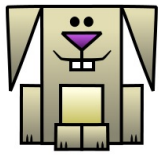


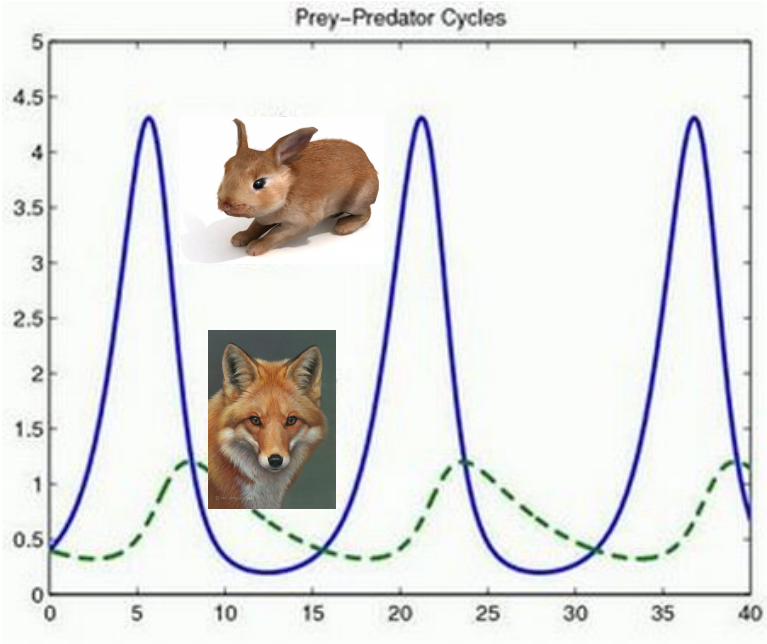
Chapter 16 - Ecology

Ecology is the study of how living things interact with each other and their environment.

For example:
We can count the number of rabbits and foxes.
Rabbits have lots of babies (kits).
Their numbers go up quickly.

The foxes have lots of rabbits to eat.
Their numbers go up quickly.

What happens next?

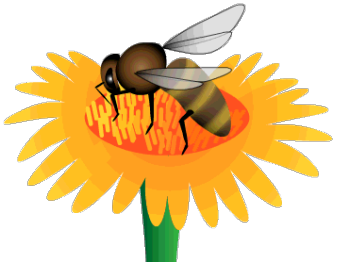


Producers	Consumers
Cabbage	Slug → Thrush
Grass	snail → Thrush
Rose bush	Green fly → Ladybird

How Organisms Interact

Animals need plants for **food** and also for **shelter**.
e.g. Birds build nests in trees.

Plants rely on animals to move **pollen** and **seeds**.
e.g. Bees carry pollen to other flowers.



Bacteria and Fungi recycle **decaying** plants and animals.

Habitats

The **Habitat** is where the organism lives.
Each habitat has its own collection of animals and plants.
An example would be a **forest**, seaside or hedgerow.

An **Ecosystem** is the habitat plus the community of organisms that live there.

Each habitat has a **population** of animals and plants.
e.g. a population of woodlice living in a forest.

Feeding Relationships

Producers - Green plants are known as producers because they make their own food. They get their energy from the sun.

Consumers - All other organisms get their food by eating plants or animals.

1. **Herbivores** - eat plants only.
2. **Carnivores** - eat meat only.
3. **Omnivores** - eat both plants and meat.

Decomposers - Break down dead material to recycle nutrients. Fungi and bacteria do this.

Food Chains

A food chain is the way energy is passed from one organism to the next.

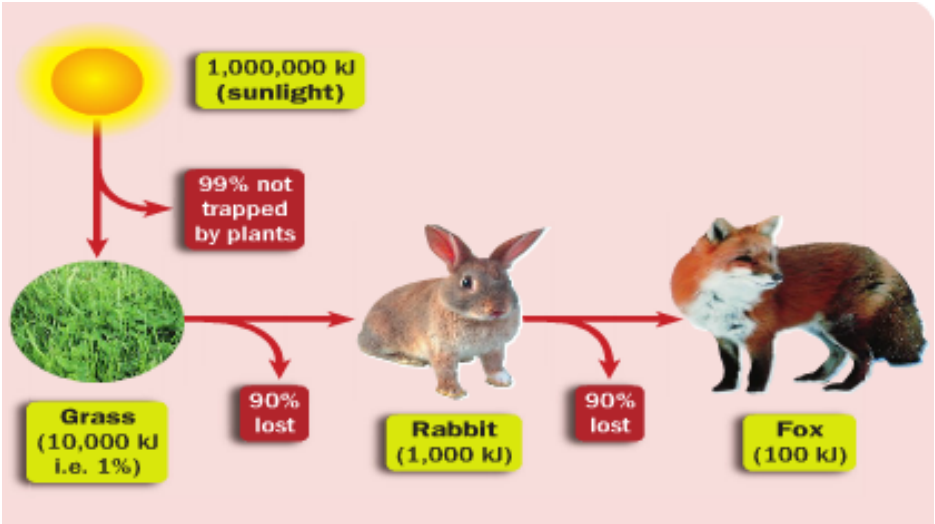
An example of a food chain from a hedgerow habitat,

