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# Living and Non-living Things

## Learning Objectives

1. Living things
2. Non-living things
3. Features of living things
4. Difference between living and non-living things
5. Natural things
6. Man-made things



## Let Me Answer

- What are 10 living things around you?
- What are 10 nonliving things around you?

## THINGS

Living things

Plants, human beings, animals etc.



Non-living things

Natural things

Sun, mountains, Moon, rivers etc.



Man-made things

Pen, house, furniture etc.



## THINGS AROUND US

There are number of things which we see around us. Some things have life in them, some others do not have life in them. For example : A dog has life but a chair is lifeless.

We observe different types of things in our house. We see our pets like dogs and parrots. We have toys like dolls and toy-cars. The dog comes to us because it has life and can move. The toy-car does not come to us because it has no life and cannot move.

Thus, the things that have life are called **living things**. E.g. : dog, cow, man, woman etc. The things that do not have life are called **non-living things**. E.g. : pencil, chair, car, bucket etc.



Cow



Woman



Man



Car



Pencil



Dog



Chair



Bucket

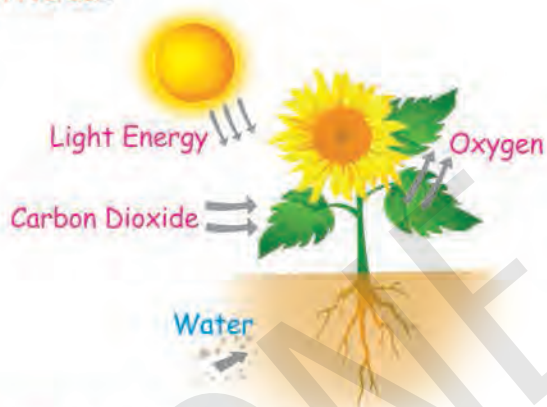
Look at the pictures given below and find out which are living things and which are non-living things.



## FEATURES OF LIVING THINGS

### Living things breathe.

- ◆ All living things need air to breathe and live.
- ◆ Plants breathe in carbon dioxide gas from air and breathe out oxygen.
- ◆ Animals take oxygen from air and breathe out carbon dioxide.
- ◆ We breathe in through our nose. Some animals like cows, lions, buffaloes etc., breathe through nostrils. Insects breathe through tiny air holes and fish breathe through gills.
- ◆ Plants breathe with the help of tiny openings on their leaves, called **stomata**.



### Living things need food.

All plants and animals need food to live.

- ◆ Food helps living things to grow.
- ◆ Plants prepare their own food through photosynthesis.
- ◆ Roots of plants absorb minerals and water from the soil.
- ◆ Animals depend on plants for their food.
- ◆ Animals get their food from plants and other animals.



### Living things grow.

- ◆ All living things can grow. A baby grows into a boy/girl, then into a young man/woman and finally, the man/woman becomes old.
- ◆ After a certain period, the old one dies.
- ◆ Growth changes the shape and size of living things.
- ◆ A seed grows into a plant which may further grow into a big tree.
- ◆ Animal babies also grow into adult animals.





Baby



Boy



Man



Old man

### Living things move.

- ◆ All living things can move.
- ◆ All plants do not move but some plants show movements. Climbers move along the walls while creepers move along the ground. Sunflower turns its face towards the Sun. Stems grow towards sunlight and roots grow towards the soil.
- ◆ All human beings can walk or run.
- ◆ Animals like cat, dog, cow etc., also move from one place to other.
- ◆ Birds fly, fish swim, snakes crawl and frogs jump.



### Living things feel.

- ◆ All living things can feel and respond to the environment.
- ◆ Plants response to the changing seasons by shedding their leaves in autumn and bearing flowers in spring.
- ◆ Animals use their senses to feel. For example : Some birds migrate as response to change in weather conditions.
- ◆ Human beings also use their sense organs to help them feel the changes in the environment. For example : In winter, you feel cold and wear woollen clothes to protect yourself from cold.





