

Class 7 Science Chapter 1

1. Why organisms need to take food?

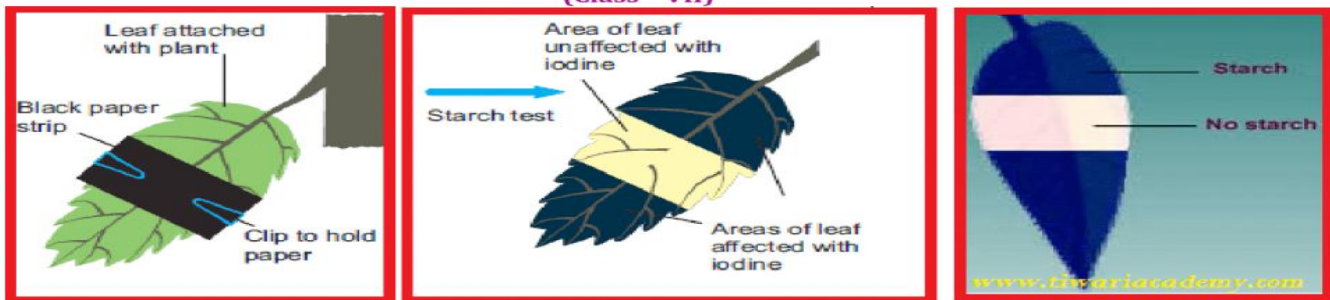
Ans: Growth is the main reason for all the organisms to take food. Food provides essential energy to run and walk. The main reason is to repair the damaged and injured parts of the body and also, it provides a shield against deadly diseases and increases immunity against many infections.

2. Distinguish between a parasite and a saprotroph.

Parasite	Saprotrophs
1. Parasites derive nutrients from the living organisms. 2. Parasites feed on living organisms that are called hosts	1. Saprotrophs derive nutrients from the dead and decaying materials. 2. Saprotrophs do not feed on living organisms

3. How would you test the presence of starch in leaves?

Ans: Iodine is used to test the starch in leaves by this scientific way: Chlorophyll from leaf should be removed by boiling it in alcohol, then two drops of iodine are added. If the colour changes to blue, then it indicates the presence of starch in the leaves.



4.Explain food synthesis in green plants by a proper brief description:

Ans:Leaves do have chlorophyll in them. With the presence of sunlight, leaves use carbon dioxide and H₂O to make food. The reaction goes like this:

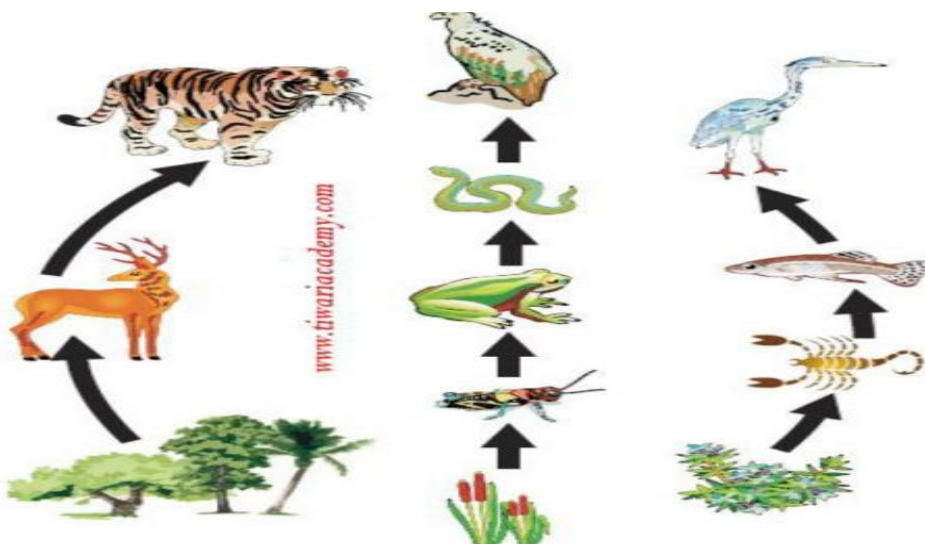
“Carbon dioxide when added with water in presence of sunlight and chlorophyll gives carbohydrate which is nothing but glucose, and oxygen”.

Carbon –di-oxide + water-----→ Carbohydrates + Oxygen.

5. How plants play the role of being the primary source of food?

Ans:The reaction to show how the plants are the primary source of food:

Solar energy to the green plants. And Green plants to the Herbivores. And Herbivores to the Carnivores. And all three Green plants, herbivores, Carnivores to Decomposers.



6. Fill the blanks in the following sentences:

1. **Autotrophs** are also called green plants, because they produce their own food by synthesizing them.
2. **starch** is stored as the food synthesized in plants.
3. The solar energy is captured by the pigment **chlorophyll** during photosynthesis.
4. **CO₂ and O₂** are taken in and released during photosynthesis by plants.

7. Guess the following:

1. A plant which is parasitic and yellow, tubular and slender. **Cuscuta**
2. The plant which has both autotrophic and heterotrophic modes of nutrition. **insectivorous plant**
3. Gases are exchanged through these pores. **stomata**

8. Write the right answer:

1. An example of parasite is _____ Ans: Amarbel
2. The plant which eats by trapping insects is _____ Ans: Pitcher plant

9. Match the table 1 with table 2 : Ans:

Column I	Column II
Chlorophyll	Leaf
Nitrogen	Bacteria
Amarbel	Parasite
Animals	Heterotrophs
Insects	Pitcher plants

10. Mark true and false with T and F

1. In photosynthesis, CO₂ is being released. (False)
2. Protein is a product of photosynthesis. (True)
3. Chemical energy is the product of photosynthesis. (True)
4. Saprotrophs are plants that synthesise food by themselves. (False)

11. Which part of the plant takes in carbon dioxide from air for photosynthesis? Ans: Stomata

12. Carbon dioxide is taken in by plants from air through their: Ans: Stomata in leaves

Chapter-2, Science, Class-7

Q.1 Fill in the blanks.

