CHAPTER 1
FOOD: WHERE DOES IT COME FROM?

FOOD
All living things need energy to do work and for growth and repair. They get this energy from the food. Our body uses this energy for doing work.

FOOD VARIETY:
We eat different varieties of food like rice, bread, vegetables, eggs, butter, sweets, cheese, etc.

INGREDIENTS OF FOOD:
Materials needed to prepare any food item are called ingredients. Two or more than two ingredients are needed to prepare a dish.
Example: To prepare boiled rice, rice and water are used, so rice and water are the ingredients for boiled rice.

Vegetables, salt, water and spices are used in cooking vegetable curry, so vegetables, salt, water and spices are ingredients of vegetable curry.

FOOD MATERIALS AND SOURCES
Plants and animals are the main sources of food.

FOOD FROM PLANT SOURCE
Plants are a source of a wide variety of nutrients required to keep the human body in perfect working condition. Humans consume everything from fruits, flowers, even the stem of some plants, leaves and stem-like lettuce, celery, roots of some plants like carrots, beetroot, and seeds like wheat, rice, etc.

All food comes from plants, even the animals depend on plants. Hence, we obtain food from plants directly or indirectly. The reason one is advised to consume fruits and vegetables on a daily basis is that it is a source of rich nutrients.
Plants provide us with vegetables, coffee, cereals, pulses, fruits, sugar, spices, oil, etc. Different parts of the plants provide different food materials. Let us have a look at some of the food obtained from different parts of the plant.

Root: We eat root of radish, carrot, turnip, beet, etc.

Stem: In certain plants the stem grows underground and store the food. Ginger, potato, and onion are stems of plants in which food is stored. So, we eat stem of ginger, potato, onion, sweet potato, etc.

Leaf: Spinach, Lettuce, Trigonella, etc. We eat leaves of these plants.

Fruits: Guava, apple, banana, mango, papaya, orange, etc. We eat fruits of these plants.

Oilseeds: Seeds of many plants are used to extract oil. For example Mustard oil is extracted from seeds of mustard plant. Similarly sunflower oil, coconut oil, groundnut oil, soyabean oil, etc. are obtained from seeds of respective plants.

Sugar: We get sugar from sugarcane and beetroot.

Tea & coffee: We use tea leaves and coffee beans.

Spices: We get many spices from plants like - pepper, cardamon, ginger, turmeric, cloves, cumin, etc.
FOOD FROM ANIMAL SOURCE

Animal products are used as food directly or indirectly. Milk, eggs and meat are important examples of food from animals.

Animal products too are a rich source of nutrients. The food chain is composed of exactly these animals starting with organisms that use the energy of the sun to the apex at which the organisms are predators and rely on producers.

Let us have a look at some of the food obtained from animals:

We get milk, eggs, meat, honey, fish, etc. from animals.

Buffaloes and cow give milk. Hen and duck give eggs. We get meat from goat, chicken, hen etc.
Eggs and meat are rich in protein. Fish is the major part of food for people living in the coastal regions.

Honey: Honeybee produces honey from nectar of flowers. It is rich in sugars, minerals and enzymes.

**MODES OF NUTRITION**

**Autotrophs:** Plants make their food themselves by the process of photosynthesis so they are called autotrophs.

**Heterotrophs:** Animals; including humans; do not make their food. They eat foods prepared by plants.

Heterotrophs are divided into following types on the basis of their food habit.

**Herbivores:** Animals which eat only grass and plant products are called herbivores. Cow, Elephant, Camel, Deer, Goat, etc. are examples of Herbivores.

**Carnivores:** Animals which eat flesh of other animals are called carnivores. Lion, jackal, frog, tiger, lizard, snake, etc. are examples of Carnivores.

**Omnivores:** Animals which eat both plants and meat are called omnivores. Crow, monkey, bear, human, sparrow, etc. are examples of Omnivores.

**Scavengers:** Some animals which eat flesh of dead animals are called Scavengers.
NCERT EXERCISE QUESTIONS AND ANSWERS

1. Do you find that all living beings need the same kind of food?
   Ans. No, all living beings require different kind of food depending upon their digestive ability and nutritional needs. For example, herbivores can digest grass and leaves but not flesh while carnivores can digest flesh but not grass.

2. Name five plants and their parts that we eat.
   Ans. Tomato – fruit
   Spinach – leaves and roots
   Mustard – seed and leaves
   Carrot – root
   Sugarcane – stem

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

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk, curd, paneer, ghee</td>
<td>eat other animals</td>
</tr>
<tr>
<td>Spinach, cauliflower, carrot</td>
<td>eat plants and plant products</td>
</tr>
<tr>
<td>Lions and tigers</td>
<td>are vegetables</td>
</tr>
<tr>
<td>Herbivores</td>
<td>are all animal products</td>
</tr>
</tbody>
</table>

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

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

5. Does everyone around you get enough food to eat? If not, why?
   Ans. Everyone around us does not have the same source of income and so the food also differs. With the rising cost of food products and lower crop yield in the recent times, it is now becoming very difficult for the common man to afford a nutritious and balanced diet for one’s family.