Sheep-Lamb



Cat-Kitten

## Living things reproduce.

- ◆ All living things can reproduce their own kind.
- ◆ Plants produce seeds from which new plants arise.
- ◆ Human beings and some animals like cats, dogs, cows, lions etc., give birth to their young ones. Birds, fishes, snakes etc., lay eggs and the young ones hatch out of the eggs.

## Difference Between Living Things and Non-Living Things

### Living Things

1. Living things can breathe.
2. Living things need food.
3. Living things can grow.
4. Living things can move.
5. Living things can feel.
6. Living things can reproduce.

### Non-Living Things

1. Non-living things cannot breathe.
2. Non-living things do not need food.
3. Non-living things cannot grow.
4. Non-living things cannot move.
5. Non-living cannot feel.
6. Non-living things cannot reproduce.



### Natural Things

Some things like air, water, soil, the Sun, the Moon and the stars occur in nature. These are called natural things. These are not made by man.



### Man-made Things

The non-living things that are made by man are called man-made things. E.g. : chair, table, computer, television etc.

### Facts to know

- ⊙ An elephant's trunk serves as its nose, mouth and arm.
- ⊙ All plants do not grow from seeds like potato, rose etc.



## LET'S RECALL

1. There are many things around us. E.g. : animals, birds, plants, stones, rocks etc.
2. Things that have life, are called living things.
3. Things that do not have life, are called non-living things.
4. Living things can breathe, move, grow, feel, reproduce and need food.
5. Non-living things cannot breathe, move, grow, feel, reproduce and do not need food.
6. All the living things, provided by nature are called natural things.
7. The non-living things like table, chair, television etc., made by man are called man-made things.

### Word Power

breathe in	: to take the air in
breathe out	: to take the air out
hatch out	: come out
lifeless	: without life
migrate	: move from one area and settle in another
photosynthesis	: the process by which green plants use sunlight, carbon dioxide and water to produce their food

## Train Your Brain

### Cross Curriculum Connect

#### 1. Answer the following questions in short.

- a. Name any two animals that breathe through gills.
- b. Name two plants that show movement.
- c. Is salt a living thing? Yes or No?
- d. Why do some birds migrate?

## 2. Fill up the blanks with suitable words.

food eggs sunlight air stomata sense organs

- Animals have ..... to feel.
- Snake lays .....
- Animals get energy from the ..... that they eat.
- Plants breathe through the ..... in their leaves.
- Plants prepare their own food by air, water and .....
- All plants and animals breathe in .....

## 3. Answer the following questions.

- Write any two features of non-living things.
- From where do we get our food?
- How do human beings breathe?
- From where do plants get their food?

## 4. Tick (✓) the right and cross (✗) the wrong statements.

- All living things are natural.
- Animals are not dependent on plants for their food.
- Plants breathe in oxygen and breathe out carbon dioxide.
- Flowers in a vase are living things.
- Plants reproduce from seeds.

## 5. Multiple Choice Questions (MCQs)

Tick (✓) the correct option.

- Select the series relating to living things.
  - Man, animal, plant
  - Book, pen, pencil
  - Rock, mineral, computer
- Select the series which move and grow.
  - Ball, notebook, mountain
  - Baby, plant, animal
  - Roof, wall, floor


## 6. Give one word for each one of the following.

- a. The origin of a plant .....
- b. Things laid by hens .....
- c. The gas released by animals .....

## 7. Match the columns.

### Column A

- a. Man
- b. Lion
- c. Cat
- d. Butterfly
- e. Frog

### Column B

- (i) Caterpillar
- (ii) A young boy
- (iii) Tadpole
- (iv) Cub
- (v) Kitten



Take three glass jars. Put a stone in the first, a frog in the second and some seedlings of plant in the third. Notice the difference between the three. Write the conclusion too.



Trees provide us wood to make our furniture articles. Trees are living but the furniture like the table is a non-living and man-made thing. Can you write three differences between the non-living table and the living tree?