1. The major points of nutrition that are in humans are absorption, ingestion, assimilation and egestion
2. Liver is the largest gland in human body.
3. The stomach releases hydrochloric acids and Digestive juices which directly acts on the food.
4. The finger like growth in the inner wall of the small intestine is called villi.
5. Food digested by amoeba is stored in a food vacuole

Q2. True or false:

1. Digestion always starts with starch in the stomach : (F)
2. Food gets mixed in saliva with the help of our tongue : (T)
3. Bile is stored by the gall bladder : (T)
4. The swallowed grass is brought by the ruminants as they chew it for some time: (T)

Q3. Choose the correct answer:

1. Where is the fat digested?

- a. mouth b. stomach c. small intestine d. large intestine.

2. Undigested food is mainly absorbed through the water in the:

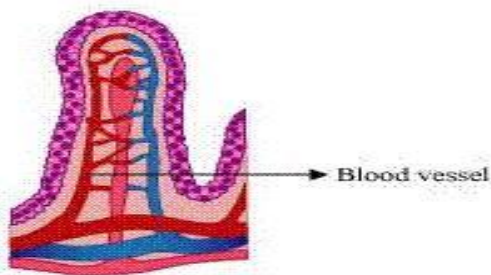
- a. Stomach b. Food pipe c. Large intestine d. small intestine.

Q.4 Match the column.

Column I	Column II
<u>Food components</u>	<u>Product(s) of digestion</u>
Carbohydrates	Sugar
Proteins	Amino acids
Fats	Fatty acids and glycerol

Q.5 What do you mean by villi? Mention their location and function.

Ans. Small finger like projections from the walls of small intestine are called villi. It is provided with blood vessels. Villi increase the surface area of small intestine for absorption of digested food.



Structure of a villus

Q6. Where is bile produced? Which component is helpful for the digestion of fats?

Ans. Liver secretes the bile juice which is stored in the gall bladder. Bile plays an important role in the digestion of fats. In gallbladder, the bile juice is stored in a sac, which helps in the digestion of fats in our body.

Q7. Which is that type of carbohydrate that is not digested by humans but digested by ruminants? Explain why ?

Ans. Cellulose is a type of carbohydrate that can be digested by ruminants and not by humans. Ruminants have a large sac-like structure between small and large intestine where the food containing cellulose is digested by the action of certain bacteria. On the other hand, humans cannot digest cellulose, as the cellulose digesting enzymes are absent in them.

Q.8 Why do we get instant energy from glucose?

Ans. Glucose is a simple sugar. With the help of oxygen, there is an easy break down of glucose in the cell which gives instant energy to all the organisms. As glucose can be easily absorbed in blood, it provides instant energy to the body.

Q.9 Fill in the blanks:

- (i) Absorption of food: Small intestine
- (ii) Chewing of food: Buccal cavity (teeth).
- (iii) Killing of bacteria: Stomach (hydrochloric acid)
- (iv) Complete digestion of food: Small intestine
- (v) Formation of faeces: Large intestine

Q.10 Give one difference and similarity between amoeba and human nutrition.

Ans. Similarity between nutrition in Amoeba and human beings.

Both Amoeba and human have holozoic type of nutrition.

Differences between nutrition in Amoeba and human beings.

Digestion in Humans

- a. Humans have a mouth and a complex digestive system. A human ingests food through mouth.
- b. Digestive juices are secreted in the buccal cavity, stomach, and small intestine.
- c. Digestion of carbohydrates, proteins, and fats starts in separate regions.

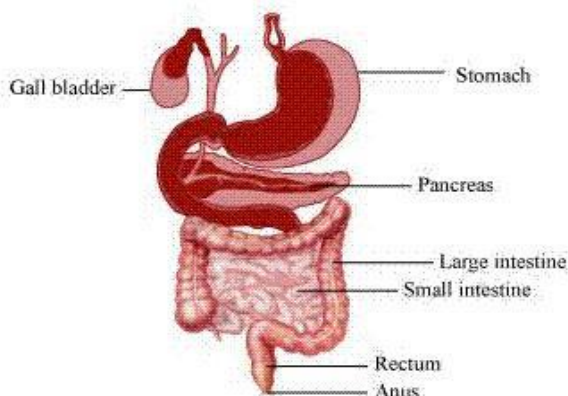
Digestion in Amoeba

- a. Mouth and digestive system are absent in Amoeba. It ingests food through pseudopodia.
- b. Digestive juices are secreted in the food vacuole.
- c. All the food components are digested in the food vacuole.

Q.11 Match the following:-

Table 1	Table 2
<ul style="list-style-type: none">1. Salivary gland2. Liver3. Stomach4. Small intestine5. Large intestine6. rectum	<ul style="list-style-type: none">1. Saliva secretion2. bile juice secretion3. Acid release4. Digestion is completed5. Absorption of water6. Storage of undigested food

Q. 12 Label the digestive system



Q.13 Can we survive only on raw, leafy vegetables/grass? Discuss.

No. Humans cannot survive only on raw, leafy vegetables, or grass. It is because the grass is rich in cellulose, which is a type of carbohydrate that humans are not able to digest due to the absence of cellulose-digesting enzymes.