



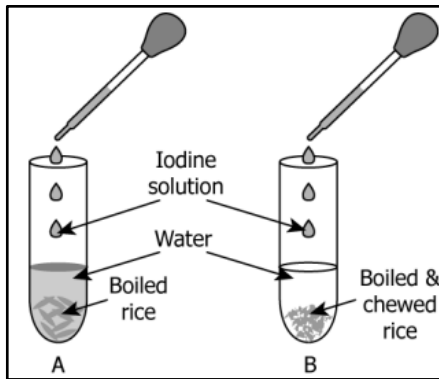
INDIAN SCHOOL AL WADI AL KABIR



CLASS: VII	DEPARTMENT: SCIENCE 2024-2025	DATE: 30.05.2024
WORKSHEET NO: 3	TOPIC: NUTRITION IN ANIMALS	NOTE: A4 FILE FORMAT
NAME OF THE STUDENT:	CLASS & SEC:	ROLL NO.

I. OBJECTIVE TYPE QUESTIONS:

- Which of the following is the correct description of assimilation?
 - The process of breaking large food molecules into simpler molecules.
 - The process by which undigested food is ejected out of the body.
 - The process by which the digested food carried by the blood is taken in by the cells of the body.**
 - Process of inter-exchange of oxygen and carbon dioxide between hemoglobin and the cells of the body.
- Food that human beings take might have some components that cannot be digested by the human body. The accumulation of these undigested food particles in the body may lead to several diseases in humans. What role does the human digestive system play in this?
 - It helps the blood to absorb all these undigested particles.
 - It helps to remove these undigested wastes from the body.**
 - It helps the enzymes to degrade these substances inside the body.
 - It helps the microorganisms present in our body to feed on this undigested waste.
- Which of the following pairs of teeth differ in structure but are similar in function?
 - canines and incisors
 - molars and premolars**
 - incisors and molars
 - premolars and canines
- The image shows an experiment set up in which boiled rice was taken in test tube A and boiled, and chewed rice was taken in test tube B.



When the iodine solution was dropped into both test tubes, the colour of water in test tube A changed to blue-black, but the colour in test tube B remained unchanged. Which of the statements describes the correct reason for this observation?

- a) **Chewing adds saliva to the food, which converts the starch into sugars.**
- b) Chewing adds starch to the food, which converts the amino acids into proteins.
- c) Chewing adds saliva to the food, which converts the sugar into starch.
- d) Chewing adds starch to the food, which converts the proteins into amino acids.

For the questions that follow, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii) and (iv) as given below:

- i) **Both A and R are true and R is the correct explanation of the assertion.**
 - ii) **Both A and R are true but R is not the correct explanation of the assertion.**
 - iii) **A is true but R is false.**
 - iv) **A is false but R is true.**
5. **Assertion (A)** - Villi are present on the inner lining of the stomach.
Reason (R) - The villi increase the surface area for absorption of the digested food.
iv) A is false but R is true.
 6. **Assertion (A)** - Animal nutrition includes the nutrient requirement, mode of intake of food, and its utilisation in the body.
Reason (R) – Ruminants have a large sac-like structure called a rumen between the oesophagus and the large intestine.
iii) A is true but R is false.
 7. **Assertion (A)** - The process of digestion begins in the mouth.
Reason (R) - The tongue mixes the food with saliva during chewing and helps in swallowing the food.
ii) Both A and R are true but R is not the correct explanation of the assertion.

8. **Assertion (A)** - Ruminants can digest cellulose.

Reason (R) - Ruminants have cellulose-digesting bacteria in their stomach.

i) Both A and R are true and R is the correct explanation of the assertion.

II. VERY SHORT ANSWER TYPE QUESTIONS (2M):

1. What is animal nutrition?

[Hint: Animal nutrition includes the nutrient requirement, mode of intake of food, and its utilization in the body.]

2. What constitutes the digestive system in an organism?

[Hint: The digestive tract and the associated glands together constitute the digestive system.]

3. Name the largest gland in the body. What is its secretion?

[Hint: The liver; secretes bile juice which is stored in a sac called the Gall bladder.]

