

➔ Read the Chap-1 "Food" for 2 times carefully and underline the new words.

1
Sources of Food

To know about

- food and its need.
- what animals eat—herbivores, carnivores and omnivores.
- sources of food—plant parts and animal products.

Learning
Objectives


There is an old saying which states, "You are what you eat". But what exactly do we eat?

*The material or substance which we eat is called **food**.* Why do we need food? Let us compare our body to a car. What happens to a car if there is no petrol in its tank? It stops running. Petrol is the fuel which runs the car. Similarly food is the fuel which living organisms require to keep functioning. Organisms require food for the following purposes:


- to provide energy for various activities of the body
- for growth and development of the body
- to protect the body from diseases and keep it healthy
- for repair of injured body parts
- for reproduction

1.1 FOOD VARIETIES


See Fig. 1.1. It shows the different types of food eaten by us.




(a) Rice, chapati/roti, dal, vegetable, curd, kheer




(b) Dosa, idli, sambar, chutney




(c) Fruit



(d) Milk, egg, bread

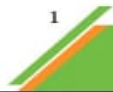


(e) Samosa, burger, pastry



(f) Fish, chicken, mutton

Fig. 1.1: Different types of food and food items



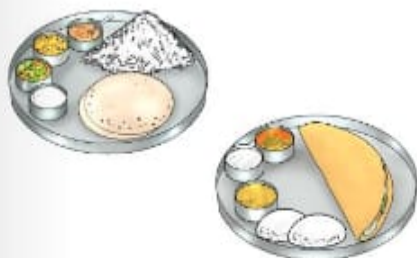


Fig. 1.2: Food eaten in some of the states

1.1.1 Certain Facts about Food

- There is a lot of variety in the food we eat.
- We eat different food items at different times of the day. Food eaten at breakfast, lunch and dinner is different.
- People from different states in India eat different kinds of food (Fig. 1.2).

To know more about the varieties of food eaten by us, let us perform the Activity 1.1.

Activity 1.1

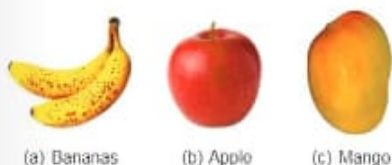
(Collect and tabulate information.)

To find out the varieties of food eaten by us

Collect information from your friends in school, coming from different states of India, about the food items they have eaten for lunch. List this information in the table given below. Also make the same list in MS Excel.

Food items eaten by us

S. No.	Name of the friend	State	Food items eaten for lunch
1.			
2.			
3.			
4.			
5.			
6.			



(a) Bananas (b) Apple (c) Mango

Fig. 1.3: Fruit—foods with only one ingredient

1.2 FOOD INGREDIENTS

Food items which we eat may consist of a single material or many materials. For example, fruit like banana, apple or mango consist of single material (Fig. 1.3).

Think of food items like rice, dal, chapati/roti, kheer and idli. These food items consist of two or more materials (Fig. 1.4). *Materials which are used to prepare food items are called ingredients.*

Examples of ingredients in some food items

Food item	Ingredients
1. Chapati/Roti	Atta (flour) and water
2. Rice	Rice grains and water
3. Dal	Pulses, water, salt, oil/ghee and spices
4. Vegetable curry	Vegetable, salt, oil, spices and water
5. Kheer	Milk, rice and sugar
6. Idli	Rice, urad dal, salt and water
7. Chicken curry	Chicken, oil/ghee, spices, vegetables and water

Classroom Discussion

List the vegetables we use in chicken curry.



paneer, spinach, salt, water, oil, spices

Fig. 1.4: Food item containing more than one ingredient

Activity 1.2

(Investigate and compile data.)

To find out the ingredients in different food items

Enlist five food items you have eaten today. Find out the ingredients in them. You may take the help of your mother/class teacher. Enter the information in the table given below.

Food items and their ingredients

S. No.	Food item	Ingredients
1.		
2.		
3.		
4.		
5.		

1.3 FOOD EATEN BY ANIMALS

All living things need food to remain alive. Do you know how living things get food? Most plants can prepare their own food. Animals including human beings, on the other hand, cannot. They either eat plants or other animals.

Have you seen animals like a cow (or buffalo), cat, dog, crow, squirrel, goat, lizard and lion eating food? They all eat different kinds of food (Fig. 1.5).



