

# 1

# FOOD WHERE DOES IT COME FROM

## LEARNING OBJECTS

◆	VARIETIES OF FOOD
◆	SOURCES OF FOOD
◆	GROUPING OF LIVING ORGANISMS FOOD HABITS

## SYNOPSIS-1

## INTRODUCTION TO VARIETIES OF FOOD

### INTRODUCTION

Food is any substance that is consumed to fulfill nutritional requirement of the body. It is usually of plant or animal origin, contains essential nutrients such as **carbohydrates, fats, proteins, vitamins, or minerals**.

Food is ingested by an organisms and assimilated by its cells in an effort to produce energy, maintain life and stimulate growth.



All living organisms need energy to sustain life. This energy comes from food. **Organisms require food for the following purposes:**

- To provide energy required 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 and replacement of worn out cells.
- For reproduction.

## SYNOPSIS-2

## VARIETIES OF FOOD

## VARIETIES OF FOOD

- There is a lot of variety in the food we eat. We eat different foods during different times of the day. Food eaten during breakfast, lunch and dinner is different.
- According to their **taste, habits, lifestyle** and **availability** of foods different people eat different kinds of food.
- India is a vast country with different types of soil and climatic conditions which determine the **crops, vegetables** and **fruits** that grow best at a particular place. Due to this, people from different states in India eat different kinds of food.

## Food eaten by different people

STATE	FOOD ITEMS TAKEN IN LUNCH
Punjab	Paratha, dal
Rajasthan	Dal, batti
Karnataka	Idli, sambhar
Gujarat	Dhokla
Goa	Seafood, rice
Manipur	Fish, rice

After performing the above mentioned activity, you will notice that people belonging to different regions of India eat different kinds of food, *i.e.*, food habits of people from different states are different.

Although there is a huge variety of food eaten by different people in different states of India, but there is one common factor: we all eat cereals like **wheat, rice, millet**, etc., along with **pulses, meat, vegetables, dairy products and fruits**.



Punjab



Karnataka



Goa

## Varieties of food eaten in different states of India

## Ingredients of food :

- Materials which are used to prepare food are called **ingredients**.
- Some food consists of just one or two ingredients whereas others consist of several ingredients.

Ex. A dish of boiled rice consists of just two ingredients, i.e., rice and water whereas a dish of vegetable curry consists of different types of vegetables, salt, spices, oil, water, etc.

### To find out ingredients in different food.

Make a list of various food items and find out the ingredients used to prepare them. For this you can take your mother's help.

Some examples of food items and their ingredients have been given in the following table.

Food items	Ingredients
Vegetable fried rice	Rice, peas, carrot, beans, salt, oil, sauce, spices, water, etc.
Chicken fried rice	Chicken, rice, spices, water, oil, salt, etc.
Dosa	Rice, urad dal, salt, water and oil
Chapati	Wheat flour, water and oil
Puri-sabji	Wheat flour, vegetables, salt, spices, oil and water
Aloo ka paratha	Wheat flour, boiled and mashed potatoes, salt, spices, oil and water

### INTRODUCTION

- Most of the ingredients that we use in our food come from plants and animals.
- Plants are the sources which provide food ingredients like **cereals, pulses, vegetables, fruits, sugar**, oil, spices, etc.
- Animals provide us with **milk** and milk products (cheese, curd, butter, cream, ghee, **meat**, eggs, etc.)

### Plants as a source of food

Green plants can prepare their own food, hence they are known as producers. The extra food prepared by plants is stored in different parts of the plant body such as roots, stems, leaves, flowers, seeds and fruits.

- The plant parts which are eaten by humans are called edible parts.
  - The parts which cannot be eaten by humans are called non-edible parts.
- Ex. In a tomato plant we eat the fruit, *i.e.*, tomato is edible whereas root and stem of tomato are non-edible.
- In the same way, the edible part in a mango plant is the fruit while the non-edible part is root.
  - The edible part in ginger and potato is the stem in radish and carrot, it is the root and in cabbage, leaf is the edible part.

