

**Digestive system**

Function of the digestive system

- 1) Digest complex water insoluble substances into ..... substances
- 2) ..... digested food
- 3) ..... undigested food

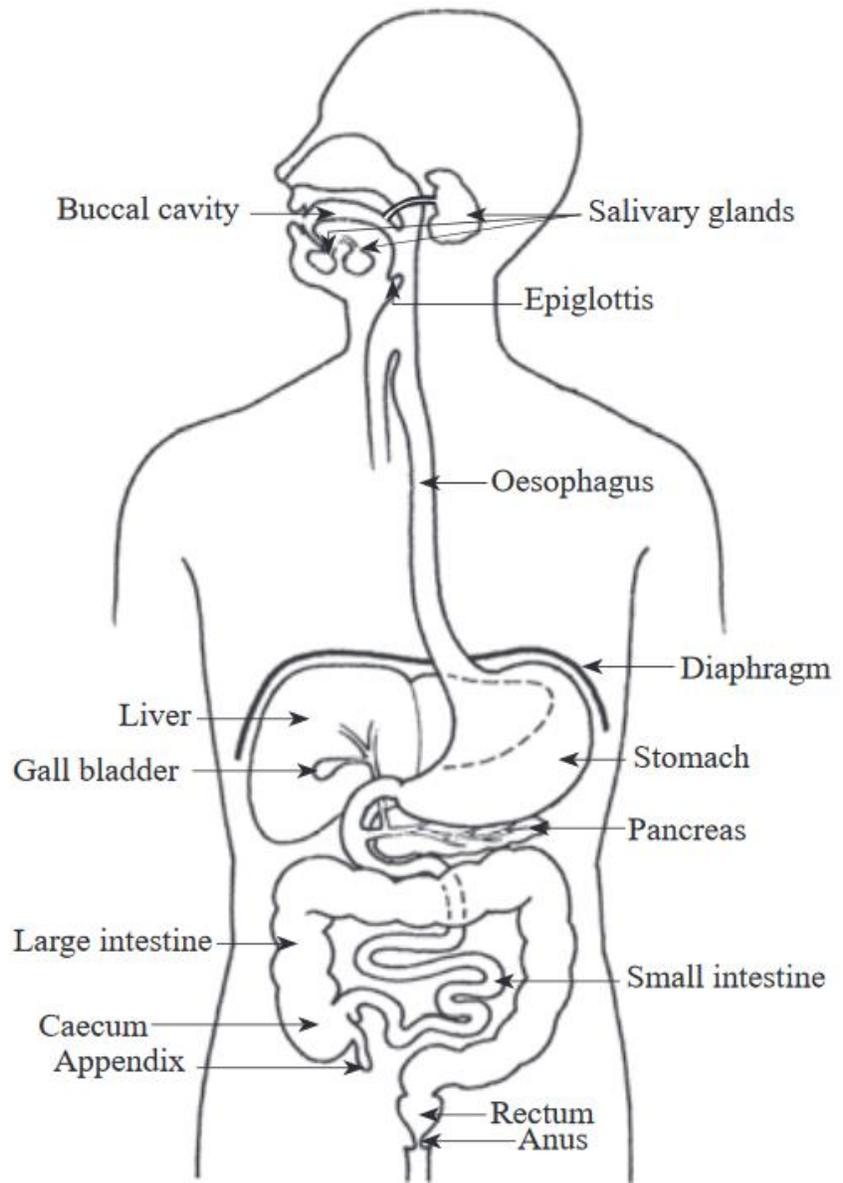
Parts of the digestive system

1) Digestive tract

- i) Buccal cavity
- ii) .....
- iii) oesophagus
- iv) .....
- v) Small intestine (duodenum, jejunum, illium)
- vi) Large intestine (caecum, ascending colon, transverse colon, descending colon, sigmoid colon)
- vii) .....
- viii) Anus

2) Associated glands

- (i) .....
- (ii) .....
- (iii) .....



3) There are two types of digestion

(i) ..... digestion

Breaking, tearing, grinding large food particles into small particles by .....

Mixing solid food with ..... and form a semisolid food ball.

