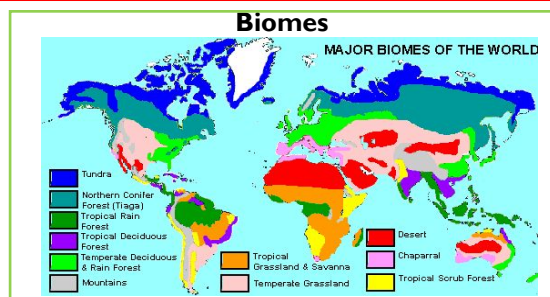
Ecosystems

An ecosystem is the **biotic** and **abiotic** parts of an environment and the relationships that exist between them.

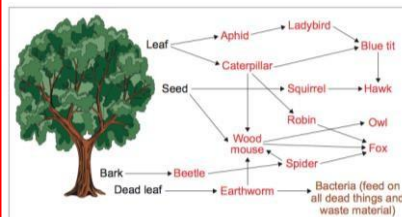
Example of a small scale UK ecosystem.

Producers	Hawthorn, Beech, Nettles, Dandelions, Grass, Honeysuckle
Consumer	Aphids, Shield Bug, Garden Snail, Garden Spider, Caterpillar
Secondary consumers	7 Spot Ladybirds, Blue Tit, Robin, Mouse, Hedgehog
Top predators	Fox, Domestic Cat, Sparrow Hawk
Decomposers	Bacteria
Abiotic	Dead leaves, soil, air, water, sun, stones/rock

Biomes

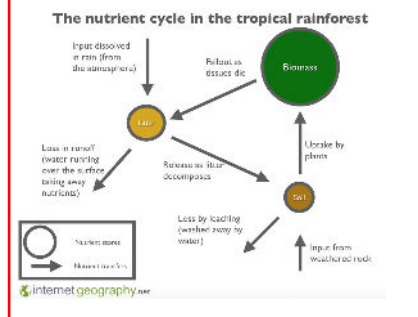


Food Webs



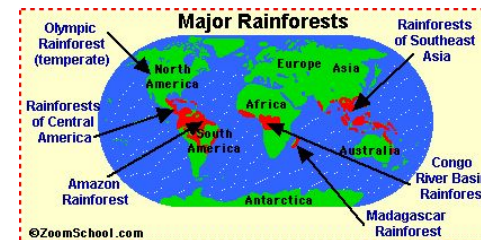
The different parts of the ecosystems interact so it functions effectively. If one part changes, it will effect the whole ecosystem. It includes food chains, food webs and the nutrient cycle.

Nutrient Cycle

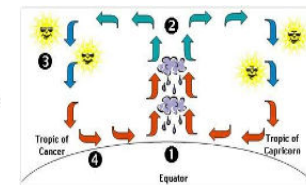
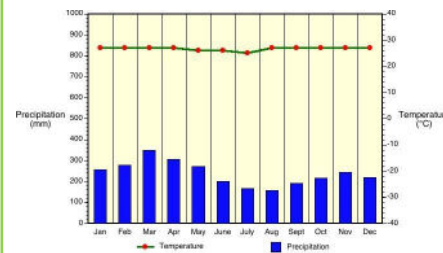


Rainforest Locations

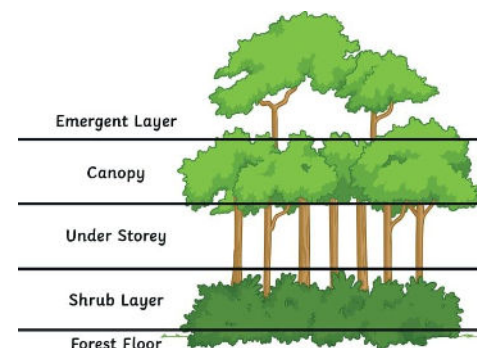
Rainforests are found in the tropics, the region between the Tropic of Cancer and the Tropic of Capricorn, just above and below the Equator. Many countries have tropical forests. The countries with the largest areas of tropical forest is the Amazon.



