

04

LIVING THINGS AND THEIR ENVIRONMENT

In this chapter, we will learn about:

- Environment and its components
- Types of environment
- Classification of animals according to eating habits
- Introduction to simple food chain



ENVIRONMENT

When we talk about our **Environment**, we mean every thing in the world around us which can affect our lives.

It includes air, water, sunlight, plants, animals and humans.

Plants, animals and humans are its living components.

Air, sunlight and water are its nonliving components.



Activity 4.1

The given picture shows an environment of a park. Observe it carefully; fill green and red colour to the living things, yellow and orange colour to the nonliving things.



TYPES OF ENVIRONMENT

Living organisms have their specific environment. They live in their own environment and get all the needs of life from them. There are various types of environment such as oceans, forests, deserts, ponds, urban and rural environment. Organisms show adaptations according to their particular environment. This means that these organisms possess certain features that help them in living successfully and comfortably in that environment.



Activity 4.2

Two types of environment are shown below. Observe them carefully.



- Are the two environments similar?
- What do you call them?
- What is the important feature of the desert environment?
- Tell any important feature of the forest environment.



Activity 4.3

Pictures of urban and rural environments have been given below.



(A) Urban Environment

(B) Rural Environment

- Describe important features of the rural environment.
- What facilities are available to the children in the urban environment?
- Can you identify and name some features of the environment that are harmful to us?

Word Puzzle

Find the words in this puzzle using the word bank below.

POND DESERT MOUNTAIN RIVER OCEAN GRASSLAND FOREST

A	B	M	A	R	T	S	O	N	H	G	L	K
C	F	O	R	E	S	T	P	U	S	E	A	A
T	U	U	G	R	K	F	R	L	G	R	H	N
P	O	N	L	O	I	A	E	D	U	I	O	J
J	B	T	D	G	R	I	L	G	L	B	R	A
G	R	A	S	S	L	A	N	D	S	L	E	R
A	O	I	N	E	P	K	K	S	H	O	P	D
N	T	N	O	R	O	C	E	A	N	G	A	O
D	H	D	J	F	N	G	J	D	A	K	K	Q
U	E	A	T	A	D	E	S	E	R	T	I	U
I	R	L	M	S	A	Z	M	Q	I	C	S	I
S	S	A	Q	E	N	A	I	E	V	H	T	M
M	I	G	N	E	D	R	N	U	E	I	A	R
G	M	E	O	H	I	A	E	D	R	A	N	P

EFFECTS OF ORGANISMS UPON ONE ANOTHER

Many kinds of organisms live together in an environment. They influence the lives of one another. Sometimes one organism harms the other. On the other hand, they may be mutually beneficial. We can say they are essential for one another. All the living things are well adapted to their environment. The bodies of the water animals suit them well to move in water without much resistance. The boat-shaped body of a fish helps it swim in water easily. On the contrary, the land animals like dogs, goats, lions and monkeys etc. have bodies suitable to live on land (Figure 4.1). The animals living on the land respire through lungs while animals living in water like fish, breathe by means of gills.



Figure 4.1: Three mammals: the one on left side is adapted to live in water whereas the other two are adapted to live on land.

The bodies of the birds are smaller in size with hollow bones. The muscles of their trunk and wings are very strong.

The animals like toads, frogs and salamanders that live in water as well as on land are called amphibians (Figure 4.2). In water they respire through skin and on land, they respire by lungs.



Figure 4.2: Three amphibians

PROJECT



THINK, TALK AND WRITE

Write about the environment you live in. What is its climate? What kinds of living things are in your environment?

EATING HABITS OF ANIMALS

Living things in an environment need different amounts of food to meet their energy needs. Green plants make their own food. They make more food than they need. Animals cannot make their own food. They eat different kinds of food. Animals that eat only plants are called herbivores.

Caterpillar, goat, rabbit, horse and elephant are **herbivores** (Figure 4.3). Can you name some more herbivores?



Figure 4.3: Herbivores

Some animals eat other animals. They are called **carnivores**. Lion, tigers and eagles are carnivores (Figure 4.4).

Can you name some more carnivores?



Figure 4.4: Carnivores

Some animals eat both plants and animals. They are called **Omnivores**. Bears, monkeys and human beings are examples of omnivores (Figure 4.5).



Figure 4.5: Omnivores

Look Carefully at each picture (Figure 4.6) and write the name of each animal in the correct group.



Figure 4.6

HERBIVORES	CARNIVORES	OMNIVORES

CLASSIFICATION OF ORGANISMS ON THE BASIS OF FOOD

PRODUCERS

Plants prepare food for themselves and for all other organisms. That is why they are called producers. Plants produce various types of food which include fats, carbohydrates and proteins. All vegetation including herbs, shrubs and trees are producers. Another important producer is algae which is green in colour and floats on water surface. This is a major source of food for water animals.

? Do you know?

Most photosynthesis occurring in the seas is done by algae.

CONSUMERS

Animals cannot prepare their food themselves. Some get their food from plants. All such animals which depend on plants directly or indirectly for their food are called **consumers** (Figure 4.7).



Figure 4.7: Consumers

DECOMPOSERS

You have studied about bacteria and fungi (Figure 4.8). What type of food is consumed by these organisms?

They decompose (break down) the dead bodies of animals and plants into simple components and get their foods. Due to this activity of bacteria and fungi, dead animals, plants and waste vegetation decay. Hence bacteria and fungi are called decomposers.

