

Food: Where Does it Come From?

1

LEARNING OBJECTIVES

After completion of the chapter, students will be able to

1. understand the importance of food and nutrition for living.
2. know that food varies from one place to another.
3. analyse different types of food sources.
4. compare the eating habits of different organisms.
5. classify animals on the basis of their food habits—omnivores, carnivores, herbivores, parasites and scavengers.

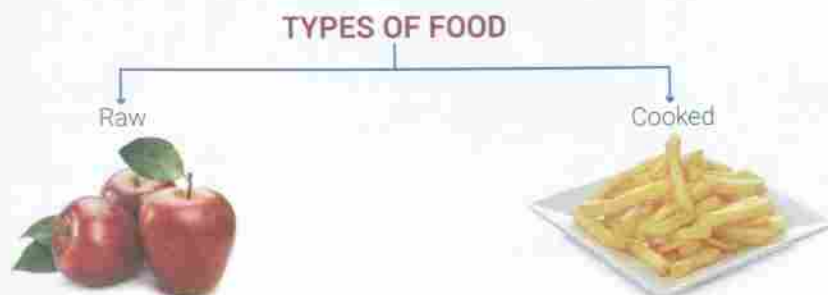
We all eat different kinds of food at different times. Food is one of our basic needs. Food is important because:

1. All living things require food for their survival.
2. Food acts as a fuel and provides energy to work and play.
3. It is essential for our growth, repair of wear and tear of cells.
4. It protects us from different kinds of diseases and thus keeps us healthy.

Do You Know?

Anything which we eat to live is called food.

► Food Variety



They can be eaten as such without cooking.
For example: Tomato, cucumber, banana, apple, etc.

They have to be cooked and spices are added before eating.
For example: Pulses, potato, meat, fish, brinjal, etc.



Kheer

Our daily meal comprises of rice, chapati, vegetable, curd, milk, cottage cheese, meat, eggs, fruits, etc. Cooked food consists of various materials which are called its ingredients. For example: *kheer*—the ingredients used in making this typical Indian dish are rice, milk, sugar, crushed cardamom pods and some dry fruits. Every ingredient is cooked together to make this dish.

Food Habits of People

ACTIVITY 1.1

- Divide the class in groups of five students each.
- Make a list of all the students in your group. Find out the state of their native origin and what type of food they eat.
- Note down the details in the table as shown.

Name of Student	State to which he/she belongs	Food habits			Vegetarian/ Non-vegetarian
		Breakfast	Lunch	Dinner	
1.					
2.					
3.					
4.					
5.					

- How do food habits across the world vary?

In our country, people of different states have different food habits. Food habits are affected by food production and supply in different places.

Some food habits of people of different states are given below:

- **Tamil Nadu:** Rice, *sambhar*, *rasam*, *idli*, *dosa*, coconut, etc.
- **Punjab and Haryana:** *Parantha*, pulses, chapati, rice, *makki-ki-roti*, *sarson ka saag*, etc.
- **Rajasthan:** *Bajra*, *dalia*, chapati, *dal*, *rabdi*, *kachori*, etc.



Idli of Tamil Nadu



Makki-ki-roti of Punjab



Kachori of Rajasthan

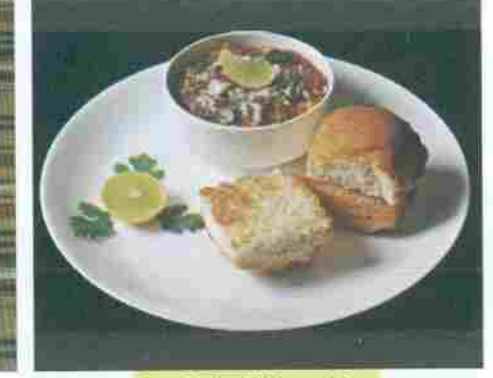
- **Gujarat:** Chapati, rice, *dal*, *thepla*, *dhokla*, *khandvi*, etc.
- **Andhra Pradesh:** Rice, dry vegetables, *arhar dal*, *upma*, *dosa*, *rasam*, curd, pickle, etc.
- **Maharashtra:** *Pav bhaji*, *vada pav*, *amboli*, *puran poli*, etc.



