

LESSON 02 : Nutrition in Animals - Eureka plus 7th science Answer Questions

I. Tick(✓) the correct options

1. During digestion, complex substances are broken down into

- large molecules.
- small simple molecules.
- different molecules.
- more complex molecules.

2. Pancreatic juice mixes with the food in the

- stomach.
- small intestine.
- mouth.
- oesophagus.

3. Saliva contains a digestive juice called

- bile.
- pepsin.
- amylase.
- hydrochloric acid.

4. During digestion, fat is broken down into

- fatty acids.
- lactic acid.
- amino acids.
- glucose.

5. Bile helps in the digestion of

- only proteins.
- only fats.
- sugars.
- fats and carbohydrates.

6. Glucose combines with oxygen and produces

- sugar.
- carbon dioxide.
- water.
- energy.

7. The process by which a living cell releases energy from glucose is called

- digestion.
- cellular respiration.
- ingestion.
- photosynthesis.

8. During digestion, proteins are broken down into

- acids.
- amino acids.
- fatty acids.
- sugars.

Ans:

1. small, Simple molecules 2. Small intestine 3. Amylase 4. Fatty Acid 5. Only Fats
6. Carbon dioxide, water, energy 7. Cellular respiration 8. Amino acids

II. Match the following:

- | | |
|--------------------|---------------------------------|
| 1. salivary glands | a. mucus |
| 2. gastric juice | b. bile juice |
| 3. mucosa | c. pancreatic juice |
| 4. liver | d. pepsin and hydrochloric acid |
| 5. pancreas | e. saliva |

Ans: 1.e 2.d 3.a 4.b 5.c

III. Name the following:

1. It digests carbohydrates, proteins and fats in the small intestine
2. It transports the nutrients from the digested food to every cell of the body.
3. It breaks down starch into sugar in the mouth.
4. It produces bile juice.
5. It secretes pepsin.
6. They are building blocks of proteins.
7. It protects the lining of the stomach.
8. It secretes pancreatic juice.

Ans: 1. Pancreatic juice 2. Blood 3. Amylase 4. Liver
5. Glands in the inner walls of the stomach 6. Amino acids 7. Mucus 8. Pancreas

IV. Answer the following questions in two to three sentences.

1. What is digestion?

Ans: The breaking down of complex food into simple soluble with the help of certain enzymes secreted by various organs of the digestive system is called digestion.

2. Name the organs of the human digestive system.

Ans: Organs of the human digestive system are mouth, oesophagus, stomach, liver, pancreas, small intestine and large intestine.

3. Differentiate between incisors and canines.

Ans: Incisors are the four front teeth which are used to bite or cut food into smaller pieces. The canines are the tearing teeth present, one each on either side of the incisors, on each jaw.

4. Name any one digestive juice and describe its role in digestion.

Ans: Saliva is a digestive juice. It contains salivary amylase that breaks down carbohydrates into sugar.

5. Where are villi located? What is their function?

Ans: The inner walls of the small intestine have finger-like projections called villi.

villi are richly supplied with blood vessels. They increase the surface area for absorption of useful substances.

6. How does the human body obtain fatty acids?

Ans: Complex fat molecules present in the food items such as butter, oil, milk and meat are broken into simple fatty acids in the small intestine.

V. Answer the following questions in detail.

1. Describe the digestion of carbohydrates.

Ans: Food items such as wheat, potato and rice contain a carbohydrate called starch. A starch molecule present in food is made up of several hundred glucose molecules linked together. It is a very large molecule and therefore the body cannot use it.

The amylase secreted by the saliva in the mouth starts breaking down the carbohydrates. The pancreatic juice secreted by pancreas also have amylase which helps in further breaking down of carbohydrates into simple glucose molecules in the small intestine. The body uses glucose to obtain energy.

2. How are proteins in your food digested?

Ans: Proteins present in food items such as pulses, milk, meat and fish are complex substances. Each protein molecule is made up of many small amino acid molecules. It is a very large molecule and therefore the body cannot use it.

The digestion of proteins starts in the stomach by action of pepsin. The digestion of proteins completed in the small intestine by the action of trypsin released by pancreas and enzymes secreted by small intestine. Finally protein converted into amino acids. The body uses amino acids to grow and repair injured tissue.

3. How is energy obtained by the cells of our body?

Ans: The blood carries the glucose obtained from the digested food to every cell of the body. The glucose is oxidised inside the cells of our body. During this process, the chemical energy present in the glucose is released along with carbon dioxide and water. This process is known as cellular respiration.

4. Describe the digestive system of a ruminant.

Ruminants have a four-chambered stomach. The first chamber is called the rumen. These herbivores eat quickly and store large amounts of grass in the rumen which contains millions of microbes and a large amount of saliva. The microbes begin to break down the food in the rumen. Now food reach to Reticulum.

From reticulum partially chewed and partially digested food send back into the mouth for final chewing. The additional chewing called cud chewing helps in breaking down the cellulose contents further.

From the mouth after final chewing food pass into the other two chambers omasum and abomasum for final digestion with the help of enzymes.

5. Explain nutrition in Amoeba.

Ans: Amoeba lives in freshwater puddles and ponds and feeds mostly on remains of plants.

Nutrition in Amoeba involves the following:

- Ingestion: Amoeba senses a food particle, moves towards it and engulfs it forming pseudopodia.

Digestion: A food vacuole is formed around the engulfed food particle containing digestive juices, which break down the food particle into simple substances.

Assimilation: Amoeba uses these substances.

Egestion: The undigested portion is removed from the body by diffusion.

Higher Order Thinking Skills

1. . A piece of chapati chewed for a longer time begins to taste sweet.

Ans: The carbohydrate in the chapati is broken down into sugar by the saliva. Hence it tastes sweet when chewed for a long time.

2. The small intestine is richly supplied with blood vessels.

Ans: Digestion is completed in small intestine, and the absorption of the nutrients by the blood vessels happens here. Therefore, small intestine is richly supplied with blood vessels.

3. Vegetables and fruits keep the digestive system clean.

Ans: Vegetables and fruits contain a lot of fibre. This helps in moving the undigested food to the anus. Thus, it cleans the digestive system.

4. Whales are called filter-feeders.

Ans: Mammals such as whales have teeth which help in biting and chewing their food. These animals are called filter feeders as they have to strain their food from water.

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