Rainforest Climate



Rainforest Structure



SPACE & PLACE

SUSTAINABILITY & STEWARDSHIP

FUTURE CHANGE & CHALLENGE

INTERRELATIONSHIPS

GAME CHANGERS

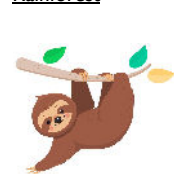
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Animal & Plant Adaption

Rainforest



Drip tips - plants have leaves with pointy tips. This allows water to run off the leaves quickly without damaging them.



Sloth uses camouflage and moves very slowly to make it difficult for predators to spot. Their long strong claws also help them to climb.



Buttress roots – Large roots above ground help them to support large trees. The shallow roots also spread out under the soil to absorb rainwater and to take up nutrients from the poor soils.

Cold Environment



Polar Bears have white fur - as camouflage from prey on the snow and ice. Thick layers of fat and fur - for insulation against the cold. Large feet to spread weight over ice and snow.

Bearberry are very low-growing to survive strong wind. Thick bark for stability. Bright red berry's to stand out and attract birds to distribute seeds.



Threats

- Deforestation
- Habitat loss

DEFORESTATION CAUSES



Tropical Rainforests

Opportunities

- Logging
- Mining
- Tourism
- Agriculture



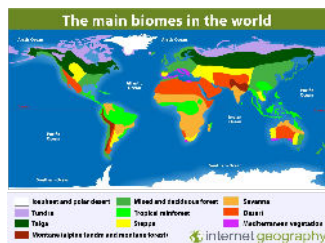
Management

- Ecotourism
- Selective Logging
- Conservation
- International Agreements

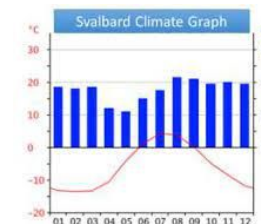


Cold Environments

Location



Climate



Threats

- Climate Change
- Oil Pipelines
- Off road vehicle damage



Opportunities

- Tourism
- Coal
- Oil
- Rich fisheries



Management

- Trans-Alaskan Pipeline
- International Agreement (Antarctica Treaty)
- Conservation
- Fishing quotas



Find out more:

BBC Bitesize

Case Studies



SPACE & PLACE

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Hot Deserts



Camel

Camels have wide feet for walking in sand. They have long eyelashes and thin, slit nostrils that they can close to protect them from blowing sand. They are adapted to survive a long time without water and food. On a long trip, the fat in their hump(s) will break down to supply their body with the energy it needs.

Cactus

Leaves are reduced to spines to reduce water loss through transpiration. Wide and deep roots absorb rainwater on the surface and reach the underground deep water.



Find out more:

BBC Bitesize

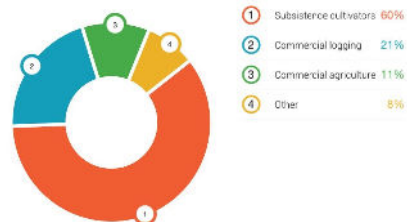
Case Studies



Threats

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DEFORESTATION CAUSES



Tropical Rainforests

Opportunities

- Logging
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- Tourism
- Agriculture



Management

- Ecotourism
- Selective Logging
- Conservation
- International Agreements



Hot Deserts

Threats

- Desertification
- Water Supply
- Accessibility



Opportunities

- Solar Power
- Wind farms
- Farming
- Tourism
- Mineral Extraction

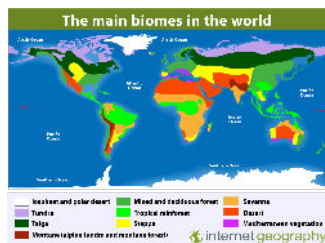


Management

- National Parks
- Soil and Water Management
- Tree Planting



Location



Climate