Dhokla of Gujarat



Rasam of Andhra Pradesh

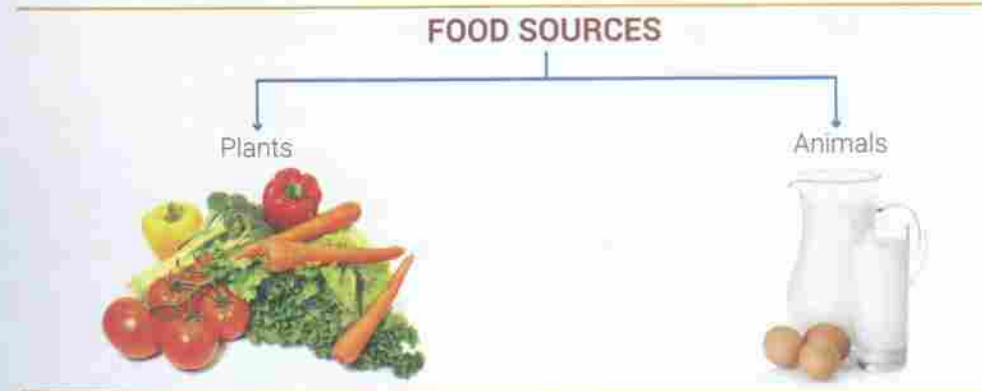


Pav bhaji of Maharashtra

► Food Materials and Sources

Have you ever thought that where do we get the ingredients from?

The food ingredients like rice, flour, vegetables come from various type of plants whereas milk, *ghee*, eggs, meat come from animals. So, the main sources of our food are plants and animals.



► Plant Parts and Animal Products as Food

Food from Plants

We get food from different parts of plant. The parts of a plant that can be eaten are called *edible* parts. The food we eat is either a root, leaf, stem, flower or fruit of plants.

Roots: Beetroot, radish, carrot and turnip are some of the roots that we eat as vegetables.

Do You Know?

Salt and water are not obtained from plant or animal sources. They are obtained directly from the earth's surface.



Beetroot

Radish

Carrot

Roots as vegetables

Leaves: Spinach, lettuce, fenugreek leaves, cabbage, etc. are some of the leaves that we eat as vegetables.



Broccoli

Flower as vegetable



Spinach



Fenugreek



Lettuce

Leaves as vegetables

Stems: Potato, sugarcane, onion and ginger are some of the stems that we eat as vegetables.

Flowers: Broccoli, pumpkin and cauliflower are some of the flowers that we eat as vegetables.

Fruits: All of us like to eat fruits.

1. Fruits like mangoes, apples, papaya, watermelon and bananas are **fleshy fruits**.
2. Walnuts, dried figs, pistachio, sultanas and almonds are **dry fruits**.
3. Orange, lemon and gooseberry are **citrus fruits**.
4. Fruits like apples contain fibre (**roughage**) which helps in flushing out the undigested food from our body as waste.

Do You Know?

Do not try to taste unknown plants. They could be poisonous.



Fleshy fruits



Dry fruits



Citrus fruits

We should eat plenty of fruits daily, especially seasonal fruits, as they keep us healthy and strong because they are rich in vitamins and minerals.

ACTIVITY 1.2

- The national fruit of India is Mango. Find out some of the varieties of mangoes grown in our country and name the region they are grown in.

There are some plants that have two or more edible parts. For example, seeds of a mustard plant give us oil and its leaves are used as vegetables. Similarly, fruits and flowers of the banana plant are used as food.

ACTIVITY 1.3

Germination of seeds or sprouting of seeds

- Take some dry whole seeds of moong or gram.
- Wash and soak these seeds in a beaker containing water for 24 hours.
- Next day, drain the water with a sieve and leave them overnight covered with wet cotton.
- You will observe the white structures emerging out of seeds. The seeds have sprouted.
- You can eat the sprouts as an addition to a salad or use them in cooking as they are very nutritious.



- Do all types of seeds form sprouts?

Do You Know?

Sprouts are extremely healthy as they are rich in vitamins A, C, K, B complex, proteins, enzymes and are easy to digest.

Sample Questions

Q. 1. Name two ingredients in our food that are neither obtained from plants nor from animals. Mention one source for each ingredient.

[NCERT Exemplar]

Ans. (i) Salt: It is obtained from sea water or rocks.

(ii) Water: It is obtained from rivers, wells, taps, ponds, tubewells, rain.

(Any one)

Q. 2. Why do boiled seeds fail to sprout?

[NCERT Exemplar]

Ans. Boiling kills the seeds.

