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# NEW ERA PUBLIC SCHOOL, RATBAGH
## Solved Assignment of Unit-I, 2021

CLASS :- 4th
SUBJECT :- SCIENCE
Topic :- 'FOOD AND NUTRITION'
Lesson no :- '01'

### Answer The Following Questions In Short.

Q1 Why do we need food?
Ans We need food because it provides us energy to work and play. It also helps us to grow, to fight against diseases and to stay healthy.

Q2 Name the energy-giving nutrients.
Ans Carbohydrates, proteins, fats, vitamins and minerals are the energy-giving nutrients.

Q3 Why is junk food harmful for us?
Ans Junk food is harmful for us because it does not contain all the necessary minerals and nutrients required by our body and can lead to an increased risk of obesity.

Q4 What are the building-blocks of our body?
Ans Proteins are the building-blocks of our body.

Q5 Why is roughage important for our body?
Ans Roughage adds bulk to our food and makes our digestion smooth and easy.

Q6 How can the spoilage of food items

can be detected?

Ans Spoilage of food items can be detected from change in their taste, smell and texture.

Q7 How is pickling done?

Ans In pickling, the food is preserved by keeping in oil or salt bath.

## Answers The Following Questions In Detail.

Q1 Explain the three major types of nutrients. Mention two sources of each.

Ans The following are the three major types of nutrients

(1) **Carbohydrates** :→ They form the bulk of our diet. They are the energy-giving nutrients and are essential for carrying out our life activities. We get carbohydrates from sources like Wheat, milk etc.

(2) **Fats** :→ Fats are one of the fundamental nutrients that make up our diet. They are also energy-giving foods. Fats get deposited under the skin and help in temperature regulation of our body. Eggs and meat are the two sources of fats.

3. **Proteins** :- They are the building blocks of our body. Proteins are needed for growth and repair of body cells and tissues. They make up our hair, teeth, nails, bones, muscles etc. Soybean and pulses are the two sources of proteins.

**Q2** What functions do vitamins and minerals perform in our body?

Ans Vitamins and minerals boost the immune system, support normal growth and development, and help cells and organs do their jobs. That is why vitamins and minerals are known as protective foods. Vitamin A, B complex, C, D, E and K are the vitamins required by our body.

**Q3** What is a balanced diet? What are its benefits?

Ans A diet which contains all the essential nutrients required by our body in correct proportion is called a balanced diet. Eating a balanced diet helps in proper body growth and development. It helps us in staying healthy and fit and thus reduces our chances of falling sick. It also keeps our weight in check.

Q4 Mention any five healthy eating habits.

Ans The following are the five healthy eating habits.

1. We should always take our breakfast, meals and snaks at fixed times.
2. The fruits and vegetables we eat, should be fresh and properly washed.
3. We must avoid consuming stale and rotten food.
4. Food items should not be overcooked or deep fried in oil.
5. We should chew our food slowly and properly.

Q5 Why is food preservation necessary? Explain the different method of food preservation.

Ans Food preservation stops the growth of micro-organisms and also prevents changes in the chemical composition of the food.
Following are some of the commonly used methods for food preservation.

1. **Drying** :- It is the oldest method of food preservation. It involves keeping the food in the sun to remove its water content. Fruits and meat products are preserved by this method.
2. **Freezing** :- It is the method in which the

food product to be preserved is stored at very low temperature in deep freezers. Peas and meat products are preserved by this method.

3. **Canning**:→ The food product to be preserved is cleaned and kept in sealed jars or containers. After this, they are heated strongly so that no more germs can grow. cherries are often preserved by this method.

4. **Pickling**:- In pickling, the food is preserved by keeping in oil or salt bath. Homemade pickles are made by this process.

5. **Chemical treatment**:→ In this method, the food items are treated with chemicals to prevent them from spoiling. Use of vinegar at home is an example of this method of food preservation.

## Define the Following Terms:-

1. **Nutrients**:→ A substance that provides nourishment essential for the maintenance of life and for growth.

2. **Roughage**:→ It is the indigestible portion of food derived from plants.

3. **Balanced diet** :→ A diet which has all the nutrients in proper proportions.

4. **Food preservation** :→ It is a set of techniques used to prevent food items from going bad.

# 'Book Exercise'

## (A) Write 'T' for true and 'F' for false statements.

**Answers**

1., T 2., F 3., F 4., T 5., F 6., T

## (B) Fill in the blanks.

**Answers**

1., more 2., Soybean 3., protective 4., D 5., destroy

6., Drying

## (C) Match the following.

**Answers**

1. - C. Energy giving
2. - d. Immunity
3. - a. Vinegar
4. - e. Blood formation
5. - b. Unhealthy.

# Topic :→ DIGESTION AND ROLE OF MICROBES
## Lesson no. :→ 02

## Answer The Following Questions In Short.

Q1 Name the two sets of teeth that human being grow in their lifetime.

Ans The milk teeth and the permanent teeth are the two sets of teeth that human beings grow in their lifetime.

Q2 What causes tooth decay?