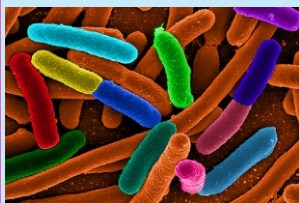
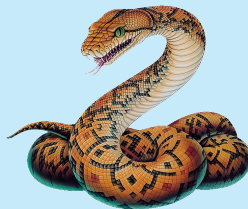


Figure 4.8: Bacteria and fungi as decomposers



Activity 4.4

Identify and write (P) for producers, (C) for consumers and (D) for decomposers in the pictures given below.



FOOD CHAIN

Organisms also depend upon one another for food. An animal feeds on plants or animals and is itself eaten by some other animals. A third animal consumes the second animal and so on. For example, a rat eats seeds of plants. The rat is eaten by a snake and the snake is hunted by an owl (Figure 4.9).

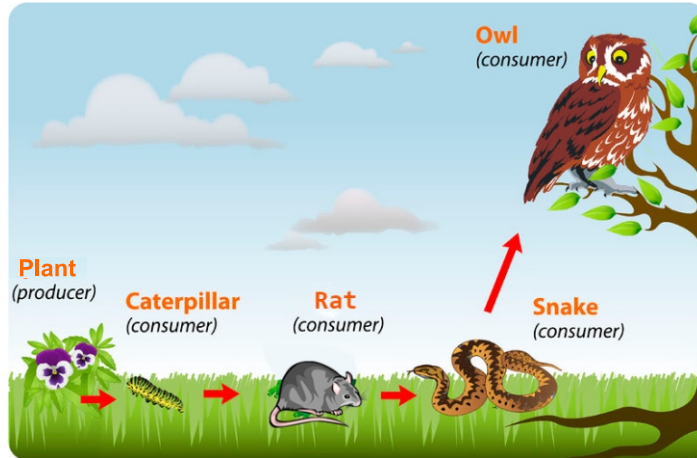


Figure 4.9: Food chain

This relationship or series of eating and being eaten among organisms is called a **food chain**.

KEY POINTS

- The two components of the environment are living component and nonliving component.
- Environment are of various types, i.e., land environment, water environment, pond environment, urban environment, rural environment.
- Living organisms depend upon one another through food chain.
- Green plants prepare food and are called producers.
- The organisms which depend upon plants and other animals for food are called consumers.
- Depending upon the eating habit, animals are classified as herbivores, carnivores and omnivores.
- Herbivores eat plants, carnivores eat meat, and omnivores eat both plants and meat.

- The organisms like bacteria and fungi decompose the dead bodies into smaller compounds and mix them in the soil for reuse by the plants for preparing food.
- Bacteria and fungi are called **decomposers**.

GLOSSARY

- Environment:** Everything in and around an organism.
- Adaptation:** Characteristic of an organism that enables it to live in a particular environment.
- Food Chain:** A link for eating and being eaten among the organisms.

EXERCISE

4.1 Fill in the blanks.

- Plants and animals are _____ components of environment.
- Animals living on land respire through _____.
- The water animals, like fishes, breathe by means of _____.
- Frogs and toads are found in _____ as well as on _____.
- Animals that eat both plants and animals are called _____.
- Animals that eat other animals are called _____.
- Animals that eat only plants are called _____.
- Algae, herbs, shrubs and trees are all _____.
- Bacteria and fungi are called _____.
- Organisms that depend on plants for their food are called _____.

4.2 Mark (✓) for true sentence and (✗) for false ones.

- Algae are consumers.
- Things decay due to action of fungi and bacteria.
- Bacteria are producers.
- Man and crow are omnivores.
- Lion is a carnivore.

4.3 Encircle the correct option:

- (i) Which of the following organisms are decomposers?
- a. green plants b. men
c. bacteria and fungi d. lions
- (ii) Our environment consists of:
- a. living things b. nonliving things
c. both a and b d. none of these
- (iii) Eating and being eaten in animals is called:
- a. habitat b. food chain
c. pollution d. environment
- (iv) Cactus is found in:
- a. river b. ocean
c. forest d. desert
- (v) Omnivores eat:
- a. plants only
b. meat of other animals only
c. both plants and meat
d. neither plants nor meat
- (vi) Which one of these shows the correct food chain in an environment?
- a. Sun → Decomposers → Consumers → Producers
b. Sun → Consumers → Producers → Decomposers
c. Sun → Producers → Consumers → Decomposers
d. Sun → Producers → Decomposers → Consumers

4.4 Match the columns A and B.

Column A	Column B
Bacteria and Fungi	Omnivores
Human being	Land environment
Forests	Desert
Air	Decomposers
Cactus plant	Nonliving component

4.5 Write short answer.

- (i) Define environment in your own words.
- (ii) What are producers, consumers and decomposers?
- (iii) What is meant by herbivore, carnivore and omnivore?
- (iv) Name any two examples of each of the following:
 - a. Land Environment
 - b. Water Environment
- (v) Would a dolphin survive in grassland? Argue why yes / no.

4.6 Producers, consumers and decomposers depend upon each other. They need one another for survival. What would happen if there were no decomposers?

4.7 A tadpole eats algae which can make its own food. A tadpole can be eaten by a pond skater; (a water insect) the skater is eaten by a frog or beetle. A beetle is eaten by a kingfisher (a type of bird). Write down two food chains from the given information.

Food Chain 1:

Food Chain 2:

4.8 Sparrow eats rice, grains and locusts. Locusts eat rice plants.



Rice plants



Sparrow



Locust

Farmers are taught that by killing the sparrows, they would have a good harvest of rice. Is this correct? Why?

4.9 Describe the different kinds of living organisms on the basis of their eating habits.

4.10 What is meant by a Food Chain?