**FOOD OBTAINED FROM PLANTS**

- Cereals (wheat, rice, maize)
- Pulses (pea, bean, soybean, gram, groundnut)
- Vegetables (carrot, radish, potato, onion, spinach, cabbage, tomato)
- Fruits (banana, apple, mango, grapes, orange, pineapple)
- Sugar (sugarcane)
- Oil (mustard, groundnut, coconut, soybean, cotton seed, sunflower)
- Spices (turmeric, chilli, ginger, *saunf* or fennel, *elaichi* or cardamom)
- Tea and coffee beverages

Some examples of various plant parts that are used as food are as follows :

**ROOTS :**

In some plants, roots store food. These roots become swollen due to stored food in them.

Ex. Roots of sweet potato, carrot, radish, beet, turnip, etc. are edible.



**Carrot**



**Turnip**

**Edible roots**

**STEMS:**

Many plants store food in their stems.

Ex. Potato, sugarcane, ginger, turmeric, etc., are the edible stems.



**Potato**



**Ginger**

**Edible stems**

**LEAVES :**

We eat the leaves of many leafy vegetables, *e.g.*, spinach, mustard, cabbage, lettuce, fenugreek.



Spinach



Cabbage

**Edible leaves****FLOWERS:**

Flowers of some plants are edible and serve as good source of food. e.g., cauliflower, broccoli, etc. Flowers of banana, pumpkin, rose, etc., are used in a wide variety of delicious food.



Cauliflower



Broccoli

**Edible flowers****FRUITS:**

Plants gives us a variety of delicious and nutritious fruits. e.g., apple, mango, banana, orange, grapes, papaya, guava, etc.



Mango



banana

**Edible fruits****SEEDS:**

Seeds of plants are a good source of food for human beings because they contain nutrients necessary for the plant's initial growth. In fact, a majority of foods consumed by human beings are seed-based foods. Edible seeds include cereals (maize, wheat and rice), legumes (beans, peas and lentils) and nuts. Oil seeds such as sunflower, rapeseed and sesame are often used to produce rich oils.



Lentils

Wheat grains  
Edible seeds

Nuts

**ANIMALS AS A SOURCE OF FOOD**

- A variety of food products are obtained from animals are both as well as indirect source of food.
- Food obtained from animals include milk, milk products, eggs, meat and honey.

**MILK**

Milk is an important animal product. Main milk producing animals in India are cows and buffaloes but milk of goat, sheep and camel is also used in some parts of our country. Milk producing animals are called **milch animals**. Many products are obtained from milk which are called **dairy products**.



Buffalo



Cow



Goat



Camel

**Milch animals**

Some common dairy products are:

**Cottage cheese :**

Common methods of making cheese include adding lemon juice or vinegar to milk. Then, the liquid portion of milk is drained off and the solid part forms cheese. This process is called **curdling**. Cheese is made from curdled milk of cow, goat, sheep or buffalo.

**Cream :**

Cream is made by collecting the top fatty layer of the milk.

**Butter :**

Butter is made by churning fresh cream.

**Ghee :**

Ghee is made by gently heating butter and removing the solid matter.

**Curd :**

Common methods of making curd include adding a small sample of curd in warm milk. The microorganisms (bacteria) present in the curd sample turn the milk into curd.



Milk



Cheese



Butter



Curd

Dairy products

## EGGS

Eggs of certain birds like hen, goose, duck, etc., are often eaten as food. The term **poultry** is used for birds which are domesticated for eggs and meat.



Eggs

## MEAT

The flesh of some animals is eaten as food. These include animals like chicken, goat, pig and fish. In many parts of the world, prawns, snails, crabs, shrimps, etc., are also eaten. These are referred to as **seafood**.



Chicken



Fish



Prawn

## HONEY

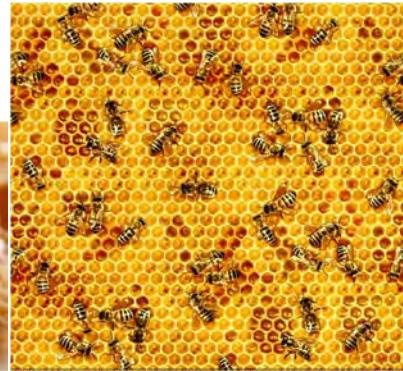
Honey is a sweet liquid made by honeybees using nectar from flowers. Honeybees store honey in their beehives. The beehives which contain honey are called **honeycombs**.