Write at least three things that you see :

- |             |         |         |         |
|-------------|---------|---------|---------|
| • At home   | 1. .... | 2. .... | 3. .... |
| • In a zoo  | 1. .... | 2. .... | 3. .... |
| • At school | 1. .... | 2. .... | 3. .... |
| • In market | 1. .... | 2. .... | 3. .... |
| • In a park | 1. .... | 2. .... | 3. .... |



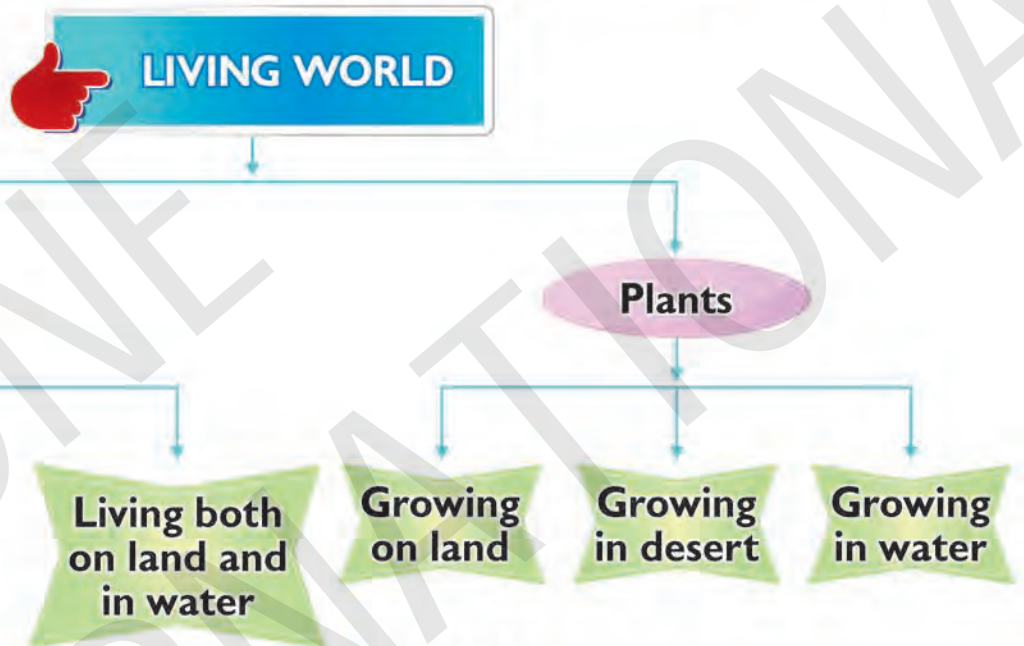
# Animals Differ from Plants

## Learning Objectives

1. Differences in plants and animals
2. Inter-dependence of plants and animals
3. Balance in nature

## Let Me Answer

- Animals live by eating other organisms plants, animals, bacteria, or even bits are called?
- What are pet animals?



## DIFFERENCES IN PLANTS AND ANIMALS

Plants and animals both are living things. They possess almost all the characteristics of living things. But animals differ from plants in many ways.



### Movement

- Animals can move from one place to another. They move here and there in search of food, water and shelter. This movement of animals is called **locomotion**.

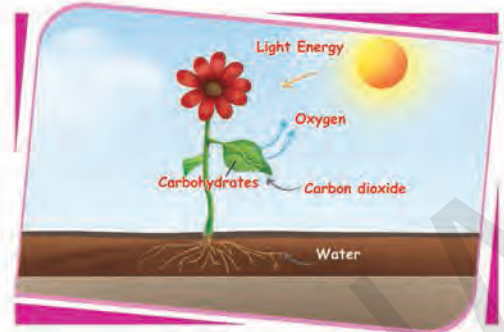


- Plants do not show locomotion. They remain fixed to the ground. Only some parts of the plants show movements along wall, ground, direction of the Sun etc.



