Ecosystems and food webs.

What is an ecosystem?

An ecosystem consists of all the living and non-living things that live & depend upon each other in the ecosystem/space.

The non-living things are: sunlight, water, soil and air.




Amounts of: Sunlight Water Soil Air

Different kinds of ecosystems.

There are many different ecosystems & they differ with respect to sunlight, water, soil and air.




River Mountainous Grassland Desert





Ponds Sea Rocky shoreline Wetlands & Forest

Some important ecosystems:

1. Grassland ecosystems:

There are large open spaces with plenty of grass & sunlight and small bushes.

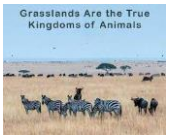
They are hot in summer & cold in winter.

Most of South Africa's wild animals live in grasslands – eating the abundance of grass.

However, many carnivores also live there, too – feeding on the herbivores.

Make a list of herbivores:

Make a list of carnivores that also live here:



Grassland ecosystems:

Human activities like poaching, making fires, and clearing land for housing and farming, all threaten the grassland ecosystems, unfortunately.








Some important ecosystems:

2. River ecosystems:

River systems consist of fresh water (usually) that pass trough land and eventually end up in the sea.

There is often bright sunshine on the water with shady parts under the trees on the banks of the rivers.

Plants include pondweed, reeds in water & small plants & trees on the banks.

Animals include, fish, frogs, insects and birds





Pollution is the main threat!

Some important ecosystems:

3. Pond ecosystems:

Pond ecosystems are fresh water with sunlight but often shady in & around the water.

Soil around pond usually damp and cool under the water.

Organisms live in the water & plants include water lilies, pondweed, bulrushes and reeds.

The main threat is water pollution.




Some important ecosystems:

4. Forest ecosystems:

Forests are shady, little sunlight, damp and have plenty of water.

There are different trees, plants, ferns, mosses and small flowering plants.

Animals include buck, wild cats, mice, snakes, birds & insects.

Threats: deforesting for timber & clearing ground for roads , housing and farming.

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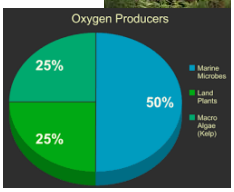
Some important ecosystems:

4. Forest ecosystems:

Where to now?

De-forestation is a major problem throughout the world – forests trees & plants are responsible for producing 28% of the oxygen required by people on Earth!

Rainforests are responsible for roughly one-third (28%) of the Earth's oxygen but a huge amount (from 50% to 85%) of the oxygen in the atmosphere is produced by marine plants. The remaining 2 percent of Earth's oxygen comes from other sources such as plants, grass etc.



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Relationships between living & non-living things in ecosystems.

Some animals feed on other animals

Living things need air to stay alive

Some animals feed on plants

Soil and water are habitats for plants and animals

Plants & animals need water

Nutrients help plants to grow & make food

Birds nest in trees

Some plants need animals to help flowers form seeds

Plants use sunlight & air to make food & grow

Animals shelter in trees

See if you can think of 1 or 2 examples of each of these situations.

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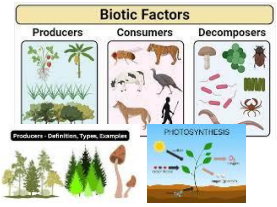
Parts of a food web.

Food webs and food chains are made of 3 groups of organisms.



1. Producers: Plants make their own food by photosynthesis and are called producers.

Producers:

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Parts of a food web.

2. Consumers: animals that feed on other animals or plants, are called Consumers.

Herbivores eat only plants, Carnivores eat only other animals, while Omnivores eat both animals and plants.

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Parts of a food web.

3. Decomposers are micro-organisms that break down dead plants and animals & are called decomposers. Examples are bacteria and fungi.

All plant and animals eventually die and return nutrients to the Earth, with bacteria and fungi playing an important role in this process.

Important plant nutrients.

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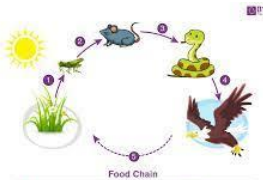
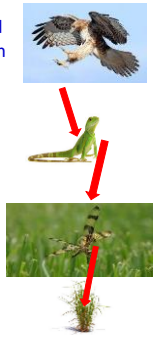
Food webs & chains.

In an ecosystem plants and animals are connected by their feeding relationships. These relationships are called food webs.

Each food web may consist of 1 or more food chains, showing how everything is linked.



Food chain



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Difference between a food chain and a food web.

A food chain outlines who eats whom. A food web is all of the food chains in an ecosystem.

Food chain:

Food webs:

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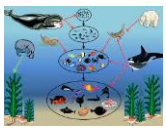
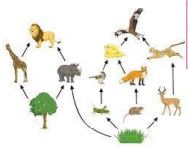
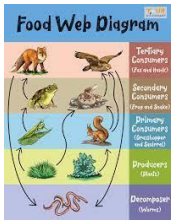
Some different food webs:





Sample Food Chains

Trophic Level	Grassland Biome	Pond Biome	Ocean Biome
Primary Producer	grass	algae	phytoplankton
Primary Consumer	grasshopper	mosquito larva	zooplankton
Secondary Consumer	rat	dragonfly larva	fish
Tertiary Consumer	snake	fish	seal
Quaternary Consumer	hawk	raccoon	white shark



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