Flowers and their nectar may be available only for a part of the year. So, bees store this nectar for their use all, through the year. People collect honey from

the beehives. Rearing of honey bees for obtaining honey and bee wax is called **apiculture**.



Honey



Honey comb

**SYNOPSIS-4****GROUPING OF LIVING ORGANISMS FOOD HABITS****INTRODUCTION**

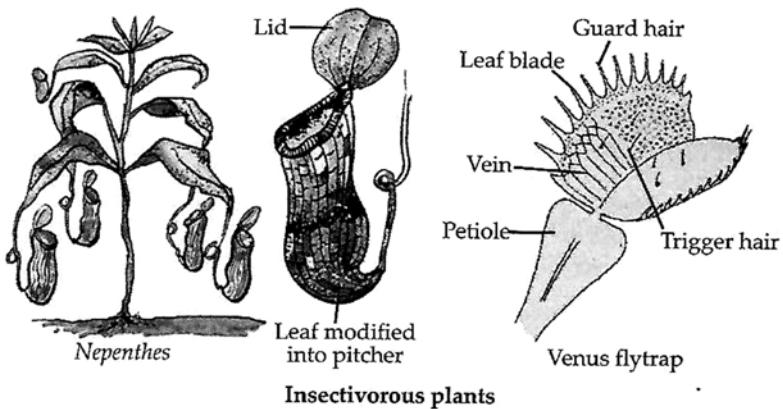
Food is the basic necessity for all living organisms, but each living organism has a different way of obtaining food, *i.e.*, they have different food habits. On the basis of food habits, we can categorise living organisms into

- Autotrophs
- Heterotrophs.

**Autotrophs**

- The organisms which can prepare their own food are called **autotrophs**.
- All green plants manufacture their own food from carbon dioxide and water in the presence of sunlight and chlorophyll by the process known as **photosynthesis**.
- Hence, all green plants are autotrophs. They are also called **producers** as they produce food for themselves as well as for other organisms.
- **Insectivorous plant** or insect eating plants are the plants which feed on insects. They are green and synthesise their own food by the process of photosynthesis but they also feed on insects to obtain their **nitrogen nutrition**.
- These plants grow in the soils that are usually nitrogen-deficient, therefore they use the nitrogen nutrition obtained from insects to supplement the food they prepare by photosynthesis.

**Examples** of such plants are **pitcher plant** (*Nepenthes*), **Venus flytrap** (*Dionaea*), **sundew**, **bladderwort**, etc. These plants have developed special mechanisms to trap, digest and absorb the insects.



### Heterotrophs

Living organisms which cannot prepare their own food and depend on autotrophs directly or indirectly for the fulfillment of their food requirements are called **heterotrophs**.

- They are also called **consumers**, e.g., animals, human beings, etc.
- On the basis of their eating habits, heterotrophs can be divided into
- Herbivores
- Carnivores
- Omnivores

#### Herbivores :

Animals that eat only plants are called herbivores.

- Ex. Rabbit, buffalo, cow, elephant, deer, giraffe, etc.

#### Carnivores :

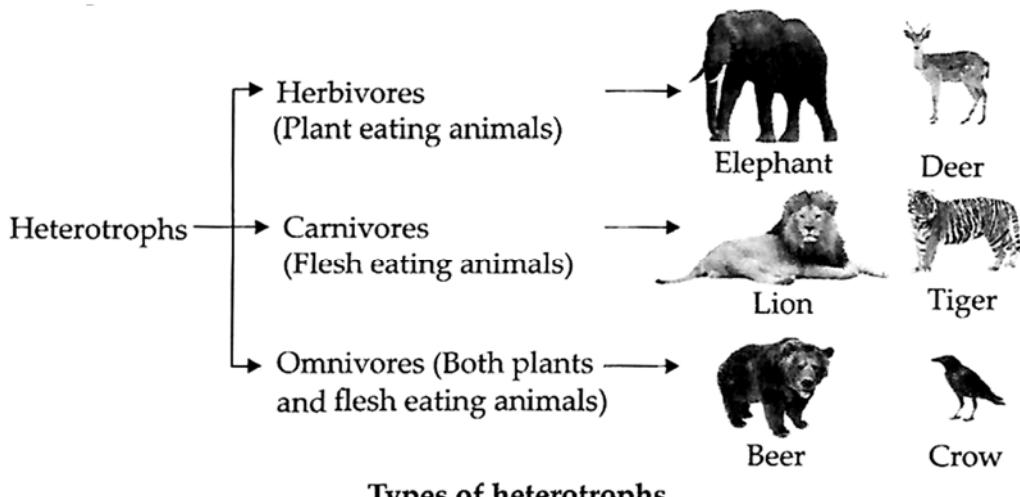
Animals that eat the flesh of other animals are called carnivores.

