

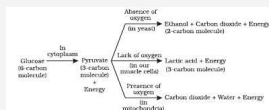
## Digestive enzymes and secretions

S.No	NAME OF THE GLANDS	PLACE OF ACTION	ENZYMES/S-SECRETIONS	THEIR FUNCTION
(i)	salivary gland	buccal cavity	salivary amylase	breaking down starch to simple sugar
(ii)	gastric gland	stomach	(i) pepsin (ii) hydrochloric acid (ii) mucus	(i) digestion of proteins (ii) creates an acidic medium which facilitates the action of the enzyme pepsin (iii) protects the inner lining of the stomach from the action of acid in normal conditions
(iv)	liver	duodenum	bile juice	(i) acidic food from the stomach (chyme) is made alkaline (ii) emulsifying of fats
(v)	pancreas	duodenum	pancreatic juice (i) trypsin (ii) lipase	(i) digesting proteins (ii) breaking down of emulsified fats
(vi)	intestinal glands	small intestine	intestinal juice	converts proteins into amino acids, complex carbohydrates in glucose and fats into fatty acids and glycerol

## xylem and phloem

Transport in xylem	Transport in phloem
It transports water and minerals. The movement is generally unidirectional. It is not influenced by metabolic inhibitors.	It transports organic nutrients. The movement is multidirectional. Phloem transport is inhibited by metabolic inhibitors.
It is carried out by xylem vessels and tracheids Major operating forces are diffusion and transpiration pull.	Takes place in sieve tubes with the help of adjacent companion cells. Energy (ATP) is required for translocation.

## respiration



the first step is the breakdown of glucose, a six-carbon molecule, into a three-carbon molecule called pyruvate. this process takes place in the cytoplasm.

### (i) anaerobic:-

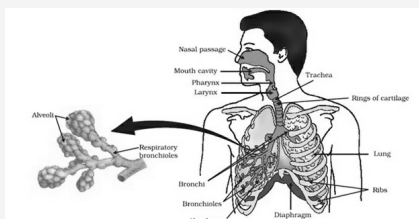
-anaerobic respiration occurs in the absence of oxygen

-it releases lesser energy

-it takes place in yeast;- the pyruvate is converted into ethanol and carbon dioxide

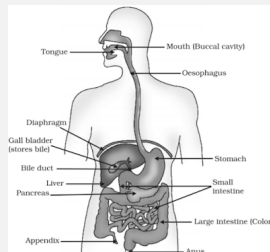
-in humans, during vigorous

## respiration

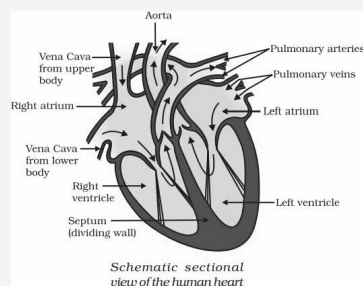


**Inhalation:-**when we breathe in, air passes through the trachea, and *ribs move up and flatten the diaphragm* due to which chest

## digestive system



## heart



### Pulmonary circulation:-

the movement of blood from the heart to lungs and back to heart constitutes pulmonary circulation

### \*\*Systematic circulation:-

the movement of blood from the heart to various places of the body except lungs and back to the heart

cavity becomes larger. as a result air is sucked and fills the expanded alveoli.

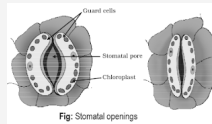
**exhalation**:-ribs move down and the diaphragm becomes dome-shaped decreasing the chest cavity. Thus, pushing the air out of the lungs.

\*\*nostrils > nasal passage > pharynx > larynx > trachea > lungs > bronchi > bronchioles > alveoli > blood > cells\*\*

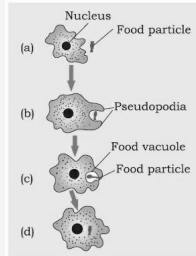
### functioning of excretory system

one end of each nephron as a hollow cup-bowman's capsule. the bowman's capsule has a bundle of blood capillaries called the glomerulus. one end of the glomerulus is attached to the renal artery. the function of the glomerulus is to filter the blood passing through it. only small molecules like glucose, amino acids, salts, urea, and water collected in bowman's capsule are the filtrate. the filtrate collects in the collecting duct of the kidneys from where it is carried to the ureter. urter then passes this filtrate to the urinary bladder from where urine is ultimately passed out.

### guard cells

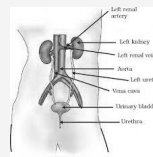


### amoeba



amoeba takes in food using temporary finger-like extensions of the cell surface which fuse over the food particle forming a food vacuole. inside the food, vacuole complex substances are converted to simpler ones which then diffuse into cytoplasm

### excretory system



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