

## Lesson no 1

### Food

#### Objective

Students will learn about

- Importance of food for living beings.
- Different types of nutrients, their sources and functions.
- Balanced diet and its importance.
- Correct ways of cooking and preserving food.

#### New Words

1. Nutrients
2. Carbohydrates
3. Protein
4. Vitamin
5. Mineral
6. Starch
7. Cereal
8. Pulses
9. Calcium
10. Indigestible
11. Rotten
12. Preservation
13. Refrigeration
14. Canning
15. Roughage

#### Answer the following questions.

**Q1.** Why do we need food?

**Ans.** We need food to

- Get energy
- Grow
- Fight diseases
- Stay healthy.

**Q2.** Explain all the nutrients found in food. Write their functions and sources.

**Ans**

<b>Nutrient</b>	<b>Functions</b>	<b>Sources</b>
Carbohydrates	Give energy to our body.	Sugar (chocolate, ice creams) ,

		Starch (potatoes, bread, rice) Fruits ( mango, grapes)
Fats	<ul style="list-style-type: none"> <li>In the absence of carbohydrates, stored fat gives us energy.</li> <li>Keep our body warm.</li> </ul>	Ghee, butter, nuts, cheese
Proteins	<ul style="list-style-type: none"> <li>Help us to grow.</li> <li>Repair damaged part of the body.</li> <li>Also called body building food.</li> </ul>	Plant sources: pulses, beans, almonds Animal sources: chicken, egg, milk
Vitamins & Minerals	<ul style="list-style-type: none"> <li>Help our body to work properly.</li> <li>Fight diseases</li> <li>Help to stay healthy.</li> <li>Also called protective food.</li> </ul>	Fresh fruits, vegetables, milk, eggs

**Q3.** Explain a balanced diet.

**Ans.** A diet that contains all the nutrients in the right amount as per requirement, along with water and roughage is called a balanced diet.

**Q4.** Why is water important for us?

**Ans.** Water helps us to

- Digest food.
- Absorb nutrients properly.
- Get rid of waste from our body.

**Q5.** Write the functions and sources of calcium and iron in our diet.

**Ans.**

Nutrient	Function	Source
Calcium	Needed for healthy bones and teeth	Milk, cheese, paneer, green leafy vegetables
Iron	Needed for blood formation	Green leafy vegetables, beans, meat

**Q6.** What is roughage? Why is it important?

**Ans.** Indigestible part of the plant food is called roughage. It helps to eliminate solid waste from our body.

**Q7.** What is the reason behind spoiling of cooked food?

**Ans.** Cooked food gets spoilt when germs grow in it.

**Q8.** Name any four methods of preserving food. Give two examples of each.

**Ans.** The four methods of food preservation are:

1. Refrigeration: eg fresh fruits and cooked food
2. Canning: jams and baked beans
3. Adding preservatives: sauces and jams
4. Drying: chips and pulses

**Q9.** How can we preserve nutrients of food?

**Ans.** Food should not be over cooked.

- Vegetables and fruits should be washed before they are cut.
- Food should be cooked in just enough water.

Lesson no 2 / Class-4  
**Digestion**

**LEARNING OBJECTIVES-**

Children will be able to understand-

- The term digestion.
- Different organs of digestion.
- The process of digestion in various organs.
- Recognise the importance of good eating habits.

**NEW WORDS**

1. Digestion
2. Salivary gland
3. Swallow
4. Coiled
5. Intestine
6. Liver
7. Pancreas
8. Anus
9. Rinse

**Answer the following questions.**

**Q1.** Define digestion.

**Ans.** The process of breaking down of food into simpler forms inside our body, so that it can be used for various functions of the body, is called **digestion**.

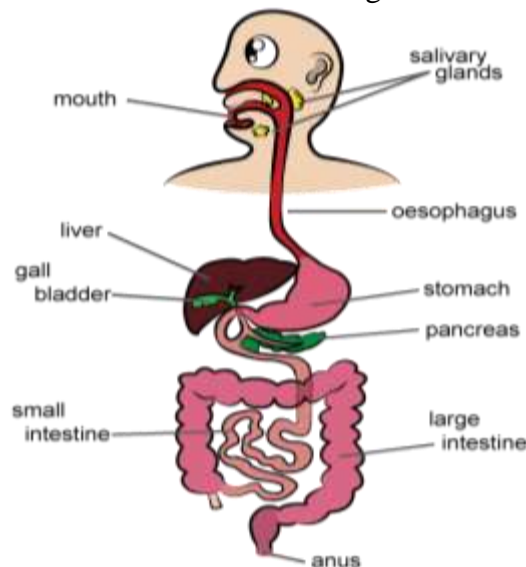
**Q2.** Name the organs of digestive system. Also name the glands associated with it.