## Procurement of Food

- Plants make their food at their own. They use sunlight, water and carbon dioxide from air to make their food. This process is known as **photosynthesis**.
- Animals depend upon plants and other animals for their food.



## Breathing

- Plants breathe in carbon dioxide from air and breathe out oxygen in air through stomata in leaves.
- Animals have different ways of breathing. Humans breathe in through nose, some animals breathe through nostrils, insects breathe through tiny holes and fish breathe through gills. Animals breathe in oxygen from the air and breathe out carbon dioxide back into the air.



## Reproduction

- Animals either give birth to their young ones or lay eggs from which babies come out.
- Plants produce seeds, which are sown to give rise to new plants. Some plants also grow from a part of plant like stem or root, e.g. : potato, rose etc.





## Response to Environment

- ◆ Animals have sense organs like skin, ears, eyes, nose and tongue to feel and respond to changing environment.
- ◆ Plants also respond to environment but they do not have sense organs.



## Organ Systems

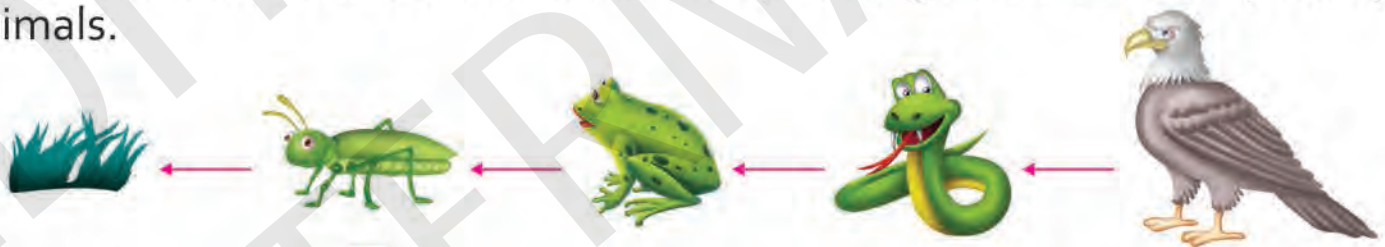
- ◆ Animals have many organ systems in their bodies, like digestive system, respiratory system etc.
- ◆ Plants do not have any such organ systems.

## INTERDEPENDENCE OF PLANTS AND ANIMALS

We know that animals depend upon plants for their food and oxygen. But plants also depend upon animals. The gas taken by plants from air (i.e. carbon dioxide) is given out by animals when they exhale. Animals help plants by spreading their seeds and also give them manure.

## BALANCE IN NATURE

The interdependence of plants and animals makes a balance in nature through the exchange of gases. This is called **balance in nature**. We should not interfere with the balance of nature by cutting down trees or by killing animals.



### Facts to know

- ⊙ Some plants which are not green, cannot make their food. They depend on dead and decaying matter for getting their food.
- ⊙ Some plants, like Venus flytrap, eat insects.
- ⊙ Leaves are called the "Food Factories" of the plants.

## LET'S RECALL

1. Both animals and plants are living things. But they differ from each other in several ways.
2. Movement is the main difference between animals and plants.
3. Plants can make their own food but animals cannot make their own food.
4. Plants cannot move from one place to other but animals can walk and move for food.
5. Plants cannot reproduce as human beings or animals. They reproduce in the form of seeds. When seeds are sown, they grow into new plants, while animals reproduce directly by copulation.

### Word Power

inter-dependence	: dependence on each other
manure	: animal dung used as fertilizer for plants
organ-system	: a set of connected organs to work together
photosynthesis	: the process by which green plants use sunlight, water and carbon dioxide to produce their food
procurement	: to obtain by effort or care, acquire
shelter	: protection against wind, rain, danger, enemy etc.

## Train Your Brain

### Cross Curriculum Connect

#### 1. Answer the following questions in short.

- a. Name the sense organs of man.
- b. What is the movement of animals called?
- c. What is the interdependence of plants and animals called?
- d. What do plants breathe in and breathe out?