4. How is energy released from the digested food?

[Hint: In the cells, glucose breaks down into carbon dioxide and water with the help of oxygen, and energy is released.]

5. State the functions of the tongue. **[Hint: Tongue is used for talking. Besides, it mixes saliva with the food during chewing and helps in swallowing food. It has taste buds that detect different tastes of food.]**

6. What is the role of pseudopodium in the nutrition of amoeba?

[Hint: Pseudopodia are used by amoeba to capture their prey and also for movement.]

7. What is the function of caecum in animals like horses and rabbits?

[Hint: Animals like horses and rabbits have a large sac-like structure called caecum where cellulose is digested with the help of cellulose-digesting bacteria.]

8. Mandar and Farzin were eating their food hurriedly so that they could go out and play during recess. Suddenly, Mandar started coughing violently. What could be the possible reason for his violent cough?

[Hint: Sometimes when we eat hurriedly, talk, or laugh while eating, we may cough, get hiccups, or choking sensation. During the act of swallowing, a flap-like valve

closes the passage of the windpipe and guides food into the food pipe. If, by chance, the food enters the windpipe, coughing helps to clear it.]

9. What are the simple forms of carbohydrates, fats, and proteins obtained after digestion?
[Hint: When digestion is completed, carbohydrates get broken into glucose, fats into fatty acids, and glycerol and proteins into amino acids.]

III. SHORT ANSWER TYPE QUESTIONS (3M) -

1. What is ingestion? Mention the various modes of feeding in different animals. What is the mode of ingestion in humans?
[Hint: The process of taking food into the body is called ingestion. The various modes of feeding found in different animals are scraping, chewing, siphoning, capturing and swallowing, sponging, and sucking. Humans chew the food with teeth and break it down mechanically into small pieces.]
2. What happens if we do not clean our teeth after eating the food?
[Hint: If we do not clean our teeth and mouth after eating, many harmful bacteria also begin to live and grow in it. These bacteria break down the sugars present in the leftover food and release acids. The acids gradually damage the teeth. This is called tooth decay. If it is not treated in time, it causes severe toothache and in extreme cases results in tooth loss.]
3. How can we prevent tooth decay?
[Hint: One should clean the teeth with a brush or datun (neem twigs) and dental floss (a special strong thread which is moved between two teeth to take out trapped food particles) at least twice a day and rinse the mouth after every meal. Also, one should not put dirty fingers or any unwashed object in the mouth.]
4. What are villi? Mention its function in the process of digestion.
[Hint: The villi are finger-like outgrowths that are present on the inner walls of the small intestine. The villi increase the surface area for absorption of the digested food. Each villus has a network of thin and small blood vessels close to its surface. The surface of the villi absorbs the digested food materials.]
5. What is diarrhoea? Why do we give ORS to patients suffering from diarrhoea?
[Hint: Diarrhoea is a condition in which a person passes watery stool frequently. It may be caused by an infection, food poisoning or indigestion. Under severe

conditions, it can be fatal. This is because of the excessive loss of water and salts from the body. Diarrhoea should not be neglected. Even before a doctor is consulted the patient should be given plenty of boiled and cooled water with a pinch of salt and sugar dissolved in it. This is called Oral Rehydration Solution (ORS).]

6. Describe the terms rumen, rumination, and ruminants.

[Hint: The grass-eating animals like cows quickly swallow the grass and store it in a part of the stomach called rumen. Here food is partially digested and is called cud. But later the cud returns to the mouth in small lumps and the animal chews it. This process is called rumination and these animals are called ruminants].

7. Explain the role of the stomach in the process of digestion.

[Hint: The stomach stores food and serves as the mixer and grinder of food. The inner lining of the stomach secretes digestive juice which consists of mucous, hydrochloric acid and enzymes. The mucous protects the lining of the stomach. The hydrochloric acid kills the bacteria that enter along with the food and makes the medium inside the stomach acidic. The enzymes break down proteins into simpler substances.]

