

GRADE 5

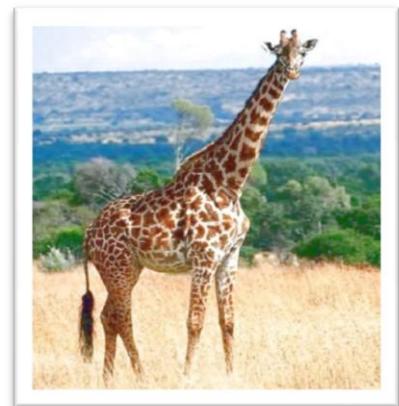
Life System

TRIMESTER - 2

CONTENTS

- **FOOD CHAINS**
Explain what happens if one link of a food chain is removed.
- **PLANT AND ANIMAL INTERACTIONS**
Populations of plants and animals interact with each other and with their environment.

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Energy - The Food Web

One of the major parts of life in an ecosystem is finding energy. All living things in an ecosystem need energy to survive. The cycle of organisms eating and being eaten is



one way that parts of the environment interact with each other. The main source of energy for life on Earth comes from the sun. Plants use light energy from the Sun to make food. Organisms that use the sun for producing food are called producers. Algae, grass, trees, and vegetables are all **producers**.

Organisms that get energy by eating other organisms are called consumers.

Consumers must eat producers or other consumers for their energy. This transfer of energy creates a food chain. There are four different kinds of consumers in an ecosystem:

<u>Herbivores</u>	<u>Carnivores</u>	<u>Omnivores</u>	<u>Decomposers</u>
			
Plant eaters	Meat Eaters	Eats Plants & Meat	Feeds on waste and on dead, decaying plants and animals.

Web of Life

An ecosystem is a complex system with many parts, both living (biotic) and nonliving (abiotic الكائنات الغير حية). All parts of the system are important! If one part of the system is removed, lots of other parts can be affected. Just imagine a car - if you didn't fill it with oil, it would still run, but not for long! An ecosystem, with a part of it missing may continue for a while but in time would start falling apart. All of the parts of the ecosystem work together.

Cycles within Ecosystems

All ecosystems depend on natural cycles. The main cycles in an ecosystem include:

Water

Nitrogen

Carbon

Different Kinds of Ecosystems

Wherever you live, you are part of a large ecosystem.

This ecosystem covers huge areas and is characterized by their climate and the types of animals and plants that are found there.

Braking Food Chain كسر السلسلة الغذائية

- Organisms living in a habitat depend on each other.
- If one part of a food chain dies out or is greatly reduced, the consumers have to find alternative food, move away, or starve.
- This then affects more consumers in the same way.

Endangered or Extinct الإنقراض او التعرض لخطر

- The number of people in the world is growing at an alarming rate.
- But this is not true for all animals.
- In some cases, there are only a few of one type of animal left in the wild.
- These animals are endangered.
- If they die out completely, they become extinct.
- Why does this happen?
 - There are lots of reasons why animals become endangered or extinct.
 - The most common are:
 1. Loss of habitat (woodlands cut down, rivers drying up, hedgerows removed).
 2. Chemicals or pollution poison the animals.
 3. Hunting (for sport, their fur, tusks or meat).

Caring for the Environment الإهتمام بالبيئة

- It is in our own best interests to look after the world we live in.
- If a habitat is lost or damaged, it has an effect on everything else, even if we do not see or understand it straight away.
- Remember - once something becomes extinct, it's gone forever!

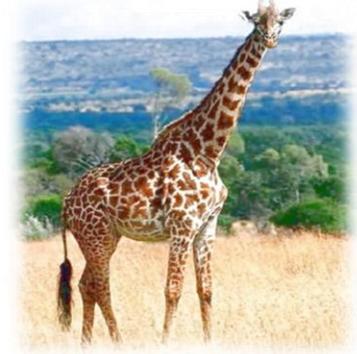
PLANT AND ANIMAL INTERACTIONS

Living things: Plants, Animals (including humans), Fungi, Microorganisms

Non-living things: Oceans, Soil, Glaciers, Atmosphere, Volcanoes

Organisms interact and form complete relationships within an environment. The study of the interactions between organisms and their environments is called

ecology علم البيئة.



What is Ecology? ما هو علم البيئة?

Ecology علم البيئة is the study of how living (**biotic** الكائنات الحية) and nonliving (**abiotic** الكائنات الغير حية) parts of the environment interact with and depend each other.

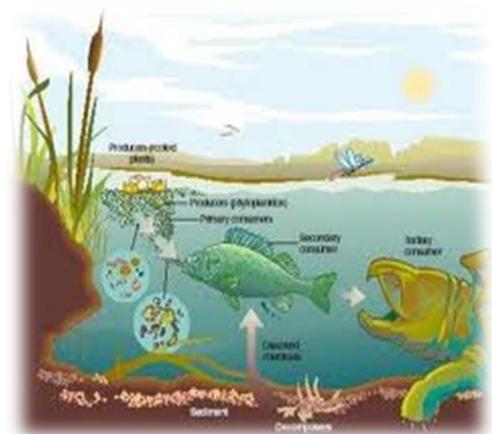
Guess you could say it's the study of life on earth! In fact, if you break ecology down "eco" means house and "logos" means to study. So, essentially we are studying about our house in the biggest sense, which is Planet Earth!



Everything is Connected!

When scientists study the ecology of certain areas, they call those areas **ecosystems**.

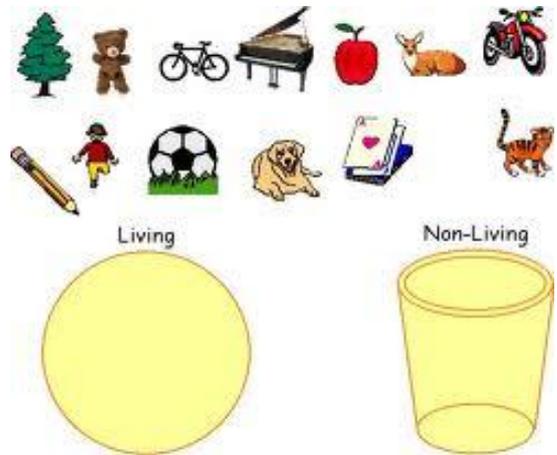
Together the living (biotic) and nonliving (abiotic) factors in an area is called an ecosystem.



Biotic الكائنات الحية or living, things in an environment would include plants, animals (this includes people), bacteria, fungi and all other living things.



Abiotic الكائنات الغير حية or nonliving parts of the environment would include things like sunlight, the soil, atmosphere, climate, nutrients and water.



An ecosystem can be small like a puddle in your backyard, with only a few **organisms** interacting or it may be large, like a forest with lots of organisms interacting. Ecologists study the interactions within ecosystems.

The **populations** السكان (groups) of specific plants and animals that live together in an ecosystem make up a **community** المجتمع.



Community المجتمع: the region occupied by a group of interacting organisms.

Each **species** الأنواع occupies a certain role or "**home**" in the community. A species "**home**" includes how a plant or animal uses the living and nonliving resources. No two species in a community have exactly the same niche.



Vocabulary (English - Arabic)

Abiotic	العوامل (الكائنات) الحية
Biotic	العوامل (الكائنات) الغير حية
Carnivore	آكل لحوم
Herbivore	آكل نبات
Omnivore	كل لحوم ونبات
Consumer	مستهلك
Decomposer	محلل
Food chain	السلسلة الغذائية
Ecosystem	النظام البيئي
Ecology	علم البيئة
Population	السكان
Community	المجتمع
Habitat	الموطن
Organism	كائن حي
Species	أنواع