6. What are the ways we can think of to avoid wastage of food?
   Ans. The quantity of food cooked at homes should be as per the daily requirement of the family. Preparing excess food should be avoided. In case, food is left over after a function or ceremony, it should be distributed among the needy.
1. Human beings are
   (a) herbivores  (b) carnivores  (c) omnivores  (d) all of these

2. Plant → _______________ → frog _______________ → eagle.
   (a) grasshopper, snake  (b) cat, lion  
   (c) goat, cheetah  (d) sheep, lizard

3. Plants make their own food in the presence of
   (a) Sunlight  (b) Water  (c) CO₂  (d) All of these

4. Food
   (a) Gives us energy  (b) Helps us in growth  
   (c) Repairs body parts  (d) All of these

5. _______________ is not a milk product.
   (a) Bread  (b) Curd  (c) Cheese  (d) Butter

6. Roti, rice, samber, vegetables are examples of
   (a) Ingredients  (b) Food  (c) Animal products as food  (d) All of these

7. Two underground stems utilized as food are
   (a) Potato, onion  (b) Carrot, radish  (c) Cabbage, turnip  (d) Arvi, asparagus

8. What are heterotrophs?
   (a) Animals  (b) Plants  (c) Both animals and plants  (d) None of these

9. Animals provide us with _______________, _______________ and _______________.
   (a) Meat  (b) Milk  (c) Eggs  (d) All of the above

10. Given below are names of some animals:
    (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)

11. Honeybee makes honey from
    (a) pollen  (b) petals  (c) nectar  (d) bud

12. Below are names of some animals:
    (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)

13. Given below is a list of edible plants:
    (i) Banana  (ii) Pumpkin  (iii) Lady’s finger  (iv) Brinjal
    Which pair of plants have two or more edible parts?
    (a) (i) and (ii)  (b) (ii) and (iii)  (c) (iii) and (iv)  (d) (i) and (iv)

14. The part of a banana plant not used as food is
    (a) flower  (b) fruit  (c) stem  (d) root
15. Read each set of terms and identify the odd set
   (a) Cow, milk, butter      (b) Hen, meat, egg
   (c) Goat, milk, meat       (d) Plant, vegetable, butter milk

Fill in the blanks.
(a) Animals which eat only plants are called ________________ .
(b) Animals which eat only other animals are called ________________ .
(c) Animals which eat both plants as well as other animals are called ________________ .
(d) Lion is a ________________ because it eats only meat.
(e) A cow eats only plant products and so, it is called a ________________ .
(f) Milk is an ________________ product.
(g) Food gives us ________________ to do work.
(h) ________________ is the process by which green plants make their own food.
(i) Tomato is a ________________ of a plant used as vegetable.
(j) Rearing of honey bees is known as ________________
(k) ________________ is the cultivated form of wild cabbage.
(l) ________________ refers to huge increase in milk production.
(m) ________________ are used to make coffee.
(n) The parts of a plant which can be eaten are called ________________.
(o) Water, salt, sugar, spices, ghee etc. are ________________ of food.
(p) The main sources of our food are ________________ and ________________ .

Give one word answer.
(a) The place where milk animals are reared. ________________
(b) Domestic birds whose eggs are eaten as food. ________________
(c) A modified root that we eat. ________________
(d) An oil obtained from fish which is a rich source of vitamin A. ________________
(e) The hive which contains honey. ________________

Differentiate between:
(a) Apiculture and pisciculture.
(b) Herbivores and carnivores.
(c) Autotrophs and heterotrophs

Answer the following questions.
1. Why do we need food?
2. Name a few sources of food.
3. What are autotrophs?
4. What are heterotrophs?
5. Which insect collects honey for us?
6. What are ingredients of following food items: (a) Cooked rice (b) Chapatti
7. Give two examples of leaves used as food by human beings.
8. Name two animals that provide us with milk.
9. Name a few milk products used at your home.
10. Which animal products are used at your home?
11. Why food is essential for us?
12. What are ingredients? Give examples.
13. Why do all living organisms need food?
15. Describe food chain with the help of an example.
16. Describe a plant which is carnivorous in nature with the help of an example.
17. Categorise the living organisms on the basis of their food habits.
18. Elaborate “Plants as a source of our food.”
19. Describe “Animals as a source of food.”
20. Write any two differences between herbivore and carnivore animals.
21. Write the difference between autotrophs and heterotrophs.
22. Draw a picture of a plant naming all its parts.
23. What are the edible and non-edible parts of a plant?
24. What is the difference between a vegetarian and a non-vegetarian person?
25. What are the different sources of food for human beings? Explain in brief in reference to plants as source of food.