## 2. Fill up the blanks with suitable words.

stomata   Plants   Movement   food   breathing

- ..... is the most important difference between animals and plants.
- Plants breathe in and breathe out through the tiny pores on their leaves called .....
- Both plants and animals need .....
- ..... have no sense organs.
- Animals have different ways of .....

## 3. Answer the following questions.

- In what ways, do animals and plants differ from each other?
- Why do animals move from place to place?
- Define photosynthesis.
- How do animals reproduce?

## 4. Tick (✓) the right and cross (✗) the wrong statements.

- Plants cannot produce their own food.
- Humans breathe in through nostrils.
- Leaves are the source of energy for a plant.
- Plants give birth to new plants.
- Birds and snakes give birth to their young ones.

## 5. Multiple Choice Questions (MCQs)

Tick (✓) the correct option.

- Plants produce them to grow into big plants.  
(i) Seeds  (ii) Roots   
(iii) Leaves  (iv) Stem
- Leaves have tiny pores in them. These pores are called .....
- (i) chlorophyll  (ii) stomata   
(iii) shoot system  (iv) roots
- These can prepare their own food.  
(i) Plants  (ii) Animals   
(iii) Human beings  (iv) All


**6. Give one word for each one of the following.**

- a. The process of making food by the plants .....
- b. The gas breathed out by animals .....
- c. The gas breathed in by plants from air .....
- d. Living things having sense organs .....
- e. Insect-eating plant .....
- f. Breathing part of a fish .....

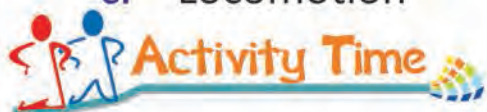
**7. Match the columns.**

**Column A**

- a. Egg
- b. Leaves
- c. Locomotion

**Column B**

- (i) Food factories of a plant
- (ii) The movement of animals
- (iii) The babies come out of them



Put some soaked beans in a zip lock bag.

Observe what happens when they do not get :

1. Light                      2. Water                      3. Air

Observe what happens when they get air, water and sunlight.



- 1. If we take out a fish from water, after some time, it dies. Why ?
- 2. A rabbit eats the nuts and throws some of the nuts in the near by soil. After some days, a plant grows there. How will you justify this statement ?



- 1. Visit a nursery and ask the gardener to show you the seed of a plant that bears fruit. Then, ask the gardener how much time it takes for the seed to grow into : a. a sapling and b. a fully grown tree. Make a note of it.
- 2. Visit a zoo to see how the animals, which live in water are different from land animals in their breathing and food habits.



# Feeling and Eating Habits of Animals

## Learning Objectives

1. Animals' need for food
2. Classification of animals on the basis of feeding habits
3. Various eating habits in animals
4. Care of domestic animals



## TYPES OF ANIMALS

Herbivorous

Carnivorous

Omnivorous

(on the basis of feeding habits)

## NEEDS OF ANIMALS

We have already learnt in the previous chapters that living things need food to live. Thus, all animals need food. The animals need food to live, to grow and to get energy.

## ANIMALS NEED FOOD TO GROW.



All animals need food to grow. You might have seen little puppies when these puppies are fed with food (say milk, bread, bones etc.). They grow into healthy dogs. Animals also need food to stay healthy.



## ANIMALS NEED FOOD FOR ENERGY.

Some animals like horse, elephant, donkey, camel etc., help us. For doing work for us, they need energy. They get this energy from food. The people who keep domestic animals, feed them in the morning and evening. Food gives them energy to work.



Horse



Elephant



Camel

## DIFFERENT FOOD HABITATS OF ANIMALS

Animals show differences in their food habits. Based on the food they eat, animals have been divided into:

- Herbivores
- Carnivores
- Omnivores



### Let Me Answer

Carnivores: The organisms that depend on the flesh of other organisms for their nutrients are called carnivores.