- Ex. Lion, wolf, tiger, leopard, crocodile, etc.

#### Omnivores :

Animals that eat both plants as well as other animals are called omnivores.

- Ex. Crow, bear, fox, cat, human beings, cockroach, etc.



**Types of heterotrophs**

- In this chapter, we learnt about different types of food available to us and their sources. We also got to know about different plant parts and animals products which are used as food and the type of food eaten by different animals.
  - We all know that there are many people around us who do not get sufficient food to eat. We need to find ways by which more food can be grown and stored in our country.
  - Even, that will not be enough, we need to find ways to ensure that this food is made easily available to each and every individual.
- Scavengers and decomposers are also heterotrophs. They help to keep our environment clean.

**SCAVENGGERS**

Instead of hunting live animals, some birds and animals eat the flesh of dead animals. These animals are called **scavengers**.

Ex. crow, jackal, hyena, vulture, etc.

Ex. As scavengers feed on dead bodies, so they help to clean our environment.



Crow



Jackal



Hyena



Vulture

**Scavengers****Decomposers**

- Some organisms feed on dead plant and animal remains by decomposing (breaking down) them. They are called **decomposers**.
- Ex. Fungi and many bacteria. These organisms secrete digestive juices on the dead matter.
- Ex. These juices decompose or breakdown materials of dead matter into simple constituents. This simplified, digested food is then absorbed by decomposers.

## FOOD WHERE DOES IT COMES FROM

## WORK SHEET

## LEVEL-I

## SINGLE CORRECT ANSWER TYPE QUESTIONS

**VARIETIES OF FOOD**

- The plant part eaten in case of radish is:  
1) stem      2) root      3) flower      4) seed
- Which of these food is obtained from plants?  
1) Honey      2) Curd      3) Rice      4) Egg
- Which of these food is obtained from animals?  
1) Pulses      2) Cheese      3) Cereals      4) Sugar
- Food:  
1) gives us energy      2) helps us in growth  
3) repairs body parts      4) all of these
- \_\_\_\_\_ is not a milk product.  
1) Bread      2) Curd      3) Cheese      4) Butter
- Autotrophs are called producers because they:  
1) produce oxygen gas  
2) prepare their own food  
3) obtain their food from other organisms  
4) none of these

**SOURCES OF FOOD**

- Select the correct statement out of the following:  
1) There are many people around us who do not get enough food to eat.  
2) Products obtained from milk are called poultry products.  
3) The edible part of spinach is seed.  
4) Honey is prepared by butterflies using nectar of flowers.
- Which of the following is not a function of food?  
1) Provides us energy      2) Replaces worn out cells  
3) Provides us oxygen      4) Keeps us healthy
- Which of the following animals give us eggs?  
1) Goat and hen      2) Camel and goat  
3) Camel and duck      4) Hen and duck
- Which of the following are examples of dairy products?  
1) Cheese, butter, egg      2) Cheese, curd, butter  
3) Egg, milk, honey      4) Cheese, honey, curd
- Which of the following animals have sharp cutting teeth in front and flat, grinding teeth at the back?  
1) Cow and horse      2) Giraffe and lion  
3) Camel and tiger      4) Horse and tiger

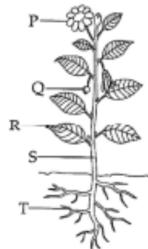
12. Which of the following groups of animals contains only omnivores?  
 1) Man, sparrow, cow, buffalo      2) Tiger, lizard, deer, cat  
 3) Bear, man, ant      4) Deer, man, dog, cat
13. Both the seeds and the leaves of this plant are edible. Which plant is this?  
 1) Potato      2) Cabbage      3) Radish      4) Mustard
14. Which of these is not a cereal?  
 1) Wheat      2) Rice      3) Turmeric      4) Corn
15. The plant products used as ingredients for making tea are:  
 1) sugar and tea leaves only      2) tea leaves and water only  
 3) stem and leaves of tea plant only      4) sugar, tea leaves, water and milk

