

02

CHARACTERISTICS AND NEEDS OF LIVING THINGS

In this chapter, we will learn about:

- Living things need food, sunlight, air and water to survive
- Living things move, grow, reproduce and maintain the continuity of life
- Similarities and differences among members of one kind of organisms
- Life cycle

There are many things around us. Some of them are nonliving things like table, chair, book, etc. Some are living things like animals and plants. Living things can grow, eat, reproduce, move, etc. Nonliving things cannot grow, eat, reproduce or move by themselves.

Living things need food, water, air and light for their survival.

FOOD

Living things need food to live and grow. Food makes them strong and healthy. It gives them energy.

Some of the living things like plants can make their own food. They get energy from the sunlight. They use light energy to convert carbon dioxide and water into food.



Figure 2.1: Animals eat different types of food

Some living things cannot make their own food. They depend on plants and other animals for their food. Humans and animals are the examples of such living things (Figure 2.1).

WATER

Water is very important for life. All plants and animals need water for survival (Figure 2.2).

Humans not only drink water but also use it in their daily life for cooking, washing, cleaning etc. Plants also cannot make food without water.



Figure 2.2: All animals and plants need water for survival



Activity 2.1

Bring a potted plant in the classroom with the help of the teacher. Water it regularly for three days and observe it. Now stop watering it for next three days. Observe it daily and record its condition in the chart given below.

Number of days	Condition of plant with Water	Condition of plant without Water
Day 1		
Day 2		
Day 3		

What have you learnt from this activity?

AIR

Air is needed by all living things on the Earth. Humans have lungs in their body which help them breathe. Lungs take oxygen present in air and send it to whole body. Plants also use carbon dioxide from air to make food.

LIGHT

Light is a source of energy. All organisms need it. Plants cannot make food without sunlight.

PHYSICAL CHARACTERISTICS OF LIFE

MOVEMENT

Movement is a characteristic of life. Nonliving things cannot move on their own.

Different groups of animals make different types of movements. This difference is due to their body structure and place where they live. Fish swim, frogs and kangaroos hop, birds fly, humans walk etc.

Plants as a whole remain fixed and do not change their position. However, most of their parts grow which can be considered as a sort of movement.



Figure 2.3: Animals making different types of movement



Activity 2.2

Collect the information from different sources: books, internet etc. to find how the following animals move:

Sr. No.	Animal	Mode of Movement
1	Fish	Swim
2	Frog	
3	Lizard	
4	Crow	
5	Monkey	

GROWTH

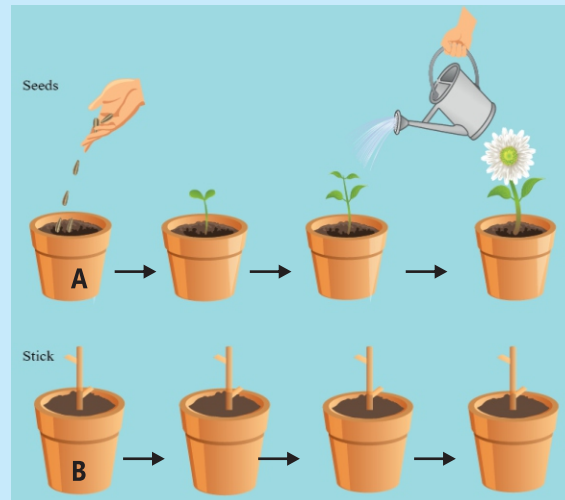
Growth is one of the important characteristics present in living things and absent in nonliving things. We have not seen a book, a chair or a pen increasing in size. The size of living things like humans, animals and plants continuously grows and gets bigger.



Activity 2.3

Perform an experiment to show that living things can grow while nonliving things cannot grow.

Take two pots as shown in the figure. In pot A put some seeds and in pot B put some marbles or stick of wood. Water them daily and observe what is happening?



What happens in pot A after few days?

What happens in pot B after few days?

REPRODUCTION

Reproduction is another property which is present in the living things but absent in nonliving things.

