

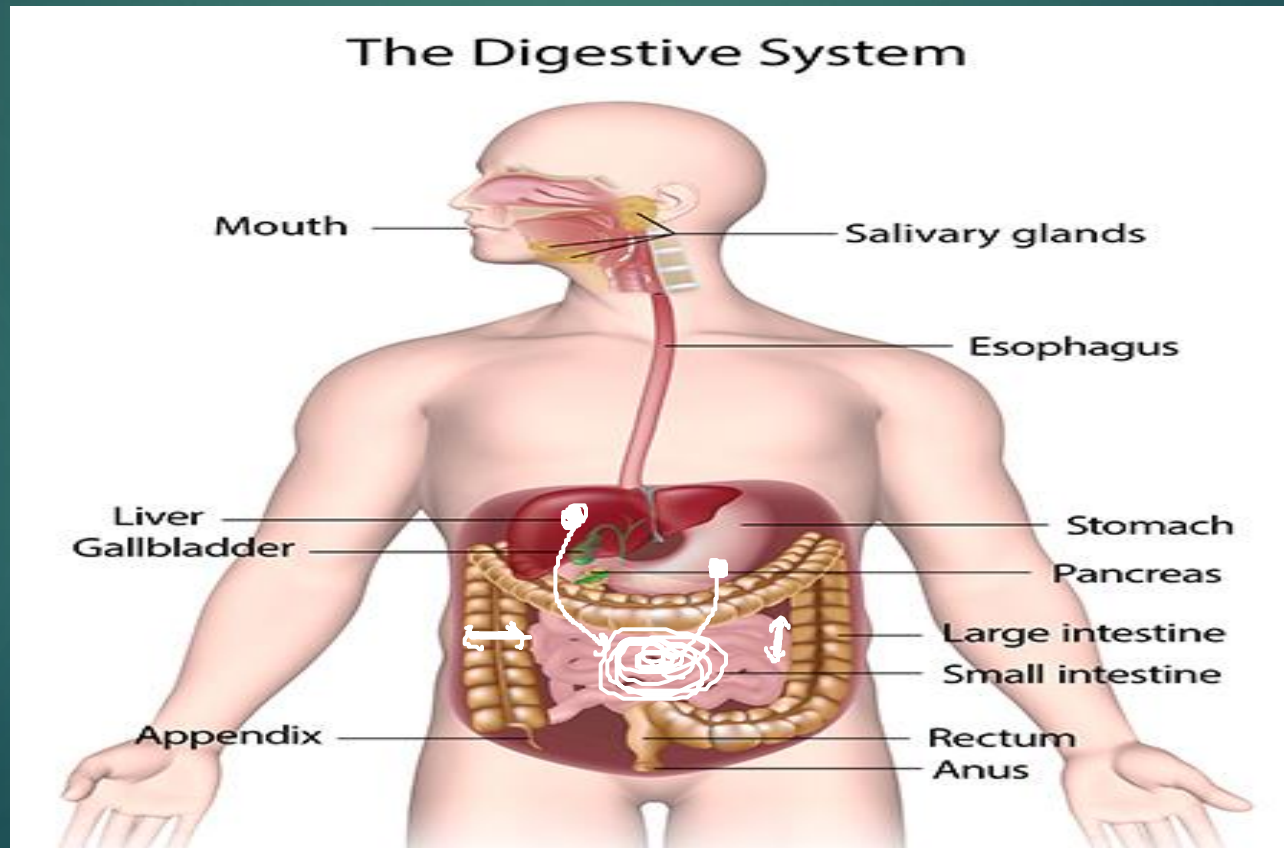
SAFALTA CLASS<sup>TM</sup>

An Initiative by अमरउजाला

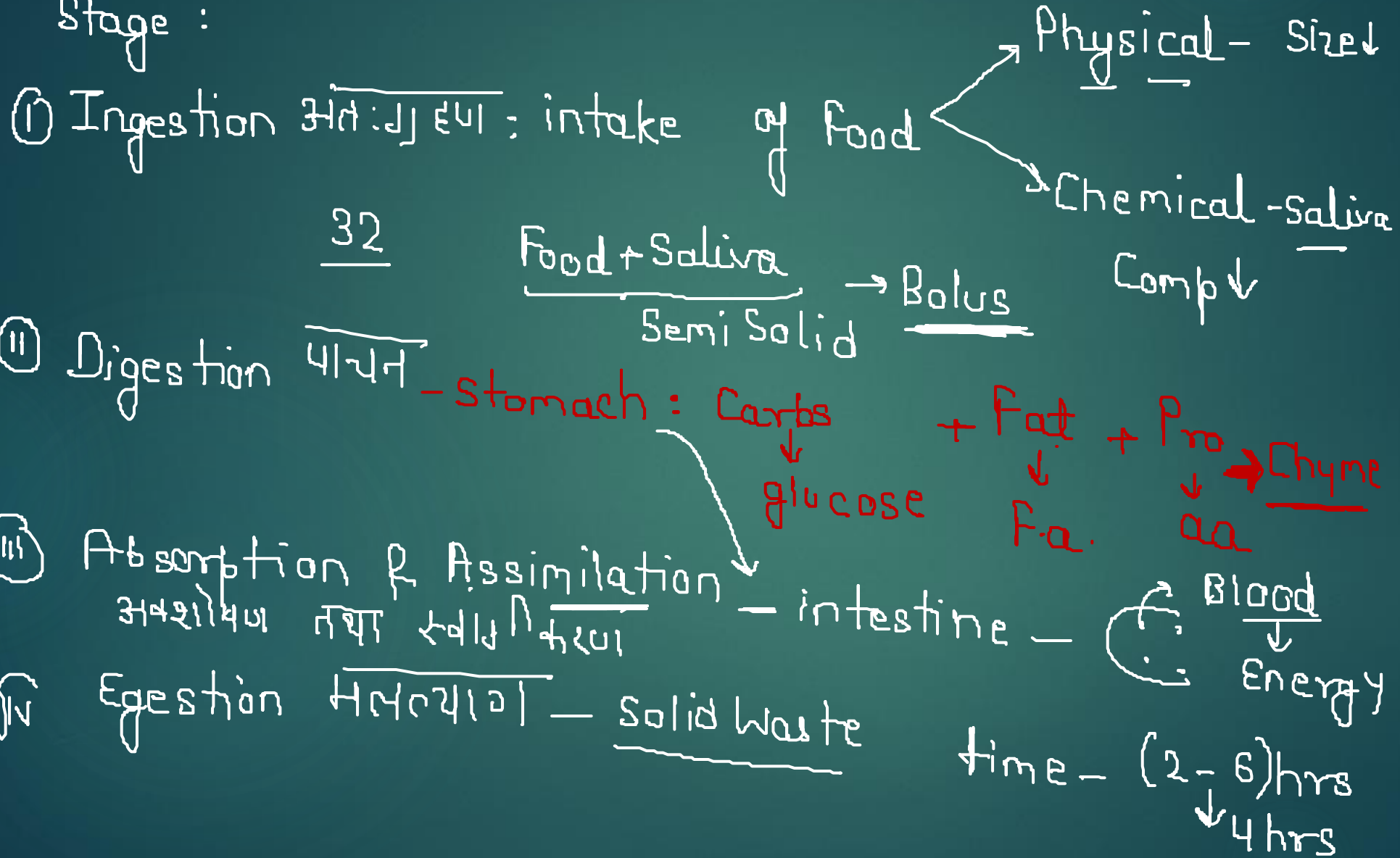
# Digestion

**Digestion**, sequence by which food is broken down and chemically converted so that it can be absorbed by the cells of an organism and used to maintain vital bodily functions.

Carbs - glucose  
 Fat - Fatty acid  
 Protein - Amino acid  
 Vitamins - } No change  
 Minerals - }



Stage :



## Organs of Digestion:

1. Buccal Cavity: It consists of-

a. Teeth: It is mainly composed of Calcium and Phosphorus.

Upper Covering of Teeth: Enamel (hardest part of our body).