**Ans.** Organs: mouth, oesophagus, stomach, small intestine, large intestine, anus.

Glands: salivary glands, liver, pancreas.

**Q3.** Draw a well labelled diagram of the digestive system.

**Ans.**



**Q4.** Explain the process of digestion.

**Ans.** 1) **Mouth:** The process of digestion starts here.

- a) Teeth break down food into smaller pieces by chewing and grinding.
- b) Saliva is a digestive juice secreted by salivary glands. It softens the food and turns insoluble starch into soluble sugar..
- c) Tongue helps to
  - i. taste the food.
  - ii. mix saliva with food.
  - iii. pushes food into oesophagus

2) **Oesophagus:**

- a) No digestion takes place here.
- b) It helps to pass food from mouth to stomach.

3) **Stomach:**

- a) It is a muscular bag that churns food with digestive juices and acid.
- b) These digestive juices break down protein and fat into smaller particles.

4) **Small Intestine:** two processes take place here-

- a) **DIGESTION**-It is a long coiled tube where food gets digested completely with the help of the digestive juices given by -inner wall of small intestine, liver and pancreas.
- b) **ABSORPTION**-
  - i. Food is now in a simple soluble form.
  - ii. All nutrients are absorbed by blood through walls of small intestine.
  - iii. Blood carries these nutrients to all parts of the body.

5) **Large Intestine:**

- a) Water from undigested food is absorbed here.
- b) Undigested food turns into solid waste. (faeces)

6) **Anus:** Solid waste passes out of body through it.

**Q5.** Write any five good eating habits.

**Ans.** Some good eating habits are

- 1 Before & after eating wash your hands with soap & water
- 2 Eat balanced diet, drink plenty of water and have lots of roughage.
- 3 Eat your food at fixed time.
- 4 Chew your food properly before swallowing it. Properly chewed food helps in faster digestion of the food.
- 5 Rest for a while having food.

## **CHAPTER 3**

### **TEETH AND MICROBES**

#### **OBJECTIVES**

By the end of the lesson, you will be able to:

- Describe the different kinds of teeth
- Describe the structure of a tooth
- Explain how you should take care of your teeth
- Classify microbes

#### **NEW WORDS:**

1. Temporary
2. Permanent
3. Incisors
4. Canines
5. Premolar
6. Tearing
7. Grinding
8. Enamel
9. Dentine
10. Decay
11. Acid
12. Cavity
13. Microbes
14. Microscope
15. Bacteria
16. Virus
17. Fungi
18. Poisoning
19. Protozoa
20. Disease

## ANSWER THE FOLLOWING:

Q1. How many sets of teeth do humans have during their lifetime? Name them.

Ans. Humans have two sets of teeth during their lifetime they are:

- a. Temporary (Milk) teeth - consist of 20 teeth
- b. Permanent teeth - consists of 32 teeth

Q2. Name the different kinds of teeth humans have? Write their number and functions.

Ans.

Kinds of teeth	Numbers of teeth	Functions
1. Incisors	8 (4+4)	Cut and bite food
2. Canines	4 (2+2)	Tear the food
3. Premolar	8 (4+4)	Crush the food
4. molars	12 (6+6)	Grind the food

Q3. What is the shape of all 4 types of teeth?

