

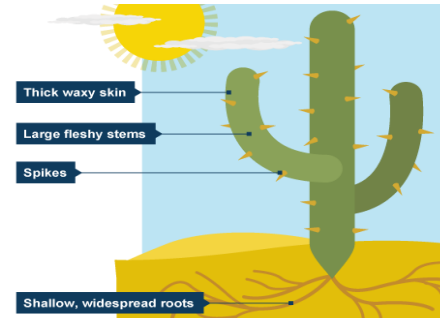
7B4 Knowledge Organiser – Ecology

Key words

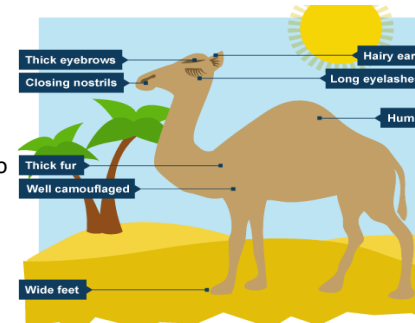
Term	Definition
Toxic	Poisonous
Habitat	The natural home or environment of an animal, plant, organisms.
Population	All the members of a species that live within an area
Community	Group of living organisms together.
Ecosystem	A community of animals, plants, microorganisms together with the habitat where they live.
Producer	Plants that begin food chains by making energy from carbon dioxide and water
Consumer	An organism that obtains its energy by eating other organisms.
Predator	An animal that hunts, kills and eats other animals for food.
Prey	Organisms that predators kill for food.
Adaptation	Features that help organisms survive in their habitat.
Bioaccumulation	The increase of dangerous substances in the food chain.
Food chain	A sequence of feeding relationships between organisms, showing what eats what and how energy moves.
Food web	A network of food chains, showing how they link together.

Adaptation and survival

All organisms – whether a plant or animal – has to survive in its habitat. To do this they may have special features called adaptations.



A cactus lives in a hot desert environment. They have thick waxy skin to reduce water loss, sharp spines (modified leaves) to reduce water loss and protect the plants, and shallow widespread roots to obtain water.



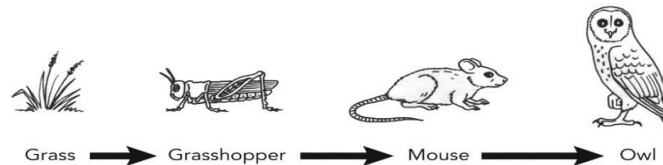
A camel has hairy ears, eyebrows and nostrils to protect it from sandstorms. Thick fur so that it remains warm during cold nights, and wide feet to stop it sinking in sand.

Who eats who? Food chains.

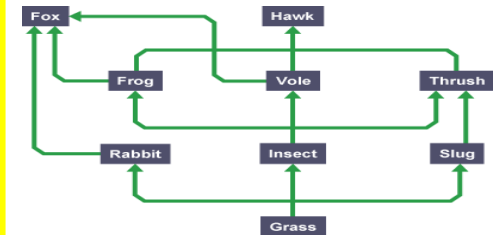
A food chain shows the different species in an ecosystem and what organism eats what in the ecosystem.

A food chain always starts a producer (an organism which makes its own energy, normally a plant through photosynthesis) and ends with consumers (animals that eat plants or animals).

In our example, grass is a producer and the grasshopper, mouse and owl are consumers.



Food web



A food web is different food chains together.

For example this food web contains:

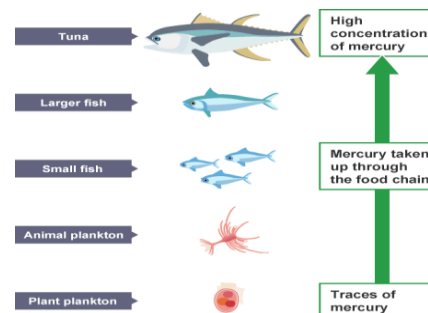
Grass --> insect --> vole --> hawk

Grass --> rabbit --> fox

Food webs show the inter-dependence of ecosystems.

Pesticides and toxic environment

Toxic materials are dangerous in the environment. Some will quickly break down into harmless substances, but others stay in the environment and do not break down – these instead accumulate in the food chain and damage the organisms in it. DDT and mercury are examples. As organisms at the top of a food chain may eat lots of organisms below it in the food chain – small amounts of toxic substances at the start of a food chain can accumulate to a lot at the top of the food chain.



Population flux.

In an ecosystem every organism is dependent on another, so an increase in one species can cause an increase/decrease in another. This is population flux.

For example, if the number of owls increased, the number of mice would decrease. This would cause the number of owls to decrease, causing the number of mice to increase and so on – each change causes another.