### Herbivores

Animals which only eat grass, small plants, twigs, branches of trees, fruits and vegetables, are called **herbivores** or **herbivorous** animals. These animals have strong, and flat grinding teeth in the rear part of their jaws. These teeth help herbivores to chew their food easily. The front teeth help them to bite leaves and grasses.



Cow



Goat

### Carnivores

Animals which feed on the flesh of other animals, are called **carnivores** or **carnivorous** animals. These animals have long pointed teeth to tear the flesh and strong grinding teeth to chew the bones and flesh.



Vulture



Lion

Those carnivores who do not catch their prey and feed on the flesh of dead animals are called **scavengers**. For example : hyenas and jackals are the scavengers.

## Omnivores

Some animals eat both plants as well as animals as their food, such animals are called **omnivorous** animals. They have sharp front teeth and flat grinding teeth. Man is also an omnivorous animal.



Bear



Kingfisher



Crow

## DIFFERENT WAYS OF EATING OF ANIMALS

Animals have different ways of eating. Different animals eat different types of food. Eating ways depend on the shape of mouth and jaws of animals and the kind of food they eat.

### Gnawing

"Gnawing at" means to bite something repeatedly or to chew it hardily. Animals like rabbit, squirrel, rat etc., have sharp front teeth to cut and gnaw at their food.



Rabbit



Rat



Squirrel



Cow



Buffalo

### Chewing the cud

Some animals swallow their food without chewing it. After some time, they bring it back into their mouth and then chew it well. This is called **chewing the cud**. Animals like cow, buffalo, goat etc., which are herbivores, chew their cud.



## Swallowing

Swallow means to take something down your throat when taken from mouth. Animals like snakes and frogs swallow their food in one piece. They do not bite or chew their food. So, they do not have biting or chewing teeth.



Frog



Snake

## Tearing and then Chewing

Tear means to pull forcibly into pieces. Animals like lion, tiger, fox, dog etc., tear their fleshy food. They have strong grinding teeth to chew the flesh.



Dog



Fox



Lion



Honey bee



Butterfly

## Sucking

Suck means to draw liquid or air into mouth. Insects such as mosquito, butterfly, honey bee etc., suck their food. These insects have long and pointed sucking tubes.



Mosquito

## Other ways of Eating

The trunk of an elephant helps it to suck up water, uproot the grass and tear off branches from the trees. It also uses its trunk to have shower.

An earthworm digs the soil and turns it upside down in search of bits of dead plants and animals as its food.

Some animals, like cats and dogs, lap milk or water with their tongue.

Lizards and frogs have long and sticky tongues to catch their prey.



Elephant



Cat



Lizard

## DOMESTIC ANIMALS NEED CARE.



Camel



Ox

Animals like cow, oxen, camels, dogs etc., which serve us by doing work for us are called **domestic animals**. We should take good care of them and look after them.



- ◆ We should give them healthy food and water at proper time and in clean vessels.
- ◆ Their shelters must be cleaned regularly.
- ◆ Proper treatment should be given to sick animals.
- ◆ We should always be kind to domestic animals.

### Facts to know

- ◎ Elephants have a very sensitive trunk. It has 40,000 muscles and is flexible like rubber.
- ◎ The sense of smell in dogs is higher than human beings. That's why, police uses dogs to find the suspects.
- ◎ Animals which carry loads for us are called the "Beast of Burden".

### LET'S RECALL

1. Different animals have different feeding habits.
2. Cats and dogs lap milk or water with their tongues.
3. Butterfly, bees etc., suck their food with sucking tubes.
4. Animals like cows, buffalos and goats chew the cuds.
5. Elephant have a very sensitive trunk. It has 40,000 muscles and is flexible like rubber.
6. Animals which carry loads for us are called beast of burden.
7. Lizards and frogs have long and sticky tongues to catch their prey.





