Ecosystems [n].

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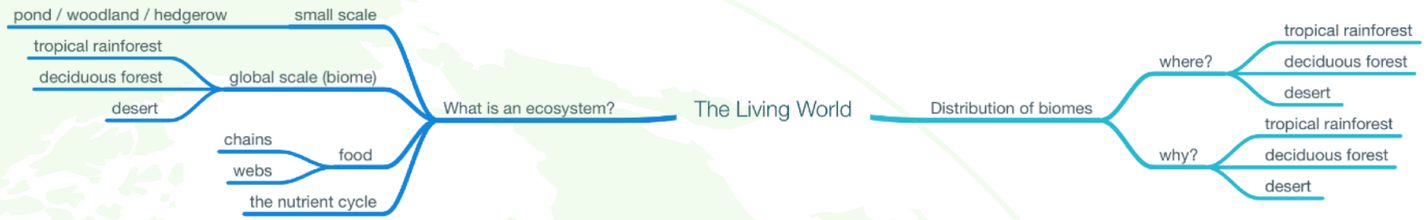


Ecosystems and biomes.

An **ecosystem** is an environment in which a community of plants and animals (**biotic**) that share an environment with non-living things (**abiotic**) such as soil.
- Climate is the weather in an area over a long period of time.
- The plants and animals within ecosystems adapt so that they
are able to survive in that area.
- Ecosystems are not one size: they can be as small as a hedgerow or as large as a rainforest.
- Large ecosystems are called **biomes**.

Examples of biomes include:
- tundra (cold desert)
- tropical rainforest
- hot desert

Energy flows.

Organisms within an ecosystem can be classed as producers, consumers or decomposers. Energy flows through these organisms within the ecosystem.

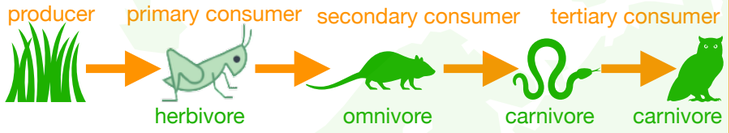
Producers, such as a trees, produce their own food and begin this cycle. Using energy from the sun they produce food. They do this by photosynthesis. Most producers are plants, but there are some small organisms that produce food through photosynthesis as well.

The producers are eaten by primary consumers that cannot produce their own food, such as a giraffe. Primary consumers are herbivores which means they only eat plants. Secondary consumers are carnivores such as lions. In a simple food chain secondary consumers eat primary consumers.

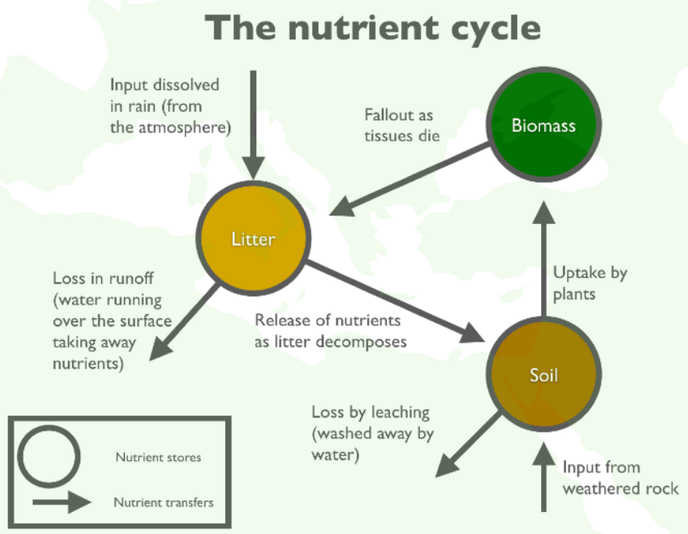
Decomposers and break down dead plants and animals. They also break down the waste of other organisms. Examples of decomposers include bacteria and fungi. Decomposers get their energy from breaking down dead material e.g. dead producers, dead consumers or fallen leaves. When dead material is decomposed nutrients are released into the soil. These nutrients are then taken up from the soil by plants. Decomposers are very important for any ecosystem. If they weren't in the ecosystem the plants would not get essential nutrients and dead matter and waste would gather.

Food webs and chains.

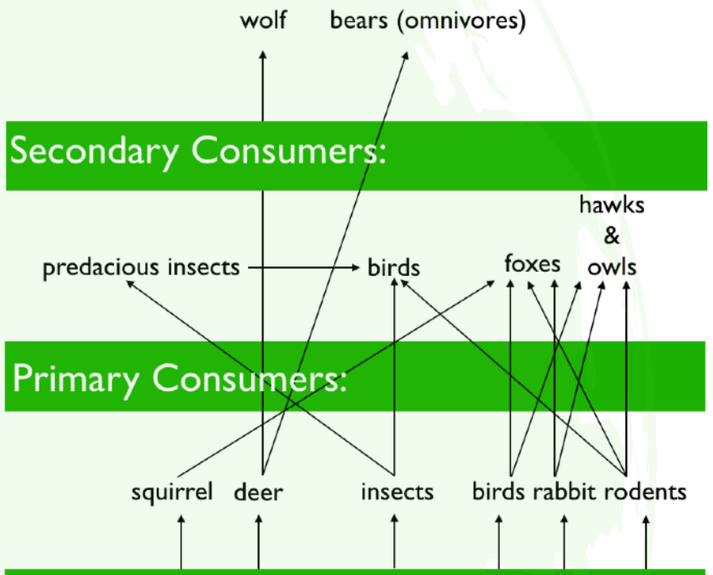
A **food chain** only follows one path as animals find food. eg: A hawk eats a snake, which has eaten a frog, which has eaten a grasshopper, which has eaten grass. A **food web** consists of many food chains. It shows the many different paths plants and animals are connected.