**LIVING ORGANISM FOOD HABITS**

16. Herbivores eat:  
 1) animals only      2) plants only  
 3) both plants and animals      4) dead bodies of animals
17. Which of the following is a carnivore?  
 1) Horse      2) Goat      3) Crocodile      4) Deer
18. The first link in almost all food chains are:  
 1) herbivores      2) carnivores      3) producers      4) omnivores
19. Which of these animals feeds upon the food digested by other animal?  
 1) Cow      2) Lion      3) Cockroach      4) Tapeworm.

**LEVEL-II****VARIETIES OF FOOD**

20. The animal product added to kheer is:  
 1) rice      2) milk      3) sugar      4) cardamom
21. Which part of the mustard plant gives us oil?  
 1) Stem      2) Flower      3) Seed      4) Root
22. Which of the following foods are obtained from flowers of plants?  
 1) Tomato and pea      2) Green gram and bean  
 3) Broccoli and cauliflower      4) Pineapple and sugarcane
23. Which of the following is an incorrect food chain?  
 1) Plant→Rabbit→Fox→Lion      2) Grass→Mouse→Hawk  
 3) Grass→Goat Human      4) Orchid→Mice→Moths→Owl
24. Refer to the given figure and select the correct option regarding the plant parts labelled as P, Q, R, S and T.



- 1) T is the edible parts in sweet potato and S is the edible part in sugarcane.
- 2) P is the edible part in broccoli and cauliflower.
- 3) Q and R are the edible parts in sugarcane.
- 4) Both (1) and (2)

### SOURCES OF FOOD

25. Which of the following foods contain(s) more than two ingredients?
  - 1) Potato paratha
  - 2) Vegetable curry
  - 3) Kheer and khichdi
  - 4) All of these
26. Chicken curry is the food made up of chicken along with:
  - 1) spices and ghee only
  - 2) water and spices only
  - 3) spices and oil only
  - 4) spices, water and oil
27. Refer the given figure:



Identify the plant part from which it is obtained.

- 1) Leaf                    2) Seed                    3) Root                    4) Stem
28. The bark of which plant is used as a spice?
  - 1) Clove                    2) Cinnamon                    3) Fenugreek                    4) Cardamom
29. Select the incorrect pair of plant and its edible part.
 

1) Potato – Stem	2) Sweet potato – Root
3) Cabbage – Fruit	4) Kidney beans - Seeds

### LIVING ORGANISM FOOD HABITS

30. Match column I with column II and select the correct option from the given codes.

Column – I		Column – II	
A	Living organisms which can prepare their own food	P	Scavengers
B	Organisms which obtain food by decomposing dead plants and animals	Q	Herbivores
C	Animals that eat only plants	R	Autotrophs
D	Animals that feed on dead bodies	S	Decomposers
		T	Omnivores

- 1) (A)-(r), (B)-(s), (C)-(q), (D)-(p)      2) (A)-(p), (B)-(r), (C)-(t), (D)-(s)
- 3) (A)-(t), (B)-(q), (C)-(p), (D)-(r)      2) (A)-(q), (B)-(p), (C)-(r), (D)-(t)

31. Which of the following options contains only heterotrophs?
- 1) Cow, sheep, carrot      2) Bacteria, fungi  
3) Banana, pumpkin, brinjal      4) Wolf, mushroom, rose
32. Select a pair which contains one producer and one decomposer respectively.
- 1) Deer, wheat plant      2) Sugarcane, rabbit  
3) Wheat plant, mushroom      4) Fungi, frog
33. Birds which provide meat and eggs are called:
- 1) producers      2) poultry      3) mulch animals 4) omnivores
34. Which of the following are categorized as consumers?
- 1) Carnivores      2) Omnivores      3) 3) Herbivores 4) All of these
35. Refer to the given word grid. How many names of herbivorous animals are hidden in the given word grid?

Z	Q	F	M	S	F
E	G	O	A	T	R
B	F	X	N	A	O
R	H	H	E	N	G
A	O	W	L	T	N

- 1) Two      2) Three      3) Four      4) Five