

## VII SCIENCE                      LESSON 2    NUTRITION IN ANIMAL

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### KEY WORDS:

1. **ABSORPTION:** It means the digested food pass into the blood vessels in the wall of the intestine.
2. **AMINO ACID:** It is organic compound that combine to form proteins. The human body uses amino acids to make proteins to help the body.
3. **AMOEBA:** A very small living creature that consists of only one cell and it has the ability to alter its shape.
4. **ASSIMILATION:** The blood carries digested and dissolved food to all the parts of the body where it becomes assimilated as part of cells.
5. **BILE:** The bitter, yellow liquid produced by the liver that helps to digest fat.
6. **BUCCAL CAVITY:** The mouth is called as the buccal cavity or the oral cavity. It comprises the primary organ of the digestive system including the teeth, tongue and salivary glands.
7. **CANINE:** One of the four pointed teeth in the front of a person's or an animal's mouth.
8. **CELLULOSE:** A natural substance that forms the cell walls of all plants and trees.
9. **DIGESTION:** The breakdown of food into smaller components that can be absorbed into the blood stream.
10. **EGESTION:** The process of removing undigested waste material from the body by excretion.
11. **FATTY ACID:** An acid that is found in fats and oils.
12. **FOOD VACUOLE:** A membrane bound vacuole in an amoeba in which ingested food is digested.
13. **GALL BLADDER:** It is a small pouch that sits just under the liver. The gall bladder stores bile produced by the liver.

14. **GLYCECOL:** A sweet syrupy liquid obtained from animal fats and oils or by the fermentation of glucose.
15. **INCISOR:** One of the eight sharp teeth at the front of the mouth that are used for biting.
16. **INGESTION:** The process of taking food into the body.
17. **LIVER:** A largest reddish – brown gland in the body that cleans the blood and produces bile.
18. **MILK TEETH:** These are the first set of teeth in the growth development of humans which fall out as the permanent teeth in the ages of about six and twelve.
19. **MOLAR:** A tooth having a broad biting surface adapted for grinding.
20. **PERMANENT TEETH:** Teeth in a mammal that replace a temporary milk teeth and lasts for most of the mammal's life.
21. **OESOPHAGUS:** It is the part of the alimentary canal which connects the throat to the stomach.
22. **PANCREAS:** It is a long, flat gland that lies in the abdomen behind the stomach. It produces enzymes that are released into the small intestine to help with digestion.
23. **PREMOLAR:** A tooth situated between the canine and the molar teeth. An adult human normally has eight. Two in each jaw on each side.
24. **PSEUDOPODIA:** It is a temporary protrusion of the surface of an amoeba cell for purposes of eating or moving.
25. **RUMEN:** The large first compartment of the stomach of a ruminant in which cellulose is broken down by the action of bacteria.
26. **RUMINANT:** A type of animal that brings up food from its stomach and chews it again. For example a cow, sheep, etc.
27. **RUMINATION:** It is a process in which the animals bring the previously consumed food into the mouth once again and chew it. It is also defined as the action of chewing.

28. **SALIVARY GLANDS:** The glands in the mouth cavity that secrete saliva.
29. **VILLI:** Many very small finger like parts that are found on the inside surface of the small intestine and help food to be absorbed.
30. **SALIVA:** Watery liquid secreted into the mouth by glands, providing lubrication for chewing and swallowing and also aiding digestion.

### **EXERCISE:**

**1. What are Villi? What is their location and function?**

**VILLI:** These are small finger like outgrowths present that help in the process of absorption.

**LOCATION:** These are located in the inner walls of the small intestine.

**FUNCTION:** It increase the surface area of the small intestinal wall to absorb the digested food.

**2. Where is the bile produced? Which component of the food does it help to digest?**

The bile is produced continuously by the liver and stored in the gall bladder. It helps in digestion fats present in food.

**3. Name the type of carbohydrate that can be digested by ruminants but not by human. Give the reason also.**

Cellulose is the carbohydrate that can be digested ruminants but not by human because ruminants have a large sac-like structure called rumen which is located between the small intestine and large intestine.

Certain bacteria are present in rumen which helps in digesting cellulose.

**4. Why do we get instant energy from glucose?**

Glucose is a simple sugar. It easily breaks down in the cell with the help of oxygen and provides instant energy to the organism. Glucose does not need digestion, it is directly absorbed into the blood.

**5. Write one similarity and one difference between the nutrition in amoeba and human beings.**

**Similarity:** Both are heterotrophs. They derive their nutrition from other organisms.

**Difference:**

- a. **Human Beings** have complex digestive system where food gets digested in separate regions.
- b. **Amoeba** Food is digested in a food vacuole.

**6. Can we survive only on raw, leafy vegetables / grass?**

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 digestive enzymes.

**7. Which part of the digestive canal is involved in:**

- |      |                      |   |                         |
|------|----------------------|---|-------------------------|
| i.   | Absorption of food   | - | <b>Small intestine</b>  |
| ii.  | Chewing of food      | - | <b>Buccal cavity</b>    |
| iii. | Killing of bacteria  | - | <b>Stomach</b>          |
| iv.  | Complete of bacteria | - | <b>small intestine</b>  |
| v.   | Formation of faeces  | - | <b>large intestine.</b> |