(ii) ..... digestion

Converting complex water insoluble substances into simple substances by  
.....

4) Vitamins, ..... & monosaccharides (glucose, fructose, galactose) can be absorbed directly into body without being digested.

### **Buccal cavity**

The buccal cavity contains

1) ..... pairs of salivary glands (parotid – behind the ear, sublingual – under the tongue, sub maxillary – in the lower jaw)

2) ..... teeth

(i) 8 incisor teeth – ..... food

(ii) 4 canine teeth - ..... food

(iii) 8 premolar teeth - ..... food

(iv) 12 molar teeth - ..... food

3) Tongue - made up of ..... muscle

Function of the tongue

(a) Identify different tastes (sweet, sour, salt & .....)

(b) Help in .....

(c) Mix solid food with ..... and form semi solid food ball

(d) Pushes food backwards and helps to .....

4) Upper and lower jaws. Only the ..... jaw can be moved

5) Saliva contain ..... enzyme

6) ..... enzyme converts starch into maltose

Starch -----→ maltose

### Question

When a piece of bread or rice is kept in mouth for some times, it gives a sweet taste. Explain scientifically.

- (i) Bread and rice contains ..... which is sweetless.
- (ii) Saliva contains ..... enzyme.
- (iii) It converts ..... into maltose.
- (iv) Maltose has a ..... taste.

### Pharynx

- 1) This is common to ..... tract and ..... tract
- 2) There is a movable flap called .....
- 3) When swallowing food, the ..... moves down and closes the opening of ..... and prevents food getting into .....

### Oesophagus

- 1) This is a constricted muscular tube which connects the ..... in the throat to the ..... in the abdomen.
- 2) It is made up of ..... muscles.
- 3) No digestion occur in the .....
- 4) Food travels in the ..... due to a process called .....
- 5) During ....., the muscles behind the bolus will ..... and the muscles in front of the bolus will ..... Therefore the bolus will move forward.

**Stomach**

- 1) This is a muscular bag which stores food temporarily for ..... hours.
- 2) It has two valves (sphincters) which prevents back flow of food.
  - (i) ..... sphincter (between the stomach and .....)
  - (ii) ..... sphincter (between the stomach and the .....)
- 3) The only ..... part in the digestive tract.
- 4) The walls of stomach secretes ..... juice.
- 5) It contains ..... acid, inactive pepsinogen enzyme and renin enzyme in infants.
- 6) ..... acid destroy the germs in the food, converts inactive pepsinogen enzyme into active..... enzyme and provide an acidic medium in stomach
- 7) ..... enzyme converts proteins into polypeptides.  
 Proteins -----→ polypeptides.
- 8) Renin enzyme in infants will coagulate (clot) .....
- 9) Partially digested proteins, digested and undigested carbohydrates, undigested lipids, water, minerals & vitamins together is called .....
- 10)..... on the wall will prevent the proteins on the wall of stomach getting digested by protein digestive enzyme (pepsin).

**Duodenum**

- 1) This is the first part of the .....
- 2) Two ducts open into the..... through a single pore.
  - (i) ..... duct
  - (ii) ..... duct

- 3) Bile is produced in the ..... and stored in the gallblader
- 4) ..... duct brings bile from the gallbladder to the duodenum.
- 5) ..... contains bile pigments, bile salts, bicarbonate ions & water.
- 6) Bile immulcifies ..... (lipids are broken down into small droplets)
- 7) Pancrease produces ..... juice.
- 8) ..... duct brings pancreatic juice from pancrease to the duodenum.
- 9) ..... juice contains ..... enzymes
  - (i) ..... enzyme converts starch into maltose.  
Starch -----→ maltose
  - (ii) ..... enzyme converts immulcified lipids into fatty acids and glycerol  
Emulcified lipids. -----→ fatty acids + glycerol
  - (iii) ..... enzyme converts proteins into polypeptides  
Proteins -----→ polypeptides
- 10) The mucous layer on the wall will prevent the proteins on the wall getting digested by protein digestive enzymes (pepsin & trypsin) & lubricates food and move forward.