✓CHECK YOUR PROGRESS

- Which of the following is obtained from plants? Write its source.
Oil, Salt, Egg, Milk
- Which of the following is not obtained from milk? Write its source.
Curd, Cheese, Bread, Butter

Food from Animals

Many food items that we eat are obtained from animals too.

Do You Know?

People living in deserts also drink camel's milk. In ice cold places, people mostly have yak's milk.

Non-vegetarians	Vegetarians	Vegans
1. People who eat meat, chicken, eggs, fish, prawns, etc. in addition to plant products are known as non-vegetarians .	2. The people who eat only plant products are vegetarians but they too consume animal products such as milk, cheese, cottage cheese, curd, butter, ghee and honey.	3. There are people who eat only vegetarian diet that excludes milk and dairy products, and all animal derived ingredients like honey. Such people are called vegans . They also refrain from eating refined white sugar as it is processed using animal products.



Honeycomb

Honeybees give us honey. They collect nectar (sweet juice) from flowers, convert it into honey and store it in their hives. The hives containing honey are called honeycombs. The rearing of honeybees on a large scale is known as apiculture. Honey comprises of water, sugar, minerals and enzymes. It is used as an antiseptic because it destroys the growth of microbes.

► What do Animals Eat?

Different animals have different eating habits. According to their eating habits, they have been categorised into the following:

Herbivores

Animals that eat only plants are known as herbivores.

- Herbivores range in size from tiny insects such as aphids to large animals, such as elephants.
- Their teeth are so designed that they can easily chew the plants.
- Their stomach is specially designed to digest leaves, grass and other plant materials, eg. cow, buffalo, sheep, goat, horse, giraffe,

Do You Know?

Herbivores that gnaw woody plants possess teeth that can grow continuously throughout the animal's lifetime. These are known as rootless teeth. The beaver is a good example.



Cow (Herbivore)



Grasshopper (Herbivore)

Carnivores

Carnivores are flesh-eating animals.

- A carnivore is also known as **predator** because it has to find and catch its prey. Their prey could be herbivores, omnivores or other small carnivores.
- The teeth of these carnivores are adapted to eat the flesh of their prey e.g., lion, tiger, python, etc.
- The carnivorous birds have large, curved and pointed beaks which help them tear the flesh from the bone. Snakes have small teeth, which are used only to help in swallowing the prey as a whole.



Lion (Carnivore)

Omnivores

Animals which eat both plants as well as animals are known as **omnivores**, eg. bear, fox, dog, cat, humans, crow, sparrow, shark, whales, fish.



Shark (Omnivore)

Scavengers

Scavengers are animals that feed on dead, or decaying animals.

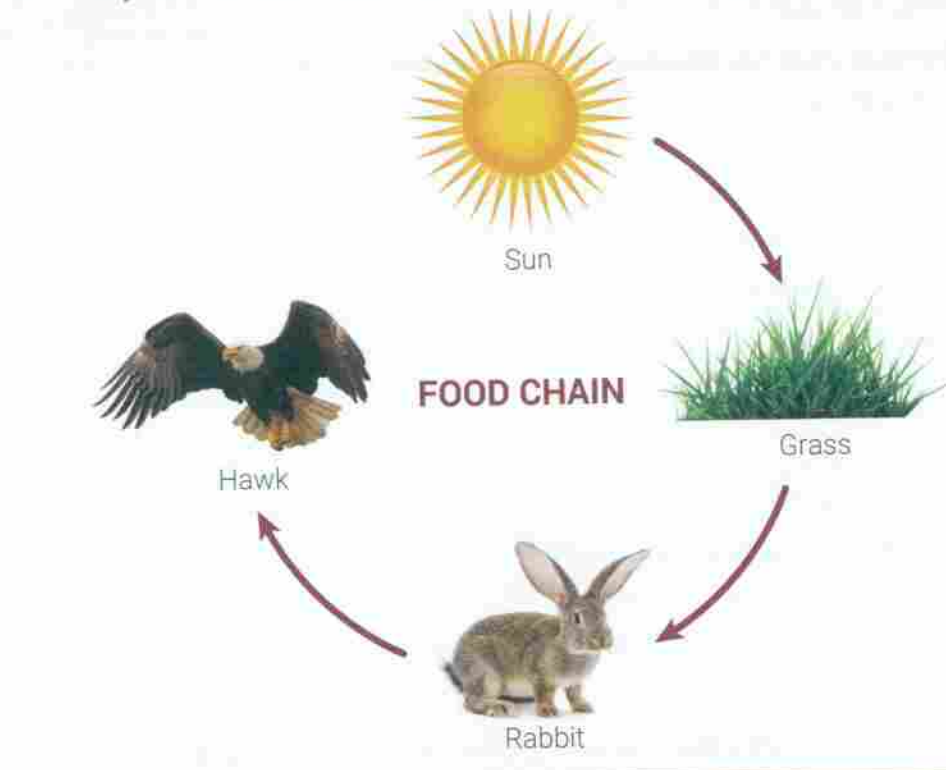
- They clean the earth of organic garbage.
- Many types of worms, insects, vultures, crows, hyenas, etc. are scavengers.
- When food is scarce then some carnivores like jackals, bear, shark, leopard, etc. become scavengers.