Ans. Incisors - sharp and flat

Canines - sharp and pointed

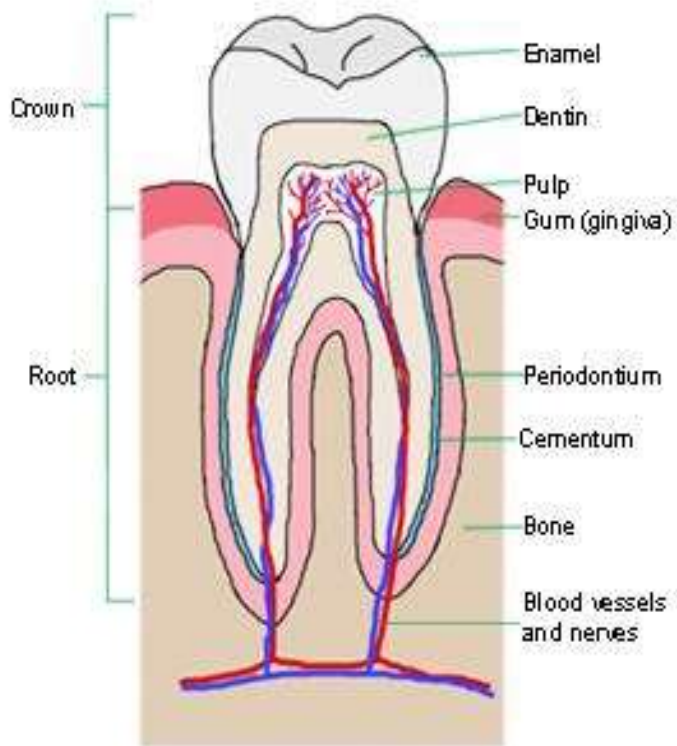
Premolar - flat and wide

Molar - broad

Q4. Explain the structure of a tooth with the help of a diagram.

Ans. Our tooth has following parts:

- 1) Crown: The part of the tooth that can be seen above the gums.
- 2) Enamel: It is the outermost layer of the crown. The hardest substance of our body.
- 3) Dentine: The layer below the enamel, not as hard as enamel.
- 4) Pulp: The innermost portion of the tooth. It contains nerves and blood vessels.
- 5) Root: The part of the tooth inside the gum. It holds the tooth firmly.



Q5. How do germs cause harm to our teeth?

Ans. 1) After eating, if small bits of food get stuck, germs grow.

2) Germs produce acids which harms the enamel.

3) They cause small holes called cavities.

4) If germs continue to grow, the cavities become deeper and bigger.

5) Cavity reaches the pulp and tooth starts hurting.

Q6. What are microbes? Name the four different kinds of microbes and the diseases they cause.

Ans. Microbes are tiny living things that can be seen only through a microscope.

The four kinds of microbes are:

Microbes	Diseases caused by them
1. Bacteria	Typhoid, food poisoning, tooth decay.
2. Protozoa	Malaria, Dysentery
3. Fungi	Ringworm, Dandruff
4. Viruses	Common cold, Polio, Flu, Measles



Q7. Write any 2 uses of Bacteria and Fungi each.

Ans. Useful Bacteria:

1. Help in decay of dead plants and animals.
2. Making of cheese, vinegar and yoghurt.
3. Helps other animals to digest food.

Useful Fungi:

1. Help in making bread.
2. Mushrooms are the edible fungi.

# **LESSON 4 MATTER**

## **CLASS 4**

### **OBJECTIVES:**

By the end of the lesson, you will be able to:

1. Explain the term matter.
2. Recognise that matter is made up of molecules.
3. Recognise that matter exists in different states – solid, liquid and gas.
4. Change of state of matter.
5. Solubility of Substances in water.

### **NEW WORDS:**

1. Weight
2. Space
3. Volume
4. Particles
5. Molecules
6. Solid
7. Liquid
8. Definite
9. Container
10. Squeezed
11. Vapour
12. Furnace
13. Dissolve
14. Solution
15. Solute
16. Solvent
17. Insoluble
18. Empty
19. Saturated

**ANSWER THE FOLLOWING QUESTIONS:**

Q1. DEFINE:

- i) **Matter** - Anything that has weight and takes up space is called matter.
- ii) **Volume** – The amount of space matter takes up is called its volume.
- iii) **Molecules** – The tiny particles by which matter is made up of.

Q 2. Name the three states of matter. Give 2 examples of each.

Ans. The three states of matter are-

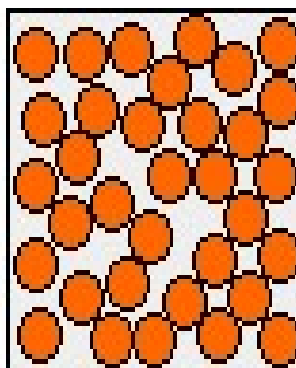
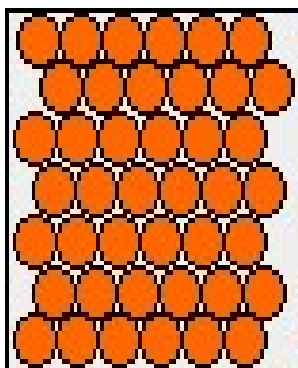
- i) **Solid** - wood, stone
- ii) **Liquid** - water, milk
- iii) **Gas** - air, oxygen

Q3. Write two points of difference between solids, liquids and gases.

