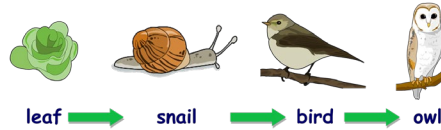


KNOWLEDGE ORGANISER
BIG IDEA: ECOSYSTEMS
TOPIC: INTERDEPENDENCE

Key Word	Definition
food web	Shows how food chains in an ecosystem are linked.
food chain	Part of a food web, starting with a producer, ending with a top predator.
ecosystem	The living things in a given area, and their non-living environment.
interdependence	The way in which living organisms depend on each other to survive, grow, and reproduce.
population	Groups of the same species living in an area.
producer	Green plant or algae that makes its own food using sunlight
consumer	Animal that eats other animals or plants.
habitat	The place where an organism lives

Food chains

A **food chain** is a diagram used to show what an organism eats. It shows how energy is transferred between organisms. A food chain always starts with a **producer** (a green plant or algae) as they make their own food by photosynthesis.

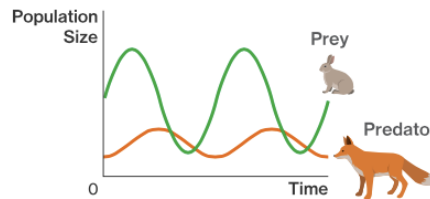


Predators and prey

Predators and prey are interdependent as they depend on each other for survival. A predator is an organism that feeds on prey. In the diagram below the predator is the fox as it eats the rabbit.

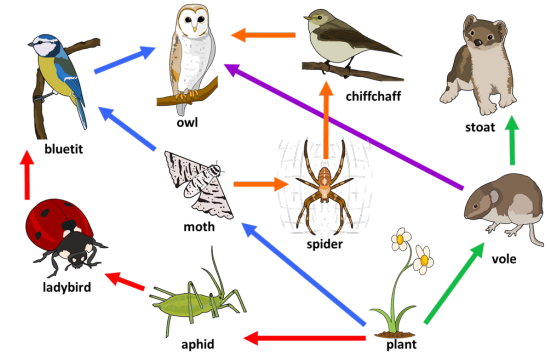
Any change in the population of hares will effect the population of foxes and vice versa. For example, if there are more rabbits (prey) then there is more food for the foxes (predator). More foxes will survive and the population of foxes will increase. If there are a lot of foxes present then they will eat more prey. The rabbit population would then decrease.

Predator-Prey Relationships



Food webs

A food web is used to show linked food chains, as most organisms eat more than one type of food. For example in the diagram, the owl eats bluetits or voles.



A change in the population of one species leads to changes in other species. For example, if number of voles decreased then the number of stoats would also decrease, as stoats only eat voles. The stoat is dependent on the vole.

Sampling

A way of measuring the numbers or percentages of any given organism within a habitat. This is done using a quadrat.



Bioaccumulation

It is not just energy that is transferred up the food chain, many harmful chemicals can also be transferred. One example of a harmful chemical is pesticides. Farmers used pesticides to kill pests (insects) that might harm their crops. However these pesticides do not get broken down and are therefore transferred to the next organism in the food chain. These chemicals can then kill animals further up the food chain and cause the population to decrease.