

Food chains show feeding relationships within a community. The arrows represent the flow of ENERGY.

PRODUCER – plant or algae that photosynthesises making glucose

PRIMARY CONSUMER – first animal in food chain (herbivore)

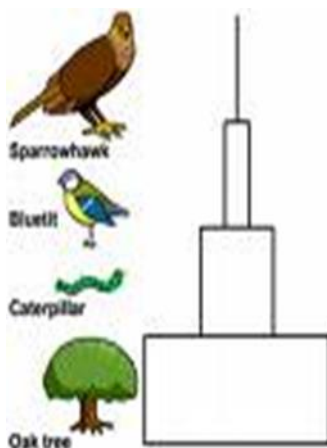
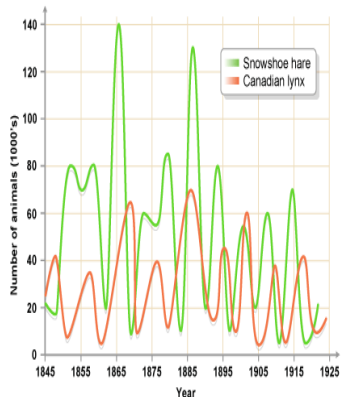
SECONDARY CONSUMER – next animal in food chain

APEX PREDATOR – Top predator in food web/chain

CARNIVORE – Organism that only consumes animals

OMNIVORE – Organism that consumes both animals and plants

HERBIVORE – Organism that consumes only plant material



Predators are animals that eat other animals. **Prey** are the animals that get eaten. The size of the predator population and prey population depend on each other.

If the prey population grows, predator numbers will respond to the increased food supply by increasing as well. But the growing predator population will eventually reduce the food supply to the point where it can no longer be sustained.

Plants use **light** energy and convert it into glucose which is a store of chemical energy.

Plants use glucose for the following

C – Cellulose/cell wall

R – Respiration (to convert the glucose into Energy for the plant)

O – Oils and Fats

P – Protein, the plant uses nitrates with glucose to make Amino Acids which join together to form protein (used in growth)

NITRATES – plants use the mineral nitrate to help make amino acids which then make protein

MAGNESIUM – plants use Magnesium to make chlorophyll (pigment in chloroplasts that absorbs light energy)

Food security is a measure of the availability of food required to support people of a household, region, country or any specified area. It is a measure of how much food there is, if it is of suitable quality and whether people can access it.

Intensive farming is used to increase the amount of product but can harm the animals. They try to reduce the amount that animals can move and also try to keep them warm so they lose less energy

Fishing - **Sustainable** fisheries do not reduce the overall number of fish, because the number of fish that are caught and killed does not ever exceed the birth of new fish. To address overfishing many countries are adopting a more sustainable strategy for fishing. These include Iceland and New Zealand. Many countries have introduced fishing quotas which limit the amount of fish that can be caught and killed from specific species. The size of the gaps in fishing nets has also been increased to ensure that juvenile fish can reach reproductive maturity and have offspring before being killed.

Animal Adaptations

Cold Climates:

- Small surface area e.g. Ears – lose less heat
- Insulation – blubber (thick layer of fat under skin), fur coat
- Fat layer also provides a food supply during winter
- Small SA:VOL – lose less heat

Dry climates

Deserts may be hot in day and freezing at night. Lack of water.

- Often active at night rather than day
- Can't sweat or will lose water
- small – large surface area:volume to lose heat through skin - whales have a very small SA:vol to try to keep heat in.
- Big ears- lose heat
- Thin fur, little body fat

To stop being eaten!

Poison

Mimicry – look like something more dangerous

Large muscles in legs – run fast

Eyes on side of head – see more (predator/prey)

Big ears – hear more (predator/prey)

Adaptations in plants

Water taken in through the roots – these need to be very wide to collect water in dry conditions – they also act as an ANCHOR – stop them being pulled out.

They have STOMATA (little gaps in the leaves to allow gases in and out for photosynthesis.

They can store water in roots, stems (thick) and their leaves. Leaves have large SA to absorb more sunlight

Top TIP – State adaptation and HOW it will help it survive not just the adaptation!!

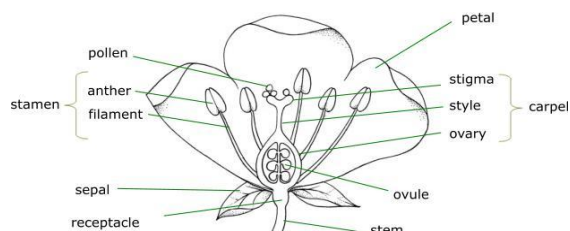
Pollination – plants can be pollinated in a number of different ways

Insect – Bright petals, scented, sticky or spikey pollen, anthers and stigma inside flower

Wind – small, dull petals, no scent or nectar, large amounts of pollen, pollen light to be taken by wind, anthers and stigma outside flower

Self – the pollen is transferred from stamen to stigma of same plant

Cross – Pollen transferred from one plant to another



Bioaccumulation-Poisons can sometimes get into food chains. Organisms higher up food chain (predators) are most affected as the toxins accumulate (build up) as they are passed along.