Fig. 1.5: A squirrel eating food



cow elephant

(a) Herbivorous animals



leopard lion

(b) Carnivorous animals



cockroach crow

(c) Omnivorous animals

Fig. 1.6: Categories of animals based on food eaten



Key Fact

Some carnivores and omnivores consume dead bodies of animals and thus help to keep the environment clean. Such animals are called scavengers.

Examples—crows, vultures and jackals

Activity 1.3

(Tabulate information.)

To find out the food eaten by different animals

Complete the table to show the food eaten by 15 different animals given below:

Food eaten by animals

Animal	Food eaten
1. Cow (or buffalo)	
2. Horse	
3. Goat	
4. Lion (or tiger)	
5. Cat	
6. Dog	
7. Crow	
8. Squirrel	
9. Lizard	
10. Human beings	
11. Cockroach	
12. Butterfly	
13. Elephant	
14. Deer	
15. Spider	

Based on the food eaten, animals can be classified into three groups or categories: herbivores, carnivores and omnivores (Fig. 1.6).

- (i) **Herbivores or herbivorous animals** (*Herbi* = plant, *vore* = eater) eat only plants or plant products. Cow, buffalo, horse, deer, goat and elephant are herbivores.
- (ii) **Carnivores or carnivorous animals** (*Carni* = meat, *vore* = eater) eat other animals. Lion, tiger, dog and jackal are carnivores.
- (iii) **Omnivores or omnivorous animals** (*Omni* = all, *vore* = eater) eat both plants and animals. Human being, crow, cockroach and squirrel are omnivores.

Activity 1.4

(Classify data.)

To classify the animals on the basis of the food they eat

Based on what you have studied about the three different types of animals, classify the animals given in table in Activity 1.3 as herbivores, carnivores and omnivores and complete the table given below. You may find out and add the names of some other animals. Perform the activity in groups of three students each.

Categories of animals based on food eaten

Herbivores	Carnivores	Omnivores

Answer Orally

1. Define the following.
 - (a) Food
 - (b) Food ingredients
 - (c) Herbivores
 - (d) Carnivores
 - (e) Omnivores
2. Give two examples each of herbivores, carnivores and omnivores.

1.4 SOURCES OF FOOD

Food is obtained by living things from both plants and animals.

1.4.1 Plants as Source of Food

You know that green plants can prepare their own food. For this reason, they are known as **producers**. They prepare more food than what they need themselves. This extra food is stored in different parts of the plant body.

Producers

Producers are living beings like plants which can prepare their own food.



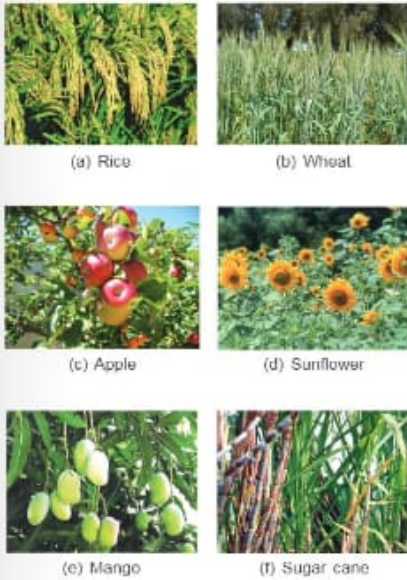


Fig. 1.7: Food-giving plants

Different plant parts from which food is obtained are the roots, stems, leaves, flowers, seeds and fruit.

Do you know which part of the plant are you eating when you eat potato, cabbage, onion, radish, carrot or mango?

*The plant parts which are eaten are called **edible parts**.* For example, the edible part in a mango is the fruit, in onion and potato, it is the stem while in radish and carrot, it is the root, and leaf is the edible part in cabbage.

Food Items Obtained from Plants (Fig. 1.7)

- (i) Cereals (wheat, rice, maize)
- (ii) Pulses (pea, bean, soyabean, gram, groundnut)
- (iii) Vegetables (carrot, radish, potato, onion, spinach, cabbage, tomato)
- (iv) Fruit (banana, apple, mango, grape, orange, pineapple)
- (v) Sugar (sugar cane)
- (vi) Oil (mustard, groundnut, coconut, soyabean, cotton seed, sunflower)
- (vii) Spices (turmeric, chilli, ginger, saunf or fennel, elaichi or cardamom)

Let us find out which plant parts provide us these food items (Fig. 1.8).