### Jejunum

- 1) This is the second part of the .....
- 2) Intestinal wall secretes .....juice
- 3) ..... juice contains ..... enzymes.
  - (i) ..... enzyme converts maltose into glucose  
.Maltose -----→ glucose

(ii) ..... enzyme converts sucrose into glucose and fructose.

Sucrose -----→ glucose + fructose

(iii) ..... enzyme converts lactose into glucose + galactose

lactose -----→ glucose + galactose

(iv) ..... enzyme converts polypeptides into amino acids

Polypeptides -----→ amino acids

- 4) ..... layer on the wall will prevent the proteins on the wall getting digested by protein digestive enzymes (pepsin, trypsin & polypeptidase) & lubricates food and move forward.
- 5) ..... lubricates food and helps to move along the digestive tract.

### Ilium

- 1) This is the third part of the .....
- 2) The adaptations found in ilium to absorb substances efficiently
- (i) Being a ..... tube
- (ii) Presence of ..... folds in the inner walls.
- (iii) Presence of finger like structures called .....
- (iv) ..... contain a large number of blood capillaries and lacteal vessels (therefore highly vasculated)
- 3) Monosaccharides (glucose, fructose, galactose), amino acids, vitamins and minerals get absorbed into.....
- 4) Fatty acids and glycerol get absorbed into .....

**Large intestine**

- 1) Though the large intestine (1.5m long) is shorter than the small intestine (7m long), the diameter of the ..... intestine is more than the diameter of the small intestine.
- 2) Large intestine starts with .....
- 3) In the ..... there is a small blind ended tubular structure called a appendix.
- 4) Appendix can get infected in a disease called.....
- 5) The main function of the large intestine is to absorb .....
- 6) Faeces mainly contain....., undigested food such as fibres and bile.
- 7) Faeces/stools/ excreta is not an ..... product.

**Gastritis**

- 1) Inflammation in the inner lining of mucosa in ..... is called gastritis.
- 2) Signs and symptoms of gastritis
  - (i) Burning sensation and pain in the .....
  - (ii) Regurgitation (back flow) of acid from ..... to the mouth.
- 3) When things get worse, ..... appear in stomach and may bleed.
- 4) Medication – use antacids such as ..... to neutralise acids.
- 5) Reasons for gastritis
  - (i) Not having ..... on time.
  - (ii) High mental .....
  - (iii) Excessive smoking and excessive consumption of .....

- (iv) Consumption of acidic and ..... food

### Constipation

1. Difficulty in defaecation (passing ..... ) is called constipation.
2. When faeces stay in the ..... intestine for a long time, more and more ..... will get absorbed from faeces. Therefore the faeces will get harder.
3. Reasons for constipation
  - (i) Not consuming food containing more fibres eg. ....
  - (ii) Not drinking enough .....
  - (iii) Postponing .....
  - (iv) Dry .....
  - (v) Pregnancy
  - (vi) Paralysis
  - (vii) Certain medicines

### Typhoid fever

- 1) Typhoid fever is caused by a ..... called *Salmonella typhi*
- 2) The pathogen is transmitted through ..... and through ..... when bathing in contaminated water.
- 3) Signs and symptoms of typhoid
  - (i) Fever
  - (ii) Headache
  - (iii) Pain in arms and legs
  - (iv) Stomach-ache

- (v) ..... will occur initially, and later might result diarrhoea
  - (vi) Blood is released with ..... matter due to ulcers in the small intestine
  - (vii) ..... is covered with a plaque
- 4) Disease can be identified by a ..... test and ..... test

**Diarrhoea**

- 1) Diarrhoea occurs when the intestine is infected with a ..... or a ..... or a paracite.
- 2) The disease is transmitted by the ..... of an infected person.
- 3) Due to less absorption of ..... from the faecal matter in the ..... intestine, the faecal matter is released in liquid state.
- 4) Dehydration can occur due to loss of ..... in loose motion.
- 5) How to avoid the disease
  - (i) Drink boiled water
  - (ii) Use water sealed toilets
  - (iii) Wash hands with soap after using toilets
  - (iv) Cover and keep the cooked food away from flies
  - (v) Get vaccine for typhoid