

Geography | Ecosystems of the Planet | Year 10

Biome Characteristics		Biome Characteristics			
Tropical rainforests Found between the Tropics of Cancer and Capricorn.	High and constant temperatures. High rainfall (over 2000mm). The growing season is all year round. Most animals and insects like in the canopy. Highest biodiversity of any biome	Temperate forests Found between 40 and 60°N/S of the equator.	Have four distinct seasons. Forests are made up of broad-leaved trees that shed their leaves in winter (deciduous) and grow during the summer months. Mammals have to adapt to cooler winters (some hibernate or migrate to warmer places) and warmer summers.		
				ecosystem	A natural area in which plants, animals and other organisms are link to each other and the non-living elements of the environment.
Coral reefs Found within 30°N/S of the equator in the tropical and subtropical oceans.	Ocean temperatures average 18°C. Water needs to be shallow (30m). Algae grows on coral to provide it with energy. Sea grasses are flowering plants. 4000 species of fish including sarfish, clams, eels and parrot fish. Mammals include dugong.	Polar regions Arctic – North Pole. Antarctica – South Pole	Long, cold winters and sort, cool summers. Treeless area. Some evergreen shrubs, mosses and lichen. Mammals include polar bears, wolves, foxes and reindeer.	biotic	All of the living elements of an ecosystem including plants, animals and bacteria
				abiotic	The physical, non-living parts of an ecosystem including temperature, water and light
		Processes within Tropical Rainforests		fauna	animals in an ecosystem.
		The Water Cycle	As the rainforest heats up in the morning, the water evaporates to form clouds. The clouds then rain the next day. This is called convectional rainfall. The removal of trees means that there is less moisture in the atmosphere.	Flora	plants in an ecosystem.
				interdependence	The reliance of every form of life on other living things and on the natural resources in its environment.
Tropical grasslands Known as savannah and found between 5 and 30°N/S of the equator.	Have low rainfall and high temperatures throughout the year. The baobab tree has adapted to the dry conditions. Herbivores include antelopes (eg gazelles, springbok, impala and oryx), elephants, zebra, rhinos and wildebeest. Carnivores include lions, hyenas and leopards.	The Carbon Cycle	Rainforests take in carbon dioxide from the air as they photosynthesise and grow. Trees store a lot of carbon which means they have role to play in reducing global warming and climate change. When trees are burned the carbon is released back into the atmosphere and adds to the greenhouse effect.	Biome	Large-scale ecosystems that are spread across continents
				Herbivores	An animal that feeds on plants
Hot deserts Found between 5 and 30°N/S of the equator.	Very high temperatures during long days but temperatures plummet at night time. Most plants are xerophytic so they can survive with little water. Difficult for animals to survive here and most are nocturnal to avoid high temperatures.	Nutrient cycling	Trees are evergreen so dead leaves and other material fall all year round. The warm and wet climate means dead plant material is decomposed quickly by fungi and bacteria. The top of the soil high in nutrients so plants grow quickly. Plants pass on their nutrients when they are eaten by animals. Many plant and animal species have formed symbiotic relationships.	Carnivores	An animal that eats other animals.
				Xerophytic	A type of plant that can survive on very liSle water.
Temperate grasslands	Cold winters and hot summers. Trees and shrubs struggle to grow quickly. Mammals include gophers, rabbits, coyotes and wolves.			Biomass	The total mass of plants and animals in an ecosystem.
				Nutrient cycling	A set of processes whereby organisms extract minerals necessary for growth from the soil or water before passing them on through the food chain
				Deforestation	Cutting down trees for mining industry or agriculture
				Indigenous tribes	Traditional tribes who have lived in an area for generations with little or no contact with the outside world
				Symbiotic	Organisms that live together; one or both of the organisms can benefit from this.
				Zooxanthellae	Plant-like algae that live on coral.

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Development indicators

Gross Domestic Product (GDP)	The total value of goods and services produced by a country in a year.
The Human Development Index (HDI)	produced every year by the UN. It's a combined measure of life expectancy, education and GDP per capita which scores a country between 0 and 1.
Life expectancy	The average number of years a person can expect to live to.
Infant mortality rate	The number of children per 1000 live births who die before their first birthday.
Literacy rate	the percentage of the population, aged over 15, who can read and write.
Birth rate	The number of live births per 1000 people per year.
Purchasing power parity (PPP)	this means that the GDP is given in terms of what it can buy using local prices. It takes into account the cost of living in a country e.g. \$1 can buy more in Sierra Leone than in the USA.

Factors affecting development

Natural resources (physical)	countries with lots of raw materials like minerals and fuel sources can make money by selling these
Climate (physical)	countries with poor climates find it difficult to grow food to feed their population and support their families.
Location (physical)	landlocked countries (have no coastline) so find it difficult to trade as they have no free access to the sea (cheapest form of transport).
Relief (physical)	steep land is difficult to farm and to build on.
Natural hazards (physical)	countries that have lots of natural disasters have to spend a lot of money on rebuilding instead of improving
Debt (human)	If a country has to borrow money then most of the money it makes in the future goes towards paying back the debt and its interest.
Conflict/ War (human)	money is spent on fighting and not on improving education and health care. Fighting can also damage infrastructure that then needs to be repaired.
Healthcare (human)	lack of clean water and health care can mean a large number of people suffer from diseases so cannot work.
Trade (human)	if a country is outside of a trade bloc or agreement then it is more difficult for them to trade with these other countries
Colonialism (human)	countries that were colonised (ruled by a foreign country) were often at a lower level of development when they gained independence as the ruling country had removed their raw materials

Key terminology

1	development	The state of growth or advancement whereby people and places improve over time.
2	Population density	The number of people in an area, usually expressed as people per square kilometer
3	Absolute poverty	Measures the ability to meet basic human needs of minimal food, water, shelter, sanitation, health and education.
4	Aid	A transfer of resources from one country to another; typically from an AC to an LIDC
5	Advanced countries (AC's)	Countries that share a number of important economic development characteristics including well-developed financial markets with rapidly growing service sectors.
6	Low income developing countries (LIDC's)	Countries that are eligible for the Poverty Reduction and Growth Trust from the IMF; they are the poorest countries in the world.
7	Emerging developing countries (EDC's)	Countries which neither share all the economic development characteristics required to be an AC or are the poorest in the world
8	Trans-national corporations (TNC'S)	A Transnational Corporation; a company that has is business in many different countries
9	Multiplier effect	The chain of consequences in which investment leads to wealth, which leads to more investment, leading to more wealth; a spiral of improvement