The nutrient cycle.



Tertiary Consumers:



Simple Food Web

Keywords.

ecosystem, biotic, abiotic, biomes, habitat, food chain, nutrient cycle, food web, consumers, biomass, decomposers, herbivore, omnivore, carnivore.

Ecosystems [n].

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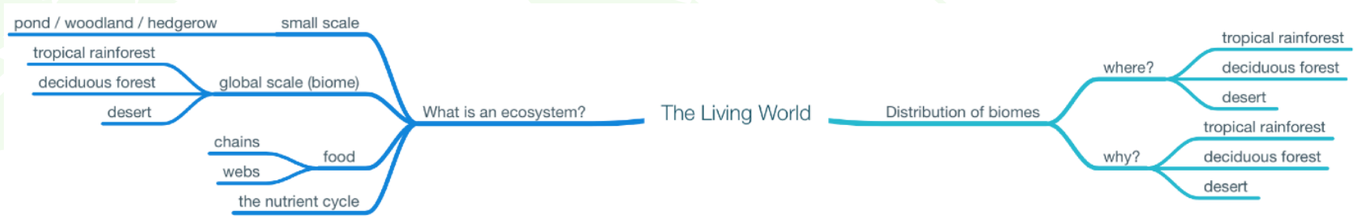
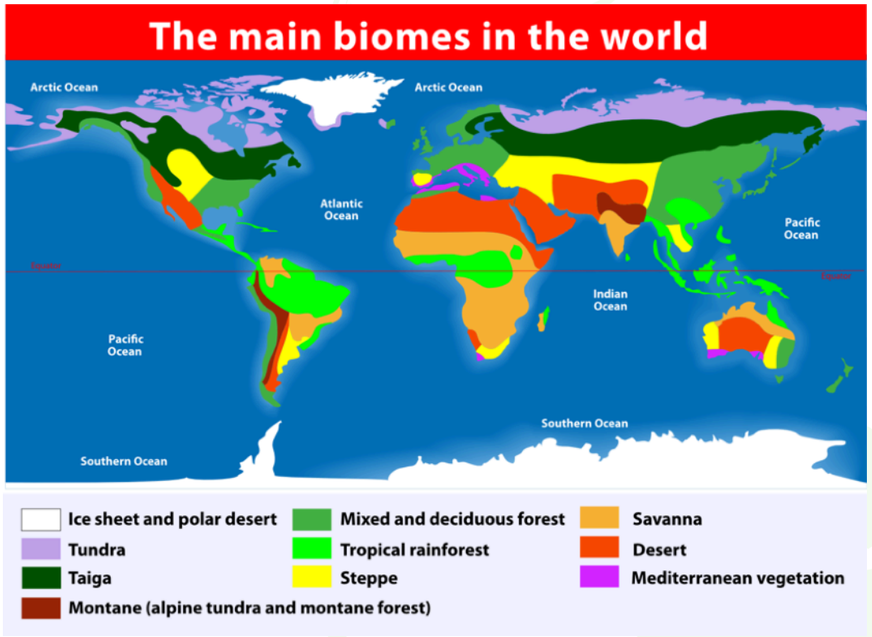


Distribution.



Distribution described.

Tropical rainforests are located between 10° north and south of the equator where temperatures stay near 80 degrees all year round. Rainforests receive 160 to 400 inches (400-1000 cm) of rain each year. The largest rainforests are in Brazil (South America), Zaire (Africa) and Indonesia (South East Asia). Other tropical rainforest places are in Hawaii and the islands of the Pacific & Caribbean.

Temperate deciduous forests are common in the mid-latitudes. Temperate deciduous woodlands are found between 40° and 60° north and south of the equator. The are found in Western Europe and on the Eastern coast of the USA. In these locations the rainfall is high, between 500-1,500 mm a year. The temperatures remain on average above 0°C even in the winter. The summer temperatures average between 20-25°C. The winter is cooler, which encourages the trees to shed their leaves

Deserts are mainly found around the Tropics of Cancer and Capricorn, between 20° and 35° north and south of the equator. The main temperate deserts are found in the middle latitudes. Deserts are found in North Africa, central Australia and towards the south west of the USA.

Distribution explained.

Tropical Rainforests
The temperatures around the equator are always high, which causes a fast evaporation of water, which rises, cools and condenses and results in frequent rain and a tropical climate. Warm ocean currents tend to move towards areas of tropical rainforest. Also, the warm, moist air that travels above these currents provides rainfall.

Deserts
Hot air rises at the equator, where the land receives the greatest amount of the sun's radiation. Most of the world's deserts are located near 30 degrees north latitude and 30 degrees south latitude, where the heated equatorial air begins to descend. The descending air is dense and begins to warm again, evaporating large amounts of water from the land surface. The resulting climate is very dry.
Other deserts are located in the rain shadows of mountain ranges. As moist air passes over a mountain range, it expands and cools, precipitating most of its moisture as it rises. As it sweeps down the other side of the mountain range, it warms and compresses, causing high evaporation rates and shedding little rain. Many of the deserts in the southwestern United States are the result of rain shadows.
A few deserts, such as the Gobi Desert in China, are simply a result of being located far from the ocean, from which most atmospheric moisture is drawn. The moisture is precipitated before it can reach these interior areas.
Deserts can form even on tropical coasts beside cold ocean currents, such as the west coast of South America. The currents cool the air, which then rises and warms as it moves over land, drawing up moisture that is later precipitated as the air moves farther inland.