**B15 Organisms and their environment**

**B15.2 Food chains and webs**

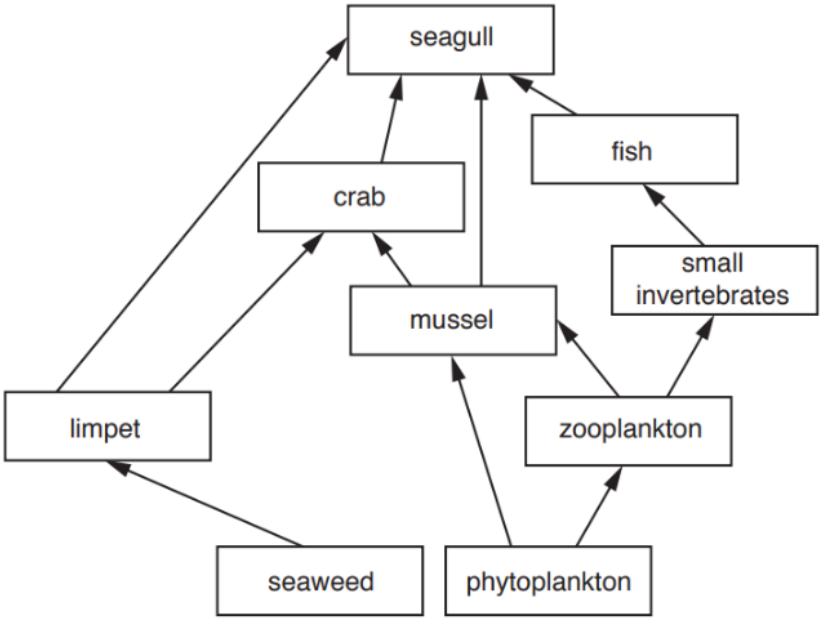
## Key words

**Producer** – an organism (usually a green plant or algae) that makes its own food by photosynthesis, using energy from sunlight.

**Consumer** – an organism that gains energy by feeding on other organisms.

**Food chain** – shows the transfer of energy from one organism to the next, starting with a producer. E.g. seaweed → limpet → crab → seagull

**Food web** – network of interconnected food chains showing how energy flows through an ecosystem.




Arrows always point in the direction of energy transfer (from food → feeder).

- Producers are always at the start.
- Top predators e.g. seagull have no arrows pointing away from them.

## Types of consumers

- Primary consumer – eats producers (e.g. rabbit eats grass).
- Secondary consumer – eats primary consumers (e.g. fox eats rabbit).
- Tertiary consumer – eats secondary consumers (e.g. lion eats zebra).
- Herbivore – animal that eats plants only.
- Carnivore – animal that eats other animals only.
- Omnivore – animal that eats both plants and animals.
- Decomposer – organism (e.g. bacteria, fungi) that feeds on dead organisms or waste material, recycling nutrients back into the ecosystem.

## Trophic level

The position of an organism in a food chain (producer = 1st, primary consumer = 2nd, etc.).

## Human impacts on food chains and webs

**Overharvesting / overfishing** – reduces populations of key species, disrupting food webs.

**Introducing foreign (invasive) species** - new predators or competitors can upset the balance of existing food chains. New species can outcompete or eat native ones → loss of biodiversity and ecosystem imbalance.

**Pollution and habitat destruction** - can kill producers or consumers, reducing energy flow through the chain.

Energy flow always decreases along the chain because only about 10% of energy passes to the next level. This is why there are fewer organisms at higher trophic levels.