DIGESTIVE SYSTEM

Modification of Feeding Habits:

Feeding habits refers to why and how animals eat which foods they eat, and as well as the ways animals obtain, store, use, and discard food. Different organism exhibits different types of feeding habits. These habits are filter feeding, fluid feeding, parasitic feeding, and saprophytic feeding.

FILTER FEEDING

Filter feeders which are also called microphagous feeders feed on very tiny organisms which cannot be easily picked to the satisfaction of the feeder.

Filter feeders are mainly aquatic animals and they have to wallow in water through sieve-like structure into their body in order to collect reasonable quantity of their prey or food. Typical examples of Filter feeders are the mosquito larva, mussel, ducks and prawns.

FLUID FEEDING

Animals which feed on any fluid materials are classified as fluid feeders. Fluid feeding organisms rest within or wallow in their food, e.g. the tapeworm is an example of fluid feeding organism in the human intestine. The tapeworm lives within the digested food of its host and absorbs the food directly into its body and that because it has no elementary canal. The tapeworm uses its entire body to absorb already digested food of the host. So it is called fluid feeding organism because it practically lives inside digested food materials of its host.

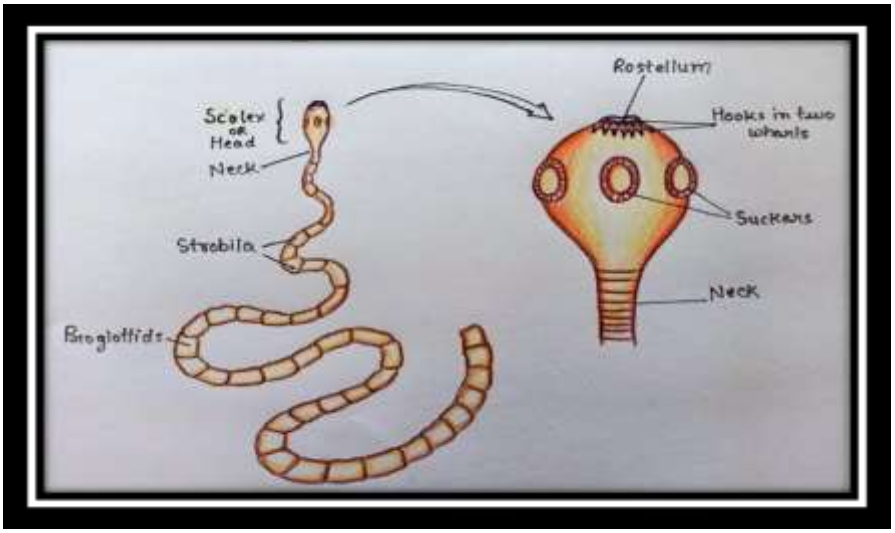


Diagram of tape worm

SUCKERS FLUID FEEDING ORGANISMS

Suckers feeding organism are mainly insects, which feeds by sucking fluids from plants and animals. Typical examples of these groups of sucking organisms are bed bugs, mosquito, butterfly, tsetse fly, aphid and housefly.

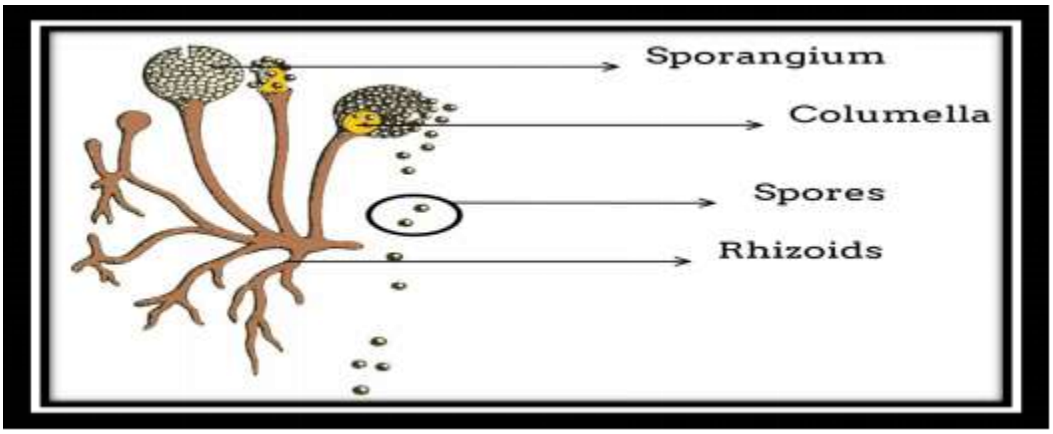
PARASITIC FEEDING

Parasitic feeding is found both plant and animals. Examples of animal parasitic feeders are tapeworm, roundworm, liver fluke, louse, tick and guinea worm while plant parasitic feeder organisms are Cassytha, dodder and mistletoe.

SAPROPHYTIC FEEDING

Saprophytes are mainly non-green plants which do not have or possess chloroplasts and therefore cannot manufacture their own food. Saprophytes are plants, fungi, and microorganisms that feed on dead or decaying matter. They

feed on dead and decayed organic matter from which they derive their food. Typical examples of saprophytes are Rhizopus , mushroom, and mucor.