Hawthorn → Greenfly → Spider → Blackbird

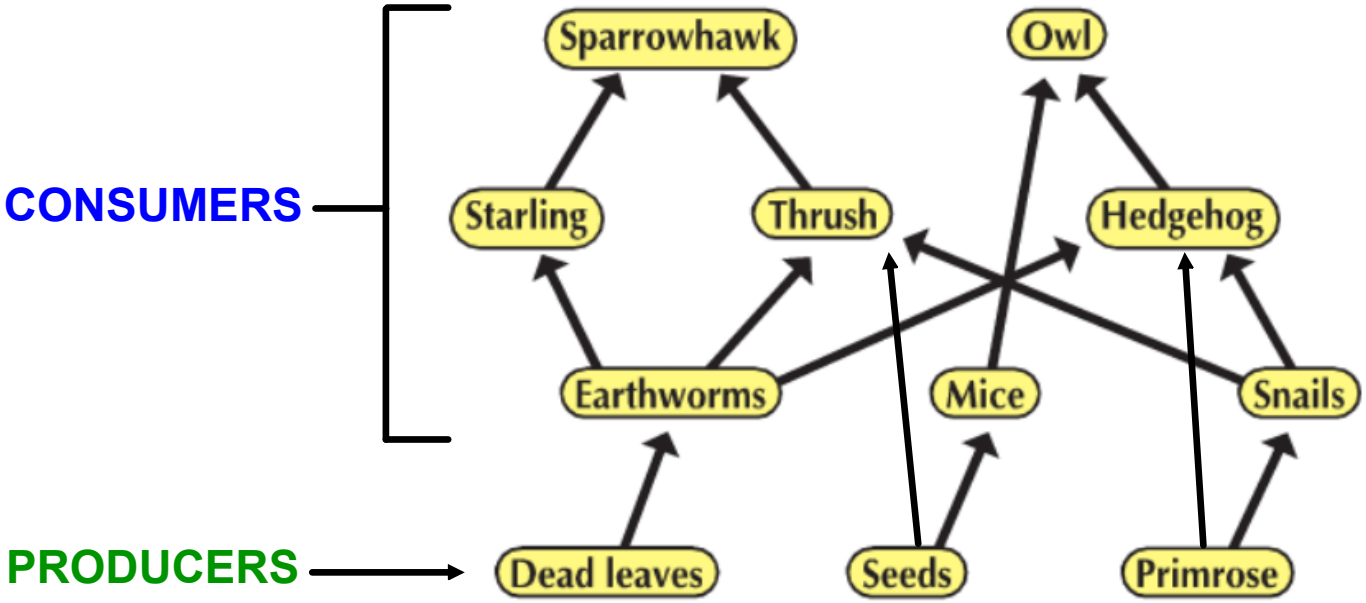



Energy Flow

Energy comes from the sun.
Plants catch the energy and change it into sugars.
The plants are then eaten byconsumers.
Food chains can only be a certain length as the energy runs out.



Food Web



How many food chains are there?
Can you name a **Herbivore?**
Can you name a **Carnivore?**
Can you name an **Omnivore?**

Adaptation

Adaptation is when an organism has characteristics that make it well suited to its environment.

How is a ladybird adapted to living in a hedgerow?

1. It's **colour** will warn other animals that it is dangerous.
2. It has a hard **cover** over its wings
3. It releases **yellow** acidic substance that tastes horrible if eaten.

How is a nettle adapted to living near a hedgerow?

1. It has stinging needles if an animal tries to eat it.
2. It doesn't taste nice.

Competition

Competition is when two organisms fight (compete) for something they both need.

Do plants compete with each other?

What do they compete for?

Light, space, water, soil, insects

Do animals compete with each other?

What do they compete for?

Food, shelter, mates

Interdependence

This is when two types of organisms need each other to survive.

Animals need plants for food and shelter.
Plants need animals to spread pollen and seeds.

What interdependence can you see in this picture?