<b><u>SOLID</u></b>	<b><u>LIQUID</u></b>	<b><u>GASES</u></b>
The molecules are packed close to each other.	The molecules are not packed as close together as they are in a solid.	The molecules are far away from each other.
They have definite shape and definite volume.	They have definite volume but no definite shape.	They don't have definite shape and definite volume.

Q4. Make a diagram to show molecular arrangements in solid, liquid and gas.

Ans.



Q5. Explain how matter can change from one state to another. Use water as an example.

Ans. Water can change from one state to another on heating or cooling.



- i) Ice is a solid on heating it becomes water(liquid)
- ii) On further heating water changes into water vapour(gas)
- iii) On cooling water vapour changes into water. (liquid)
- iv) When water is cooled further, it changes into ice.(solid)

Q6. Differentiate between soluble and insoluble substances with 2 example of each.

<u>Soluble substance</u>	<u>Insoluble substance</u>
Solids that dissolve completely in water. They are also called solute.	Solids that don't dissolve in water.
Ex: salt, sugar, glucose	Ex: sand, chalk, wood

Q7. Define solute, solvent and solution.

Ans. **Solute:** Solids that dissolve in any liquid.

**Solvent:** The liquid that dissolves the solute.

**Solution:** when solutes dissolve in solvent, a solution is formed.

Q8. What is a saturated solution?

Ans. When no more solute can be dissolved in a solution, it is called a saturated solution.

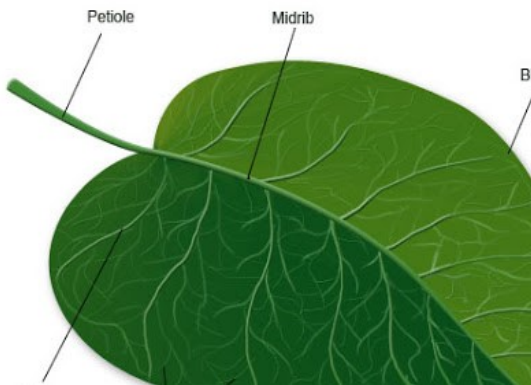
## Lesson 6 How Plants Make Food

### New words

1. Chlorophyll
2. Mushrooms
3. Necessary
4. Photosynthesis
5. Carbon-dioxide
6. Veins
7. Stomata
8. Trapped
9. Oxygen
10. Starch
11. Increase
12. Decrease

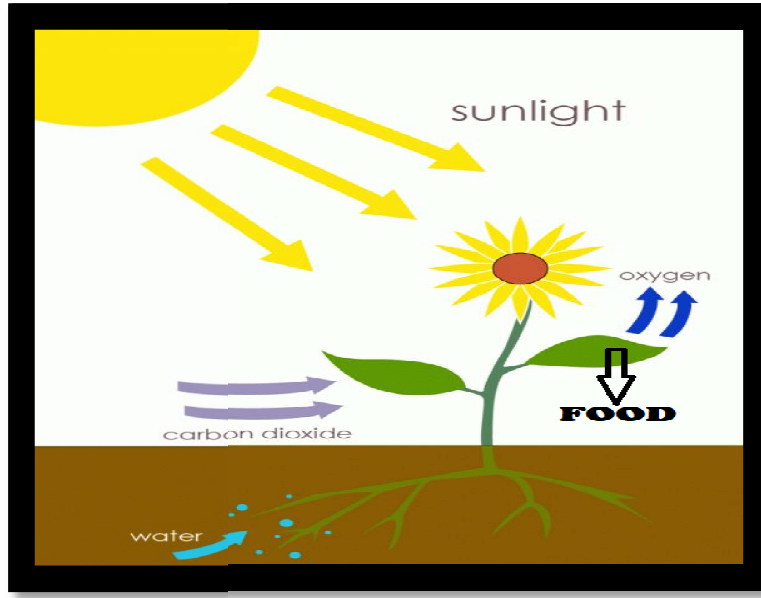
Answer the following questions-

Q.1 Describe the structure of a leaf with the help of a diagram.



- i) The green colour of leaf is due to a green substance / pigments called **chlorophyll**.
- ii) There are tubes all over the leaf, called **veins**. Veins take water and food to all parts of the leaf.
- iii) On the underside of the leaves, there are very small openings called **stomata**.

Q.2 How do plants make food? Explain with the help of a diagram.



The process by which green plants make food is called **Photosynthesis**. This process needs following raw materials-

- i) **CHLOROPHYLL** – found in all green parts of the plant like leaves, young stems.
- ii) **WATER**- is absorbed by the roots from the soil and carried by the stem to the leaves
- iii) **CARBON-DIOXIDE**- is taken in through stomata.
- iv) **SUNLIGHT** – is absorbed by chlorophyll.