• **Food from stems**



• **Food from roots**



- **Food from leaves**



(a) Spinach



(b) Fenugreek



(c) Cabbage



(d) Mustard

- **Food from flowers**

Rose petals are used to make essence and gulkand.



(a) Rose



(b) Cauliflower



(c) Broccoli

- **Food from seeds**



(a) Green gram (moong)



(b) Kidney beans (rajma)



(c) Corn



(d) Wheat

- **Food from fruit**



(a) Banana



(b) Apple



(c) Mango



(d) Grapes



(e) Orange



(f) Pineapple

Fig. 1.8: Food items from different plant parts

Sprouts

Have you ever seen your mother buying sprouted seeds from the market or preparing them at home? How does she prepare them at home? Perform Activity 1.5 to prepare sprouted seeds.

Sprouts

Sprouts are small white structures which come out of the seeds.

Sprouted Seeds

Sprouted seeds are seeds which have germinated.

Activity 1.5

(Process and observe.)

To prepare sprouts

- Take some dry seeds of gram (chana) or green gram (moong).
- Soak the seeds in water for a day in a container.



dry green gram



germinated green gram

Germinating seeds (sprouts)

- Next day, drain the water completely and leave the seeds in the container for another day.
- What do you find now?

You will find small white structures coming out of the seeds. The seeds have germinated or sprouted.

Classroom Discussion

Discuss the names of some water plants that we eat.

Activity 1.6

(Collect data and classify.)

Making a scrapbook of food plants

Collect photographs or pictures and specimens of different plants that give us food. Classify them according to the plant part used and paste them in a scrapbook.



Fig. 1.9: Milk products

1.4.2 Animals as Source of Food

A variety of food products are obtained from animals. These include milk and milk products, eggs, meat and honey.

Food product	Source
Eggs	Hen, duck
Meat	Sheep, goat, chicken, fish
Honey	Honeybees [honey is stored in the beehive (nest of bees)]
Milk	Cow, buffalo, goat

- **Dairy products** (Fig. 1.9) are made from milk. Some dairy products are paneer, cheese, butter, ghee and curd.
- **Animals which provide meat and egg are called poultry** (Fig. 1.10).
- **Poultry products** are rich in proteins.



Fig. 1.10: Hen with eggs



Mind Scambler

Unscramble each of the following to form a word or term.

- (a) ROEDUPCRE _____
- (b) ERHVOBIRE _____
- (c) ARVOCNIER _____

- **Honey** is a sweet liquid produced by honeybees from the nectar (sweet juice produced by flowers). It consists of sugar, water, minerals and enzymes. Honey is stored in beehives (Fig. 1.11).

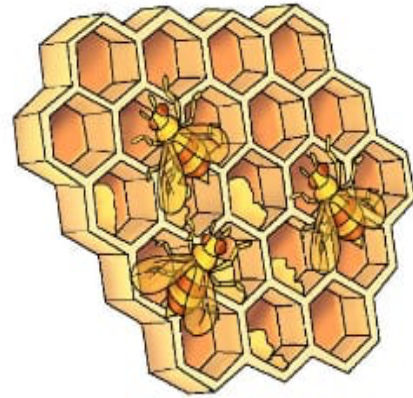


Fig. 1.11: Beehive

Answer Orally

1. Define the following.

(a) Producers	(b) Sprouts
(c) Edible	(d) Beehive
2. Name the plant parts that are our sources of food.
3. Name four animal products we eat.

DEFINITIONS

- **Food:** The material or substance which we eat
- **Ingredients:** Materials which are used to prepare food items
- **Herbivores:** The animals which eat only plants
- **Carnivores:** The animals which eat only animals
- **Omnivores:** The animals which eat both plants and animals
- **Edible parts:** The plant parts which are eaten
- **Sprouts:** Germinated seeds
- **Poultry:** Animals which provide meat and egg

QUICK ROUNDUP

1. All living organisms need **food** to survive and perform different activities.
2. Plants are called the **producers**, as they can prepare their own food.
3. Both plants and animals provide food to us.
4. Different plant parts such as roots, stems, leaves, flowers, seeds and fruit provide food.
5. A number of food products like milk, curd, butter, ghee, paneer, eggs, meat and honey are provided by animals.