\*\*\* Fluorine provides protection to Enamel

Excess : Fluorosis

Deficiency: Tooth Decay \*

Salt: Calcium Phosphate

Dental Formula:  $\left( \begin{matrix} 2I & 1C & 2PM & 3M \\ 2I & 1C & 2PM & 3M \end{matrix} \right) \times 2$

b. Mouth: Digestion starts from here. — intake

2. Salivary Gland: 3 pairs of Salivary gland

a. Parotid gland: Largest Salivary Gland (Ear)

b. Sublingual gland: Smallest salivary gland; (tongue)

c. Submandibular gland

Milk teeth : 20

( $\begin{matrix} 2I & 1C & 2PM & 2M \\ 2I & 1C & 2PM & 2M \end{matrix}$ )  
Formation

मृद्व जट्टा rigidity

2<sup>nd</sup> Incisor - Cutting  
कतर

Canine - tearing  
दंड़

Chewing { Premolar  
3rd अग्रवर्क  
Molar -

Salivary Gland produce saliva (ph: 6.8) which helps in the digestion of Carbohydrates.

गुणसन्दी

Enzymes: Salivary Amylase (Ptyalin): Digest Carbohydrates

3. Esophagus: Helps in the transportation of Bolus from Mouth to Stomach. It is also known as "Food Pipe". (19-25) cm

4. Stomach: अमिशय

Shape: J shape

Storage: 3-5 liter

Ph: 1.3 - 3.5 (highly acidic)

Acid: HCL (helps in the killing of germs)

Digestive Juice: Gastric juice (ph : 3.0) पेट रस

Enzymes: Pepsin (helps in the digestion of Protein).



Carbs

Amylase - Carb  
Lipid

Lipase - Fat

4. Liver: यकृत

Largest gland

Max regeneration Capacity.

Digestive juice: Bile Juice (ph: 7.5- 8.0)---- It helps in the emulsification of fat.

Digestive Enzymes: No enzymes

Min: Brain

↓  
digestion

5. Gall Bladder: Storage of Bile Juice

6. Pancreas: It is a mixed gland

अमृत

It produces hormones which helps in the transformation of Carbohydrates into fat

F cell of Pancreas acts as an Exocrine gland. → Prot.

**Digestive Juice**: Pancreatic Juice (ph: 7.5- 8.5)--- It helps in the digestion of Protein

**Enzymes**: (a) Pancreatic Amylase: Digestion of Carbohydrates

(b) Pancreatic Lipase: Digestion of Fat

(c) Trypsin and Chymotrypsin: Digestion of Protein

hormone &  
enzyme

→ (6.25-7)m → Final digestion of Food

**7. Small intestine:** It lies between the stomach and large **intestine**, and receives bile and pancreatic juice through the pancreatic duct to aid in digestion.

The small intestine has three distinct regions – the duodenum, jejunum, and ileum.

The duodenum, the shortest, is where preparation for absorption through small finger-like protrusions called villi begins.

The jejunum is specialized for the absorption. (90-95)%.

The main function of the ileum is to absorb vitamin B<sub>12</sub>, bile salts, and whatever products of digestion were not absorbed by the jejunum.

**8. Large Intestine:** Water is absorbed here and the remaining waste material is stored as feces before being removed by defecation. (5-10)%.

(1.5-1.8)m Large intestine is the combination of the cecum, colon, appendix, rectum, and anal canal.

**9. Organs of ~~Excretion~~ <sup>Egestion</sup>:** (a) Rectum: Storage and formation of solid waste

(b) Anus: Exit of waste

Carb, Pro, Fat, Vit (Vit K), Mineral (Na, K)

→  
S.I.

Que:

~~L.I.~~ Panc.  
Stomach  
S.I - Enzyme  
~~L.I.~~

Appendix  
↓  
Vestigial organ

अवशेष अंग  
अंत

Herbivorous

Maltase - Carbs  
Ins. Lipase - Fat  
Erepsin, Peptidase  
↓  
Protein

Rennin

Alcohol  
↓  
Drugs

↖  
L.I. - Water  
Vit - K  
Na, K