Using the energy of sunlight, leaves change water and carbon-dioxide into sugar, which is the food of the plant, which is distributed through the veins and stem to all parts of plant.

Q.3 How do plants use the food they prepare?

Ans. Plants use the food for-

- i) Growth
- ii) Making flowers, fruits and seeds
- iii) Repairing damage

Q.4 What happens to the extra food prepared by the plants?

Ans. The extra food prepared by plants is changed into a substance called **starch** and stored in-

- i) Fruits-eg- tomato, apple
- ii) Seeds- eg- wheat, rice
- iii) Leaves- eg- spinach , cabbage
- iv) Roots- eg- carrot, radish
- v) Stems-eg- potato, ginger

We eat all these as food.

Q.5 Why should we maintain the balance between plants and animals in nature?

- Ans. i) Animals breathe in oxygen from air and give out carbon-dioxide.
- ii) Plants take in this carbon-dioxide for photosynthesis and give out oxygen.
- iii) In this way animals and plants depend on each other.
- iv) If the number of plants and animals decrease or increase, the balance will be disturbed.

## **LESSON NO 7**

### **ADAPTATION IN PLANTS**

#### **NEW WORDS**

1. Survive
2. Terrestrial
3. Desert
4. Spine
5. Prevent
6. Conifers
7. Needle
8. Sloping
9. Deciduous
10. Climate
11. Mangrove
12. Marshy
13. Swampy
14. Aquatic
15. Floating
16. Hollow
17. Flexible
18. Submerged
19. Insectivorous
20. Mushroom

#### **ANSWER THE FOLLOWING QUESTIONS**

**Q1. What are terrestrial plants?**

**Ans.** Plants that grow on land are called terrestrial plants.

**Q2 Write the adaptation found in desert plants.**

**Ans.**

- The roots of some plants spread out just under the surface of soil.
- In some plants, roots go deep inside the earth to absorb water.
- The leaves are either small or modified into spines to prevent water loss.
- The stem is fleshy and stores water.
- The stem is green, contains chlorophyll to make food.



**Q3. Write the adaptation found in plants in the hills.**

**Ans.**

- The trees are usually tall and straight.
- Instead of flowers they have cones. So, they are called conifers.
- Their leaves are needle like with a waxy coating to prevent damage from snow.
- The shape of the tree is sloping so that snow can slide off easily.
- Oak, maple and birch trees are deciduous trees as they shed their leaves in winter to protect themselves from cold.
- Pine, spruce, cedar trees are evergreen trees.

**Q4. Write the difference between evergreen trees and deciduous trees.**

**Ans.**

Evergreen trees	Deciduous trees
They do not shed all the leaves at the same time and remain green whole year.	They shed their all leaves at the same time and do not have leaves for some months.
Eg fir, pine, spruce	Eg oak, maple, birch

**Q5. What are breathing roots?**

**Ans.**

- Mangrove trees grow in marshy and swampy places.
- The roots do not get air as water covers the soil.
- Therefore they have roots that grow above the soil. These roots are called breathing roots.

**Q6. Write a short note on aquatic plants.**

**Ans.** Plants that grow in water are called aquatic plants. There are three types of aquatic plants:

**a) Floating plants**

- They float freely on top of water.
- Their body is like a sponge and have empty space filled with air making the plant light weight.
- Eg water lettuce, water hyacinth.

**b) Fixed plants**

- These plants remain fixed to the bottom of the water body through roots.
- Have plate like leaves, floating on the surface of water.
- Stomata are present on the upper side of the leaf.
- The stems are hollow, light and flexible.
- Eg. Waterlily, lotus

### c) Under water plant

- They are also called submerged plants because they remain completely under water.
- Leaves are narrow, thin and without stomata.
- Plants breathe through their body surface.
- The stems are flexible and have air space.
- Eg. Hydrilla, tape grass

**Q7. Why do some plants eat insects? Give two examples of such plants.**

**Ans.** Some plants grow in soil that is poor in minerals. To get minerals, insectivorous plants trap and eat insects.

Eg. Venus flytrap, pitcher plant.

**Q8. What are fungi? From where do they get food? Give 2 examples of fungi.**

**Ans.** Fungi are the non-green plants which do not have chlorophyll and cannot make their food.

They get food from plant or animal matter on which they grow.

Eg. Mould, mushroom