Reproduction means producing their young ones. Dog produces puppies (Figure 2.4), cat produces kittens (Figure 2.5). Rose plant produces baby rose plant.



Figure 2.4:
Dog and puppies



Figure 2.5: Cat with kittens and rose plant with its baby plant

SIMILARITIES AND DIFFERENCES AMONG MEMBERS OF ONE KIND OF ORGANISMS

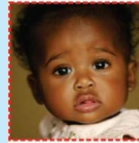
We have studied in class III, that one kind of organisms resemble each other. For example, all humans are alike. They all have two eyes, two ears, hair etc.

But in the same kind of organisms, some differences also exist. We are not exactly like our parents. Some of the differences may be in eye colour, hair colour, height, skin colour etc.



Activity 2.4

- Look at the pictures of babies and match them with their parents.



LIFE CYCLE

Life cycle means different stages which living thing goes through during its life.

LIFE CYCLE OF PLANTS

A plant passes through various stages during its life time.

- The life cycle of the plant begins with the seed.
- In the next stage, a small root appears and begins to grow

downward. Soon a shoot arises from the seed and grows upward.

- This seed grows and changes into a seedling. A seedling is a small plant with few leaves.
- The seedling develops into a young plant. The young plant grows into an adult plant and produces fruit. The seeds are produced in the fruit (Figure 2.6).

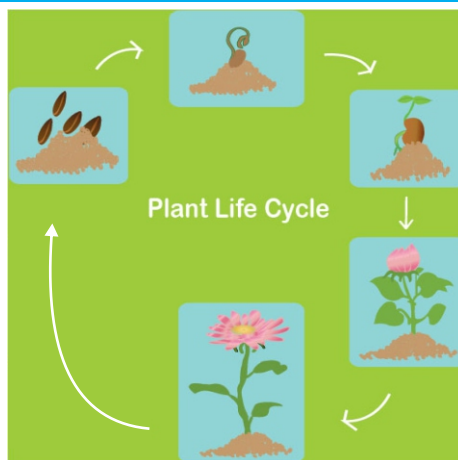
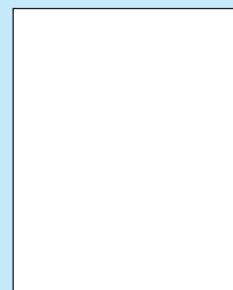
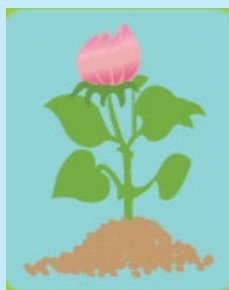
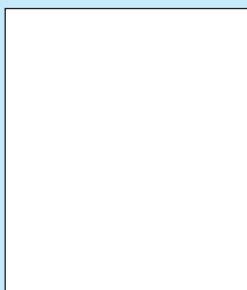


Figure 2.6: Plant life cycle



Activity 2.5

Draw the missing stages in the life cycle of the plants.



KEY POINTS

- Living things need food, water, air and light for their survival.
- The characteristics such as movement, reproduction and growth are present in living things and are absent in nonliving things.
- Animals make different types of movements.
- A continuous increase in the size of living thing is called growth.
- The process of producing young ones is called reproduction.
- There are similarities and differences among members of one kind of organisms.
- Plants have many stages in their life cycles such as seed, seedling and adult plant.

GLOSSARY

- Life cycle:** Constitutes different stages which the living organism passes through during development.
- Reproduction:** Process by which the living things produce their young ones.
- Seedling:** A small plant with a few leaves.

EXERCISE

2.1 Fill in the blanks.

- (i) Plants and animals need _____, _____ and _____ to survive.
- (ii) Animals move from place to place to get _____ and _____.
- (iii) Roots of plants grow _____.
- (iv) Young ones have characters _____ to their parents.
- (v) A seedling is a small plant with few _____.