Ans Tooth decay is caused by bacteria and other things. It can happen when foods containing carbohydrates are left on the teeth. Bacteria that normally live in the mouth change these foods, making acids.

Q3 Which organs make up the human digestive system?

Ans The organs that make up the human digestive system are the mouth, esophagus, stomach, Pancreas, liver, gallbladder, small intestine, large intestine and anus.

Q4 What role that saliva play in the digestion of food?

Ans Saliva contains digestive juices which break

down some part of the food into simpler substances, which our body can more easily absorb. It also moistens the food for easy swallowing.

Q5 What is the function of food pipe?

Ans Food pipe is the tube that carries food from our mouth to our stomach. It is muscular in nature and helps in movement of food by rhythmic contraction and relaxation of its walls.

Q6 What is the importance of liver in the body?

Ans The liver filters all of the blood in the body and breaks down poisonous substances such as alcohol and drugs. The liver also produces bile, a fluid that helps digest fats and carry away waste.

## Answer The Following Questions In Detail

Q1 Explain the four different types of teeth.

Ans 1. **Incisors** :- They are present at the front of the each jaw and are 8 in number. Their function is to bite and cut the food.

2. **Canines**:- They are present right next to the incisors and are 4 in number, two in each jaw. They are sharp and have pointed ends. They help in tearing of food.

3. **Premolars**:- They are present next to canines in each jaw and are 8 in number. They are broad in shape and the purpose of premolars is to crush and grind the food.

4. **Molars**:- They are present at the farthest end in each jaw and are similar to premolars in shape and function. The difference is that they are wider and stronger than them.

Q8 Describe the structure of a tooth in brief with the help of a diagram.

Ans Tooth has three main parts and they are the Crown, Neck and root. Crown is the uppermost and the visible part of the tooth. Neck lies below the crown and root lies inside the gum. A tooth has three main layers. The outermost white layer is called the enamel. It is the hardest part of the body and protects the tooth from wear

and tear. Inside the enamel, lies dentine. It is softer than enamel and forms a covering around the most sensitive part of the tooth, called the pulp. Pulp contains nerves and blood vessels that supply nutrition to the tooth. The pulp is further connected to the root of the tooth that remains embedded in the jawbone and holds the tooth tightly at their place.

Q3 Mention any five ways of taking care of our teeth.

Ans The five ways of taking care of our teeth are:-

1) Brush your teeth twice a day.
2) Follow the correct way of brushing your teeth.
3) Avoid taking too much of sugary food items.
4) Use toothpaste which contains a mineral called flouride.
5) Visit your dentist routinely for a checkup and cleaning.

Q4 Explain the role of following organs during digestion of food:-

Ans a.) **Mouth**:→ The digestive process starts in our mouth when we chew. The food in the mouth is chewed and properly mixed with saliva with the help of tongue and teeth. Saliva contains digestive juices which break down some part of the food into simpler substances and moves more easily through our esophagus into our stomach.

b.) **Stomach**:→ It is a J-shaped muscular bag where the food is churned further and converted into a paste. Here, the digestive juices are thoroughly mixed with the food by contraction and relaxation of muscular lining of the stomach walls. Cells in the lining of our stomach secrete a strong acid which helps in killing the germs that may have entered along with food.

c.) **Small intestine**:→ It is a highly coiled, long tube like organ present in the lower part of our body. It is the main organ of the digestive system where all the digestion takes place. The muscles of the small intestine mix food with digestive juices from the pancreas, liver and intestine and push the mixture forward for further digestion. The main function of the small intestine

is absorption of nutrients and minerals from food. The walls of the small intestine absorb water and the digested nutrients into our blood stream.

d) **Large intestine**:- large intestine is wider than small intestine. Here, the excess water and minerals are absorbed into the blood stream and the waste products are removed as faeces through anus.

Qs Give three ways each in which microbes can be useful and harmful for us.

Ans **Microbes can be useful to us in the following ways**:-

1. Certain microbes help in the conversion of milk into curd.
2. Microbes are useful in preparing many medicines and antibiotics.
3. Some microbes help in proper functioning of our body systems like brain, digestive system and immune system.

**Microbes can be harmful to us in the following ways**:-

1. Some microbes spoil food, clothing and leather.

2. Some micro-organisms cause diseases in human beings, plants and animals.
3. Certain types of algae grow in water bodies and cause pollution.

## Define The Following Terms:-

1. **Milk teeth:-** The first set of teeth that starts appearing by the age of 3years are called milk teeth.

2. **Premolars:-** A tooth situated between the canine and the molar teeth.

3. **Gums:-** Gums are the fleshy structures that surround the teeth and hold them in place.

4. **Digestion:-** Digestion is the process by which the food we eat is broken down to release energy.

5. **Enzymes:-** Enzymes are the chemicals which break down food particles into their simpler form.