Structure of Rhizopus

The bodies of saprophytes are adapted in the following ways

i. They have hyphae instead of roots through which they pour out enzymes for digestion

ii. They are capable of carrying out extracellular digestion, i.e. digestion of food out the body cells of the plant.

iii. The digested food portion of the organic matter is later reabsorbed into the body

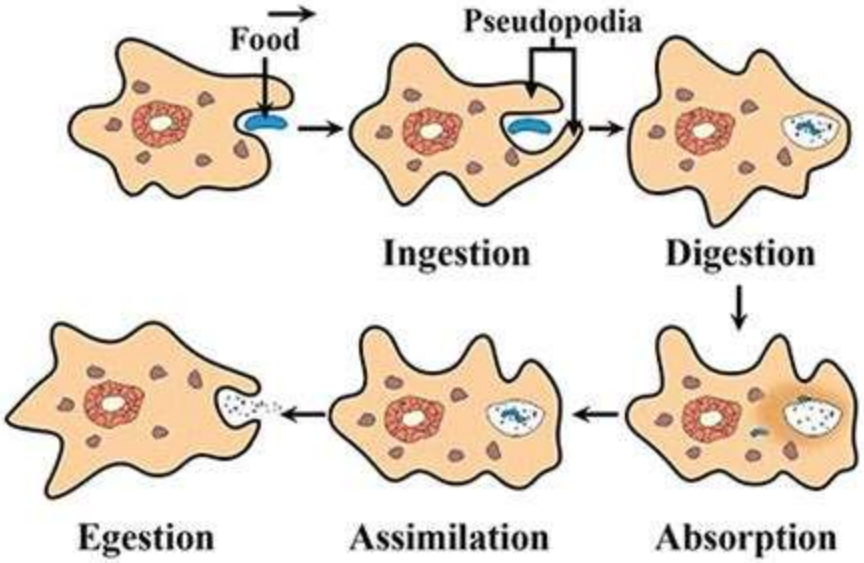
Feeding in protozoa and hydra

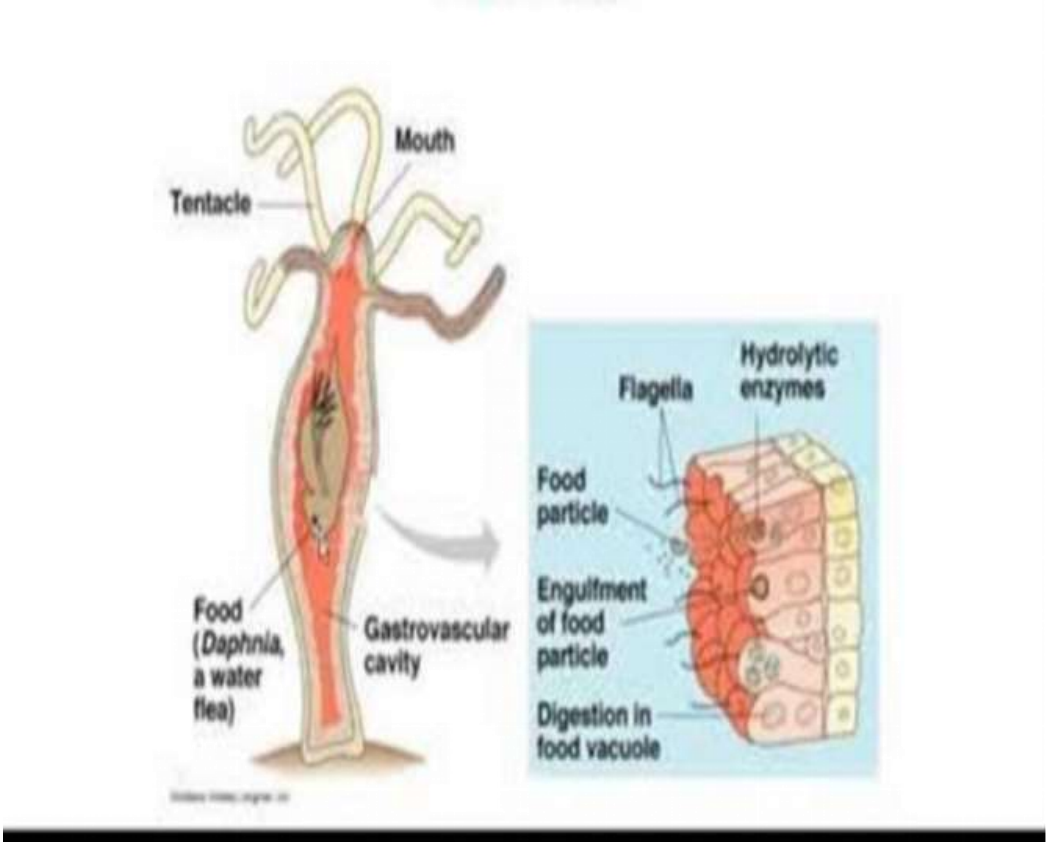
All animals has specialized alimentary system in which the food they ingest is digested and use. The sequence involve in digestion of food is as follows: Ingestion ,Digestion ,Absorption , Assimilation and Egestion.

Alimentary canal is a tubular structure of muscle and mucous membrane lining that begins at the mouth and ends at the anus. And is responsible for the digestion and absorption of the ingested food and liquids.

2. Teacher states that Single-cell organisms, such as amoeba, directly take up the food by means of pseudopodia. And forms a food vacuole, the food material is digested by enzymes and transported by diffusion.

Chart of feeding mechanism in amoeba is as follows:


Food
Pseudopodia
Ingestion
Digestion
Egestion
Assimilation
Absorption



Feeding mechanism in hydra

Hydra captures their food by paralyzing and killing the food organism by means of nematocysts, which are discharged into the prey. The prey is brought to the mouth (proctostome) by the tentacles. Digestion in Hydra takes place in two phases- the extracellular phase and the intracellular phase. The preliminary digestion takes place outside the cells of the endodermis, that is, is an extracellular process, and the second phase takes place inside the cells or is an intracellular process. Its gastro vascular cavity has a single opening through which food is ingested and waste is excreted.