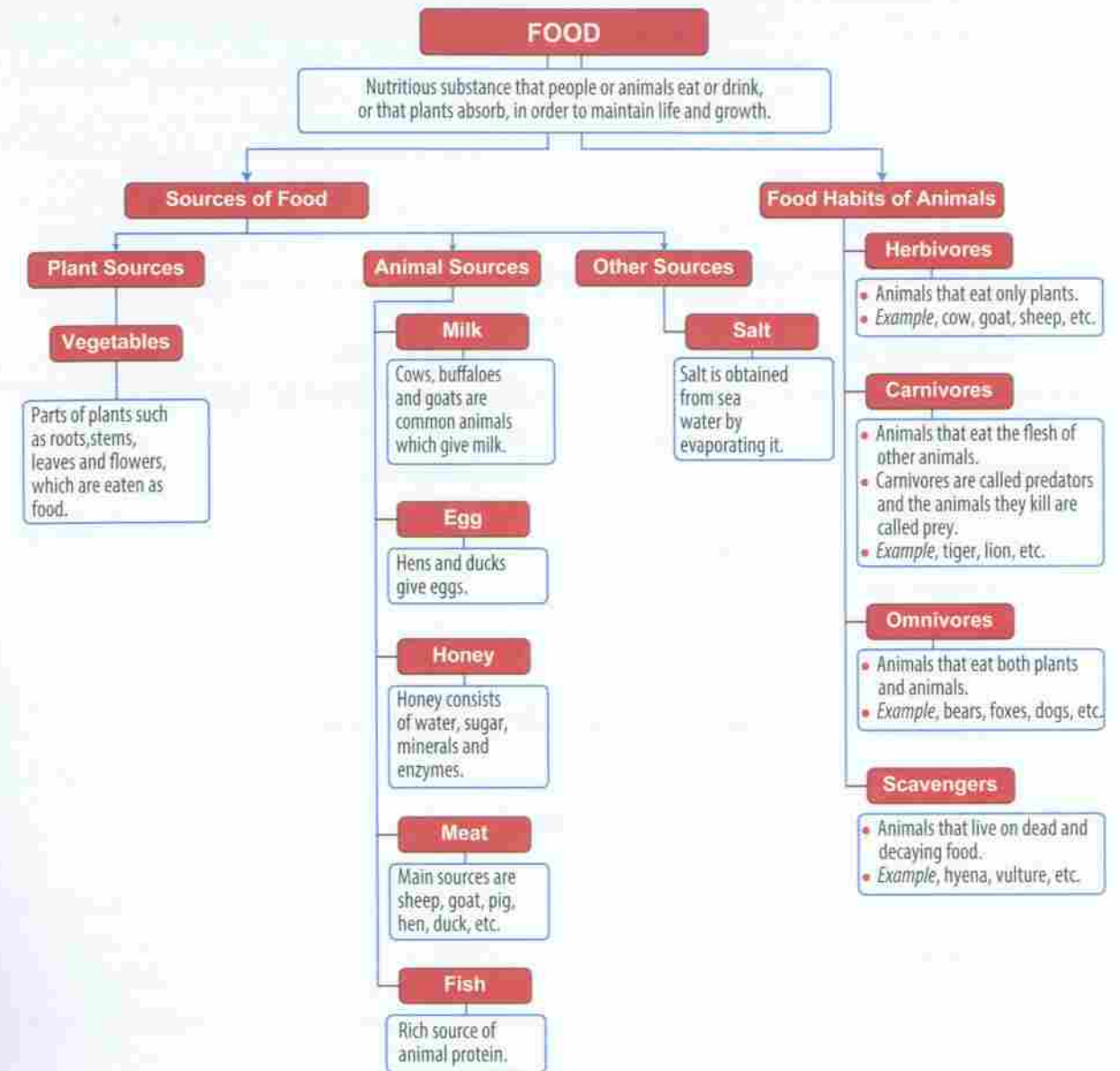
Jackal (Scavenger)

✓CHECK YOUR PROGRESS

- Give one word for each of the following:
 - Honeybees suck from flower.
 - Animals which eat other animals.
 - Animals which eat only plants and plant products.
 - Animals which eat both plants and animals.
- Without decomposers and scavengers, the world would be covered with dead plants and animals. Comment.
- Study the food chain given here and identify the herbivore and carnivore.