2.2 Encircle the correct option.

- (i) Which one of the following is nonliving?
- a. animals b. plants
c. bacteria d. car
- (ii) Which one of the following does not run on its feet?
- a. frog b. fish
c. humans d. kangaroos
- (iii) The characteristic which is observed in living things is:
- a. movement b. growth
c. reproduction d. all of these
- (iv) The ability to produce young ones is called:
- a. respiration b. excretion
c. reproduction d. circulation

(v) Life cycle of a flowering plant starts from:

- a. flower
- b. seedling
- c. fruit
- d. seed

2.3 Short Answer Questions

- (i) Name the factors which play an important role in the survival of living things.
- (ii) A car moves from place to place. It also uses petrol as fuel. Can you call it a living thing?
- (iii) What is growth?
- (iv) How are you different from your parents?

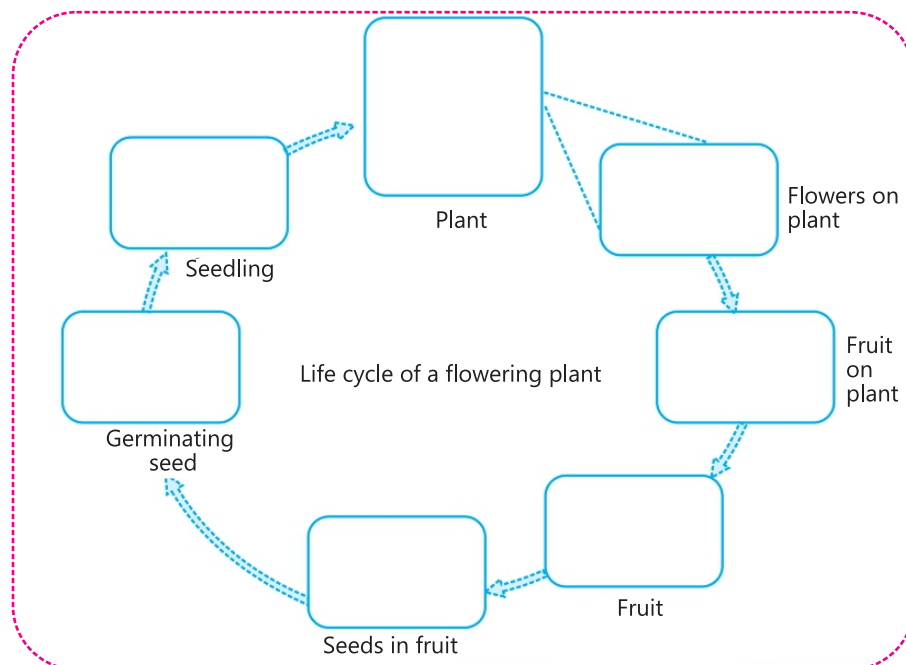
2.4 Which factors are necessary for the survival of plants and animals.?

2.5 Describe the physical characteristics of living things.

2.6 Discuss the life cycle of plants.

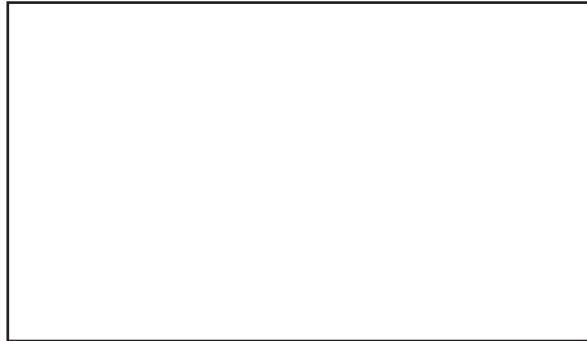
Science Project

A. Collect pictures from old books and paste them to complete the life cycle of a plant.



B. Do you have any pet or a plant at your home which you look after? Observe it carefully and put (✓) to that characteristic it has.

Draw or paste the picture in the box given below.



- It needs food daily.
- Grows and increases in size.
- Moves on its own.
- Reproduces young ones of its own kind.
- Drinks water.

<input type="checkbox"/>
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Word Puzzle

Find words in the puzzle using word bank below:

REPRODUCTION, LIGHT, WATER, AIR, MOVEMENT, FOOD, GROWTH

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