

4th GRADE MINIMUM CONTENTS-NATURAL SCIENCE

UNIT 12: ECOSYSTEMS

► WHAT IS AN ECOSYSTEM?

An **ecosystem** is made up of all the **living things** and **non-living things** that function together in one place. All ecosystems are made up of two components:



- **Living things.** These are all the plants and animals living in the ecosystem.
- **The environment.** These are all the elements that affect the plants and animals, such as the temperature, type of soil, water, rocks, etc.

► TYPES OF ECOSYSTEMS

There are many different types of ecosystems on Earth. We can classify ecosystems into two main groups

- **Terrestrial ecosystems** include forests, deserts and grasslands.
- **Aquatic ecosystems.** They can be:
 - Freshwater, like rivers, lakes and ponds.
 - Saltwater, like seas and oceans.



Desert ecosystem



Sea ecosystem



Pond ecosystem



Grassland ecosystem

► FOOD RELATIONSHIPS IN ECOSYSTEMS

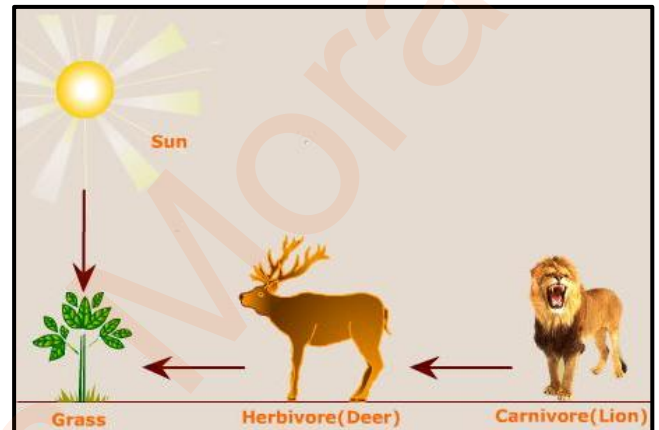
In an ecosystem, each type of living thing needs different food.

- **Plants** produce their own food.
- **Herbivores** eat plants.
- **Carnivores** eat herbivores.

Plants are called **producers** because they produce their own food. Animals are called **consumers** because they eat, or consume, other living things.

Plants are essential to ecosystems because they produce the food which all other living things need. To represent how living things feed off other living things in an ecosystem, we can draw a **food chain**. A food chain always begins with a producer.

- 1.- The *grass* makes its own food. It's a producer.
- 2.- The *deer* eats the grass. It's a consumer.
- 3.- The *lion* eats the deer, it's a consumer.

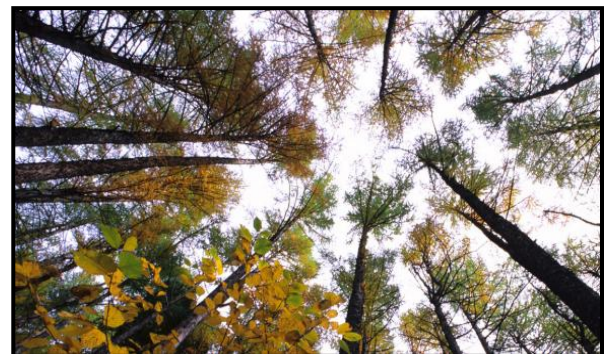


A food chain

► RELATIONSHIPS IN ECOSYSTEMS

- **Competition:** Sometimes living things have to compete to get what they need. We call this competition

- Predators compete with each other. For example, lions and cheetahs hunt the same herbivores.
- Plants in forests compete for sunlight whereas *cactuses* in deserts compete for water.



Trees compete for sunlight

- **Cooperation:** Living things also help each other. We call this relationship cooperation. Living things depend on each other for:

- Shelter. Many birds need trees to build their nests.



Shelter

- Protection. Many animals live in groups to provide protection from predators. For example, elephants.
- Transportation. Many plants need insects to transport pollen to other flowers.



Transportation

► PROTECTING ECOSYSTEMS

Human activity can damage ecosystems in many ways. We **pollute** the **air** and **water**. We build **cities** and **roads** through the countryside. We **cut down forests** to use the wood for building, and make paper.

Deforestation, **soil erosion**, **pollution** and **overexploitation** of natural resources are the most harmful effects of human activity. We can **help to minimize damage** to the environment by following ecological rules, for example:

- Don't light fires.
- Don't drop litter.
- Don't disturb wildlife.
- Don't pick flowers or plants.
- Recycle, reuse or reduce the use of paper, glass, plastic and batteries.