SUMMARY—A FLOW CHART



NCERT EXERCISE

- Q. 1. Do you find that all living beings need the same kind of food?**
- Ans.** No, different animals have different food requirements. Some fulfill their nutrient needs by eating animals and others need plants. Depending on the type of food living beings eat, they are mainly classified into:
- Herbivores:** Animals which eat only plants are called herbivores. Example, cow, goat, etc.
 - Carnivores:** Animals which eat only animals are called carnivores. Example, tiger, lion, etc.
 - Omnivores:** Animals which eat both plants as well as other animals are called omnivores. Example, man, dog, etc.
 - Scavengers:** Animals which eat dead plants and animals are called scavengers. Example, vulture, hyena, etc.

Q. 2. Name five plants and their parts that we eat.

Ans.

Plant	Their edible part
Radish	Root
Potato	Stem
Tomato	Fruit
Pomegranate	Seed
Cauliflower	Flower

Q. 3. Match the items given in Column A with that in Column B.

Column A

Milk, curd, paneer, ghee

Spinach, cauliflower, carrot

Lions and tigers

Herbivores

Column B

eat other animals

eat plants and plant products

are vegetables

are all animal products

Ans. Milk, curd, paneer, ghee—are all animal products

Spinach, cauliflower, carrot—are vegetables

Lions and tigers—eat other animals

Herbivores—eat plants and plant products

Q. 4. Fill up the blanks with the words given:

herbivore, plant, milk, sugarcane, carnivore

- (a) Tiger is a _____ because it eats only meat.
 (b) Deer eats only plant products and so, it is called _____.
 (c) Parrot eats only _____ products.
 (d) The _____ that we drink, which comes from cows, buffaloes and goats is an animal product.
 (e) We get sugar from _____.

Ans. (a) carnivore (b) herbivore (c) plant
 (d) milk (e) sugarcane

Q. 5. Does everyone around you get enough food to eat? If not, why?

Ans. No, everyone around us does not get enough food to eat because of poverty and lack of food. There is lot of wastage of food and poor people cannot afford to buy enough food for themselves and their families.

Q. 6. What are the ways we can think of to avoid wastage of food?

Ans. Wastage of food can be avoided by following ways:

- (a) Eat your tiffin in school recess fully and do not leave or throw the food meant for you to eat. If there is excess food in the tiffin then share it with your friends and inform your parents for the next day to give you the food that you can eat.
 (b) Keep food well preserved, away from the reach of rats, squirrels and ants.
 (c) Suggest your mother or domestic help to cook the food in the desired quantity only. Excess food, if cooked may be stored in the refrigerator.

 **ASSESSMENT**

A. Objective Type Questions

I. Multiple Choice Questions

Tick (✓) the correct option.

1. Given below are names of some animals:

[NCERT Exemplar]

- (i) Goat (ii) Human beings
 (iii) Cockroach (iv) Eagle

Which of the above animals form a pair of omnivores?

- (a) (i) and (ii) (b) (ii) and (iii)
 (c) (iii) and (iv) (d) (ii) and (iv)

2. People of a village eat lots of fish, crabs and prawns. The village is most probably [NCERT Exemplar]

- (a) in a forest (b) near the sea
 (c) in a hilly region (d) in a desert

3. Below are names of some animals:

[NCERT Exemplar]

- (i) Cow (ii) Sheep
 (iii) Horse (iv) Ox

Which of the above are sources of milk for human beings?