- chew : to grind between teeth  
energy : the strength/power to do work  
flesh : the soft pulpy part of animal's body  
habits : regular ways of behaving  
lap : taking liquid up by tongue  
shower : spraying water over body



### Cross Curriculum Connect

#### 1. Answer the following questions in short.

- What are omnivores?
- Who is called a scavenger animal?
- Name two animals who chew the cud.
- Name two animals who swallow their food as a whole.

#### 2. Fill up the blanks with suitable words.

carnivore food swallow leech Scavengers Tear

- Lion, a flesh-eating animal, is called a .....
- Snakes ..... their food.
- The ..... sucks the blood of animals.
- All the animals need ..... to grow.
- ..... feed on dead animals.
- ..... means to pull forcibly into pieces.

#### 3. Answer the following questions.

- How many type of eating habits do animals have? Name them.
- What do herbivorous animals eat?
- What kind of teeth do grass-eating animals have?
- What do you mean by "Chewing the cud"?

**4. Tick (✓) the right and cross (✗) the wrong statements.**

- a. Bear eats both plants and other animals.
- b. Leech sucks blood.
- c.. Cows gnaw their food.
- d. Cows chew the cud.
- e. Wolf is a carnivorous animal.
- f. Snakes suck blood.

**5. Multiple Choice Questions (MCQs)**

**Tick (✓) the correct option.**

- a. Which series of animals is a carnivore series?
  - (i) Lion, wolf, fox, snake etc.
  - (ii) Cow, buffalo, goat, horse etc.
  - (iii) Man, bear, crow, peacock etc.
- b. Which series of animals is a herbivore series?
  - (i) Man, bear, crow, peacock etc.
  - (ii) Cow, buffalo, goat, horse etc.
  - (iii) Lion, wolf, fox, snake etc.
- c. Which series of animals is an omnivore series?
  - (i) Cow, buffalo, goat, horse etc.
  - (ii) Lion, wolf, fox, snake etc.
  - (iii) Man, bear, crow, peacock etc.

**6. Give one word for each one of the following.**

- a. Reason for need of food by animals
- b. A scavenger animal
- c. A name given to plant and flesh-eating animals
- d. The sensitive part of an elephant
- e. An animal with higher sense of smell than humans

.....

.....

.....

.....

.....



## 7. Match the columns.

### Column A

- a. Gnawing teeth
- b. Grinding teeth
- c. Tearing teeth
- d. Sucking tubes
- e. Trunk
- f. Long neck

### Column B

- (i) Tiger
- (ii) Squirrel
- (iii) Cow
- (iv) Elephant
- (v) Giraffe
- (vi) Mosquito



Act as an elephant. Show your friends how elephants get food from trees. Spread out your arm as if it is an elephant's trunk and pretend plucking a leafy branch from a tall tree.



1. Why do all food chains start from plants ?
2. Can you differentiate between domestic animals and pet animals ?



1. Make cards. Paste various types of animals on one side. Write their behaviour (i.e. food habits and ways of eating) on the reverse. You can also play a game with these cards, giving clues to your friends. Give him/her a point if he/she guesses correctly.
2. Collect the pictures of some animals. Sort them out according to their eating habits as herbivores, carnivores and omnivores. Paste them in your scrapbook on separate pages.
3. Visit a vet or find information about the things which we should not give to our pet and domestic animals. Also find out the ill effects of giving these things on the health of the animals.