IV. LONG ANSWER TYPE QUESTIONS (5M) -

1. Explain the importance of various glands associated with digestion.

[Hint: **a) Salivary glands** - Salivary glands secrete saliva. Saliva helps in moistening the food for easy swallowing. It has enzymes that break down starch into simple sugars (Maltose).

b) Liver - The liver is a reddish-brown gland situated in the upper part of the abdomen on the right side. It is the largest gland in the body. It secretes bile juice that is stored in a sac called the gall bladder. Bile plays an important role in the digestion of fats.

c) Pancreas - The pancreas is a large cream-coloured gland located just below the stomach. The pancreas secretes pancreatic juice. The pancreatic juice acts on carbohydrates and proteins and changes them into simpler forms.]

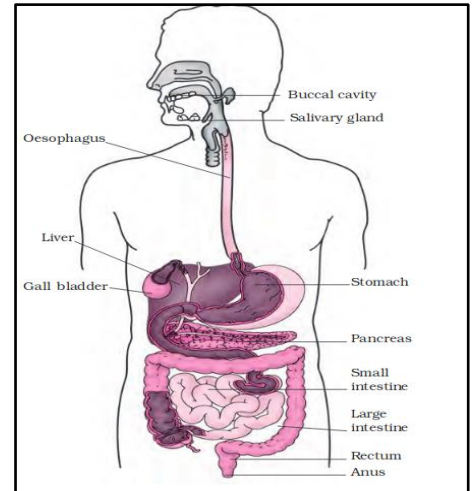
2. Explain the process of nutrition in amoeba with a neat labelled diagram.

[Hint: Amoeba feeds on some microscopic organisms. When it senses food, it pushes out

d) **Molars:** There are three molars on each side in both jaws. These teeth are meant for fine grinding of food. There are 12 molars in an adult human.]

5. Mention the parts of the human digestive system with the help of a neat labelled diagram.

[Hint: The human digestive system consists of the alimentary canal and associated glands. It consists of the (i) buccal cavity, (ii) oesophagus, (iii) stomach, (iv) small intestine, (v) large intestine ending in rectum and (vi) anus. The main digestive glands that secrete digestive juices are (i) the salivary glands, (ii) the liver, and (iii) the pancreas. The stomach wall and the wall of the intestine also secrete digestive juices.]



V. SOURCE-BASED/ CASE STUDY-BASED QUESTIONS -

1. As Rishav is fond of eating chocolates, his mother always discusses the importance of teeth in our lives and how to take care of them. Rishav is reluctant to follow the instructions given by his mother. He never washes his teeth after having meals. One day while biting a guava he saw a blood patch on it. His mother took him to a dentist immediately. The doctor observed a tiny hole in one of his molar teeth. The doctor filled the hole with some chemicals and advised him to take a few medicines.
- a) What could be the problem in Rishav's teeth that caused toothache?
[Hint: He is suffering from tooth decay]
- b) How can we take care of teeth? [Hint: By brushing our teeth twice a day, by using dental floss, by using a mouthwash]
- c) Which type of food items should be consumed in limited quantities for healthy teeth?
[Hint: Chocolates, sweets, cold drinks, and other sugar products are the major culprits of tooth decay.]
2. Bile juice is stored in a sac called, the gall bladder, located near its organ of secretion, the liver. The gall bladder releases the bile juice into the small intestine whenever food reaches there. Though bile juice is devoid of any digestive enzymes, it is required for the digestion of fats. The fats cannot be digested easily because they are insoluble in water and are present as

large globules. Bile juice breaks down big fat droplets into smaller droplets. These are then easily digested by the enzymes released from the pancreas.

a) Which gland secretes the bile juice?

[Hint: Bile juice is a digestive juice secreted by the liver.]

b) What is the function of bile?

[Hint: The bile plays an important role in the digestion of fats.]

c) Why is the digestion of fats difficult as compared to that of other nutrients?

[Hint: The fats cannot be digested easily because they are insoluble in water and are present as large globules.]

d) How does bile juice help in the digestion of fat? **[Hint: Bile juice transforms the larger fat molecules into smaller droplets, making it easier to digest.]**

e) Where is the digestion of fat completed? **[Hint: The digestion of fat is completed in the small intestine where fat gets converted into fatty acids and glycerol.]**

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