# Book Exercise

## (A) Write 'T' for true and 'F' for false statements.

Answers

1., F 2., T 3., F 4., F 5., T 6., T

7., T

## (B) Fill In The Blanks:-

Answers

1., Canine 2., calcium and phosphorous 3., mouth

4., Villi 5., Fermentation 6., algae

## (C) Match The Following

Answers

1., d. 8
2., c. Blood vessels
3., e. J shaped
4., a. Cholera
5., b. Saliva

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# Topic :- 'GREEN PLANTS'
## Lesson no :- '03'

## Answer The Following Questions In Short.

Q1 What is the importance of leaves in plants?

Ans Leaves provide food and air to help a plant stay healthy and grow. Through photosynthesis, leaves turn light energy into food. Through pores, or stomata, leaves breathe in carbon-dioxide and breathe out oxygen. Leaves also release excess water, much like we sweat.

Q2 What is the role of cuticle in leaves?

Ans A waxy layer known as the cuticle covers the leaves of all plant species. It protects the upper surface of a leaf from infection and water loss.

Q3 What is the waste product of photosynthesis?

Ans Oxygen is the waste product of photosynthesis.

Q4 Write the chemical equation of photosynthesis reaction.

Ans The chemical equation of photosynthesis reaction is -

$$\text{Carbon dioxide} + \text{Water} \xrightarrow[\text{Chlorophyll}]{\text{Sunlight}} \text{Glucose} + \text{oxygen}$$

Q5 Why are animals necessary for the survival of plants?

Ans Animals are necessary for the survival of plant because animals help plants by helping pollinate flowers or by dispersing seed. They also help supply nutrients when they die and decompose.

Q6 Give some examples of edible parts of plants.

Ans Some examples of edible parts of plants are Potato (stem), carrot (root), banana (fruit), cabbage (leaves), grams (seed), etc.

## Answer The Following Questions in Detail.

Q1 Describe the structure of a leaf.

Ans A leaf is made up of different parts that include the leaf blade, petiole, midrib, veins and stomata. The flat and broad part of the leaf is called the leaf blade. It is attached to the stem of the plant through a tiny stalk called the petiole. The petiole takes the water from the stem to the leaf blade. A thick line runs the centre of a leaf towards its tip. This is called the central vein also known as the midrib. There are numerous tiny lines that runs throughout the leaf.

They are called veins. All these veins along with the midrib provides shape and support to a leaf. They also carry water to the different parts of a leaf. A number of tiny opening are present on the surface of a leaf. These tiny openings are called stomata. They help a leaf to exchange gases. They take carbon-dioxide gas from the air and release oxygen.

Q2 How does photosynthesis occur?

Ans The process of photosynthesis occurs when green plants use the energy of light to convert carbon-dioxide and water into carbohydrates. Light energy is absorbed by chlorophyll, a photosynthetic pigment of the plant, while air containing carbon-dioxide and oxygen enters the plant through the leaf stomata.

Q3 What is the mechanism of water transportation in plants?

Ans Absorption of water in plants occurs by the action of the roots. The roots spread far and deep inside the soil in search of water. The transportation of water from roots to leaves occurs with the

help of very fine tubules which run along the length of the stem of the plant. Further, they are connected with the veins in the leaves which are the site of food production.

Q4 How does energy flow take place in nature?

Ans The flow of energy takes place in a single direction, from producers to consumers. Energy flows from plants to herbivores. These animals, in turn are eaten up by small carnivores which in turn are eaten up by top carnivores. On this way, the transfer of energy occurs in a step-by-step manner, up to the highest level of organisms.

Q5 Write a short note on the interdepence of plants and animals.

Ans Plants and animals depend upon each other as mutual interdependence is must for their survival. Plants provide food and shelter for animals and they make oxygen for the animals to live. Similarly, plants depend on animals for reasons like dispersal of seeds, pollination and for the Carbon-dioxide that is produced by animals.

## Define the Following terms:-

1. **Chlorophyll** :→ It is a pigment that provides green colour to the plants.

2. **Photosynthesis** :→ The process by which green plants manufacture their food in the presence of sunlight.

3. **Food Chain** :→ The sequence in which organisms eat each other and get eaten is called food chain.

4. **Decomposers** :→ organisms which breaks down dead bodies of plants and animals in the soil.

# 'Book Exercise'

(A) **Write 'T' for true and 'F' for false statements:**

**Answers**

1. T 2. F 3. F 4. F 5. T

(B) **Fill in the blanks:-**

**Answers**

1. Kitchen 2. Stomata 3. roots 4. Producers to consumers 5. Bacteria and fungi

## (C) Match The Following

**Answers**

1., e. Pigment
2., a. Guard cells
3., d. Simple sugar
4., C. Tiger
5., b. Starch

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## PRACTICE THE CHAPTER WISE DIAGRAM OF THE FOLLOWING

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2. Sources of Fats. (Any three) Page no. 8
3. Sources of Proteins. (Any three) Page no. 9
4. Types of teeth. Page no. 18
5. Structure of a tooth. Page no. 19
6. Digestive system. Page no. 21
7. Parts of a plant. Page no. 27
8. Structure of a leaf. Page no. 27
9. Process of photosynthesis. Page no. 28

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