UNIT 12: ECOSYSTEMS

ACTIVITIES

1.- Look at the picture of an ecosystem. Classify the *living things* and the *non-living things*.



Living things	Non Living things

2.- Match the words to the definitions.

Competition

When living things help each other

Cooperation

When living things compete with each other for what they need

3.- Circle ecosystems. Classify them and then, tick (V) the freshwater ecosystems.

f	o	r	e	s	t	n	o	r
d	e	s	e	r	t	z	c	p
s	w	u	d	w	v	s	e	o
m	r	l	f	p	l	e	a	n
g	r	a	s	s	l	a	n	d
m	t	k	k	j	y	g	t	s
y	q	e	l	r	i	v	e	r

Terrestrial ecosystems

Aquatic ecosystems

4.- Complete the text about damage to ecosystems.

cities - wood - water - human activity - pollute
roads - air - paper - building - cut down

_____ can damage ecosystems.

We _____ the _____

and _____. We build _____

and _____ in the countryside.

We _____ forests to use the

_____ for _____ and to make

_____.

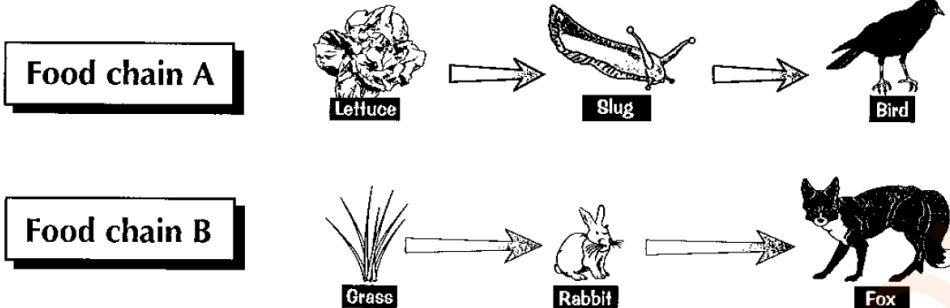


5.- Complete your bilingual dictionary.

E C O S Y S T E M S		
- Living thing: _____	- Forest: _____	- Countryside: _____
- Non- Living thing: _____	- Weather: _____	- Cut down: _____
- Environment: _____	- Food chain: _____	- Light fires: _____
- Terrestrial: _____	- Predator: _____	- Drop litter: _____
- Freshwater: _____	- Prey: _____	- Disturb: _____
- Saltwater: _____	- Deer: _____	- Pick plants: _____
- Lake: _____	- Slug: _____	- Deforestation: _____
- Pond: _____	- Pollute: _____	- Overexploitation: _____
- Grassland: _____	- Building: _____	- Harmful: _____
-	-	-

6.- Complete the activities and answer the questions.

Q1 Have a look at these two food chains and then answer the questions.



- a) What animals do foxes eat? b) What animal eats lettuce?

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- c) For both food chains, name a habitat in which they would occur.

food chain A

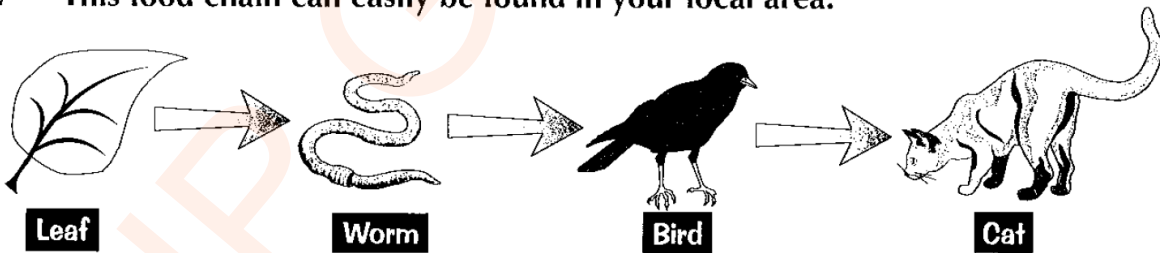
food chain B

- d) What kind of organism is at the start of both food chains?

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Q2 This food chain can easily be found in your local area:



Fill in the missing words in these sentences:

- The _____ is the producer in this food chain.
- There are three consumers in the food chain,
the _____, the _____ and the _____.
- The bird is the prey of the _____.
- The _____ is the predator of the worm.