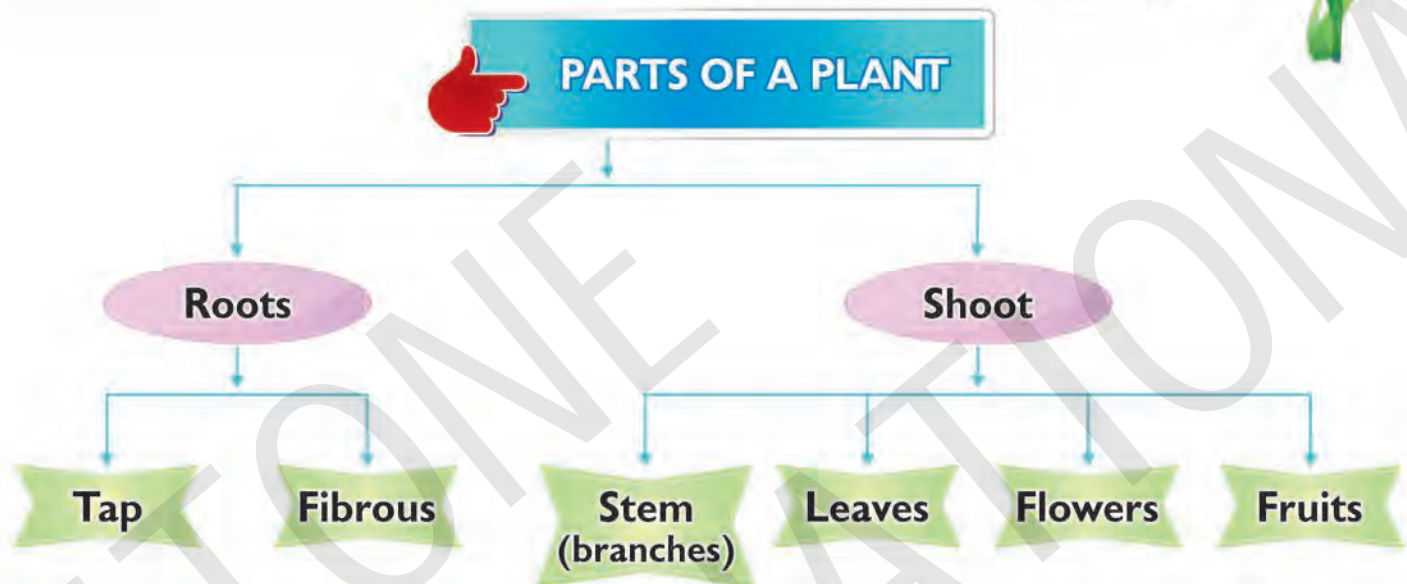
# Part of a Plant

## Learning Objectives

1. Different parts of a plant
2. Functions of different parts of a plant

## Let Me Answer

- What are the 5 main plant parts?
- How do you define Roots, Stems, and Leaves?



## PARTS OF A PLANT

There is an important role of plants in our lives. We depend on plants for our food, clothes, shelter, medicines and many more things. Life cannot be possible without plants.

Just like our body has different parts, the body of a plant has also different parts.

These are :

- ◆ Roots
- ◆ Stem
- ◆ Leaves
- ◆ Flowers
- ◆ Fruits (seeds)



Root



Stem



Leaves



Flowers



Fruit (seeds)



The stem, leaves, flowers and fruits together make the shoot of a plant. The shoot is the part which grows above the ground.

## The Root

The roots of most of the plants grow below the ground. There can be two types of roots :

- ◆ Tap roots
- ◆ Fibrous roots



Tap roots



Fibrous roots

When a main root grows from the end of stem roots, it is a **tap root**. It can be seen in plants like bean, mustard, balsam etc.

When a large number of roots grow from the end of stem, it is **fibrous root**. Plants like grass, wheat, rice etc., have fibrous roots.

## Functions of the Roots

1. Roots fix the plant in the soil.
2. Roots absorb water and minerals from the soil.
3. Some roots store food in them. This food is prepared by the plant and we eat the roots of such plants. E.g. : carrot, raddish, turnip etc.

## The Stem

The stem is the main part of the shoot which grows above the ground. It bears other parts of the plant like branches, leaves, flowers and fruits. Different types of plants have different stems.

- ◆ Trees have hard and woody stem called **trunk**.
- ◆ Shrubs have thick stem.
- ◆ Herbs have soft stem.
- ◆ Climbers and creepers have weak stems.