- (a) (i) and (iii) (b) (i) and (ii)
 (c) (ii) and (iii) (d) (iii) and (iv)

4. Which one of the following adds flavour to our food?

- (a) Spices (b) Oils
 (c) Coffee (d) Cereals

5. Which one of the following is not an animal product?

- (a) Honey (b) Cheese
 (c) Millet (d) Milk

6. Which of the following living organisms uses sunlight to make its food?

- (a) Cat (b) Frog
 (c) Snake (d) Coconut tree

7. Herbivores do not eat meat but can eat

- (a) beef (b) fish
 (c) fruit (d) steak

8. Which of the following is a root?

- (a) Potato (b) Carrot
 (c) Cucumber (d) Onion

9. Given below is a list of edible plants:

[NCERT Exemplar]

- (i) Banana (ii) Pumpkin
 (iii) Lady's finger (iv) Brinjal

Which pair of plants has two or more edible parts?

- (a) (i) and (ii) (b) (ii) and (iii)
 (c) (iii) and (iv) (d) (i) and (iv)

10. Read each set of terms and identify the odd set.

[NCERT Exemplar]

- (a) Cow, milk, butter (b) Hen, meat, egg
 (c) Goat, milk, meat (d) Plant, vegetable, buttermilk

II. Fill in the blanks.

carnivore herbivores milk sugarcane

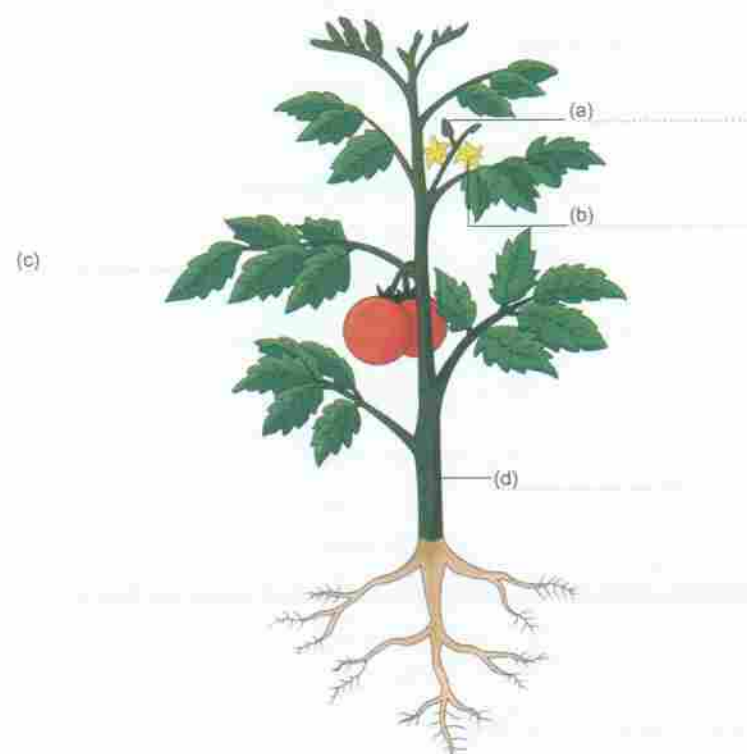
- Lion is a _____ because it eats only meat.
- Sugar is obtained from _____.
- Elephants eat only plant products, so they are called _____.
- We drink _____ got from cows, buffaloes and goats.

B. Very Short Answer Questions.

- Why do organisms need food? Give two reasons.
- Label the different parts of the plant given below.

[NCERT Exemplar]

[NCERT Exemplar]



- What are ingredients? Name the ingredients used in making *chapatis*.
- Mention one food item typical of:

(a) Tamil Nadu (b) Punjab (c) Rajasthan
- Why do we use spices?
- From which plant stem, sugar can be obtained?
- Who are non-vegetarians?
- Give five examples of food obtained from animals.
- What is apiculture?
- What are scavengers? Give examples.

C. Short Answer Questions

- How is honey obtained from honeybees?
- How are herbivores different from carnivores?
- Why are human beings called omnivores? Give two more examples of omnivores.
- How can wastage of food be prevented?

D. Long Answer Questions

- Write any five edible parts of plants with example.
- What are the various categories into which food from plants is divided? Name and give examples of each.
- Explain with an example that the meal we take comes to us from various sources.
- "There are lots of things that can be eaten and in many ways." Explain the statement briefly.

E. Higher Order Thinking Skills (HOTS)

- Imagine one of your friends had only one chapati, some rice and one bowl of pulses for his/her daily meal. Do you think that by eating such meal he/she can work and play whole day?
- Why are green plants known as producers?
- Do we require food when we are sleeping?
- Do all living organisms eat similar type of food? Justify your answer.
- What is the difference between a decomposer and a scavenger?

