

# The Human Digestive System

### Salivary Glands

Parotid

Submandibular

Sublingual

Oral cavity

Pharynx

Tongue

Esophagus

Liver

Gallbladder

Duodenum

Common  
bile duct

Pancreas

Stomach

Pancreatic duct

### Colon

Transverse colon

Ascending colon

Descending colon

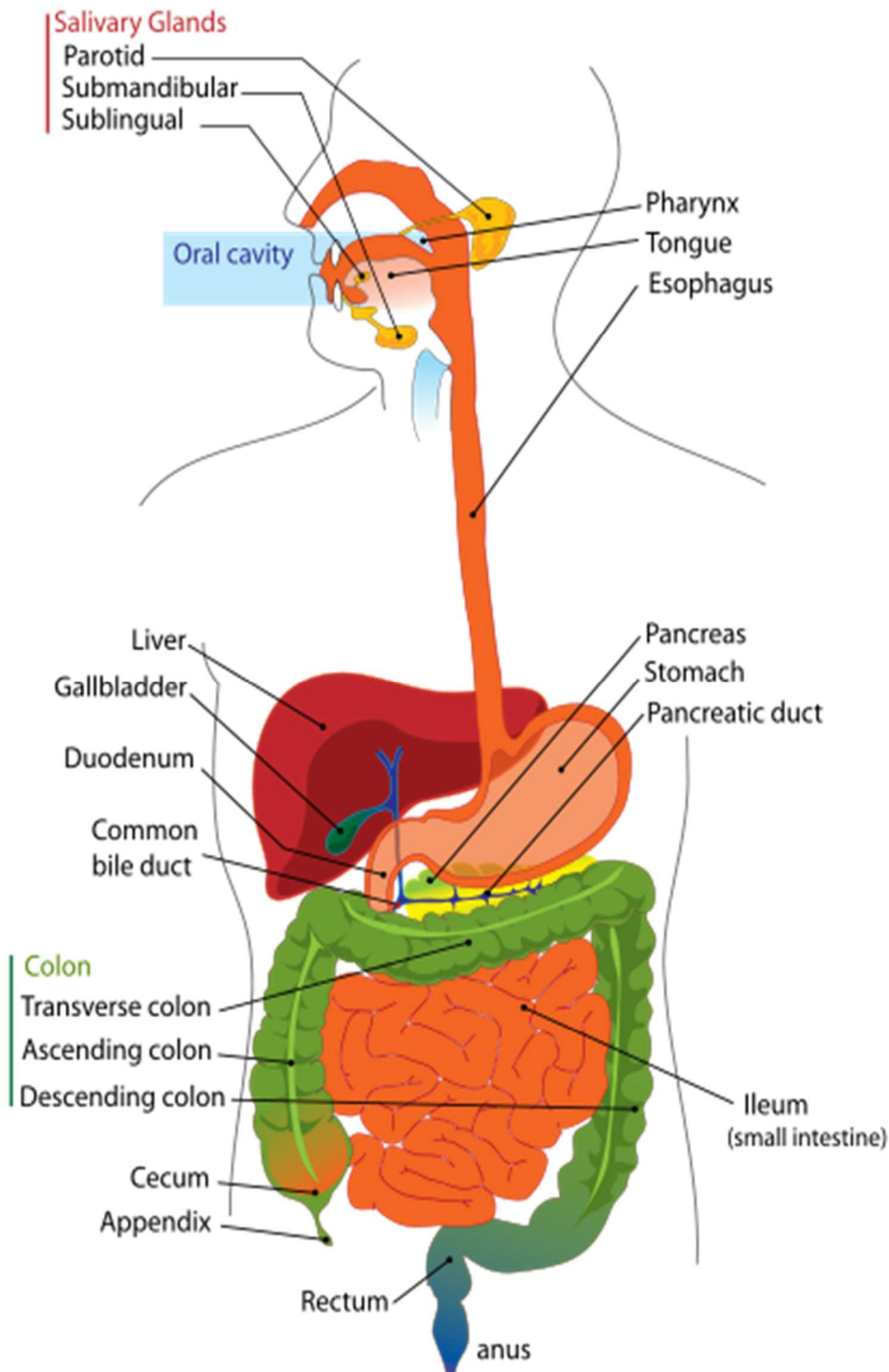
Cecum

Appendix

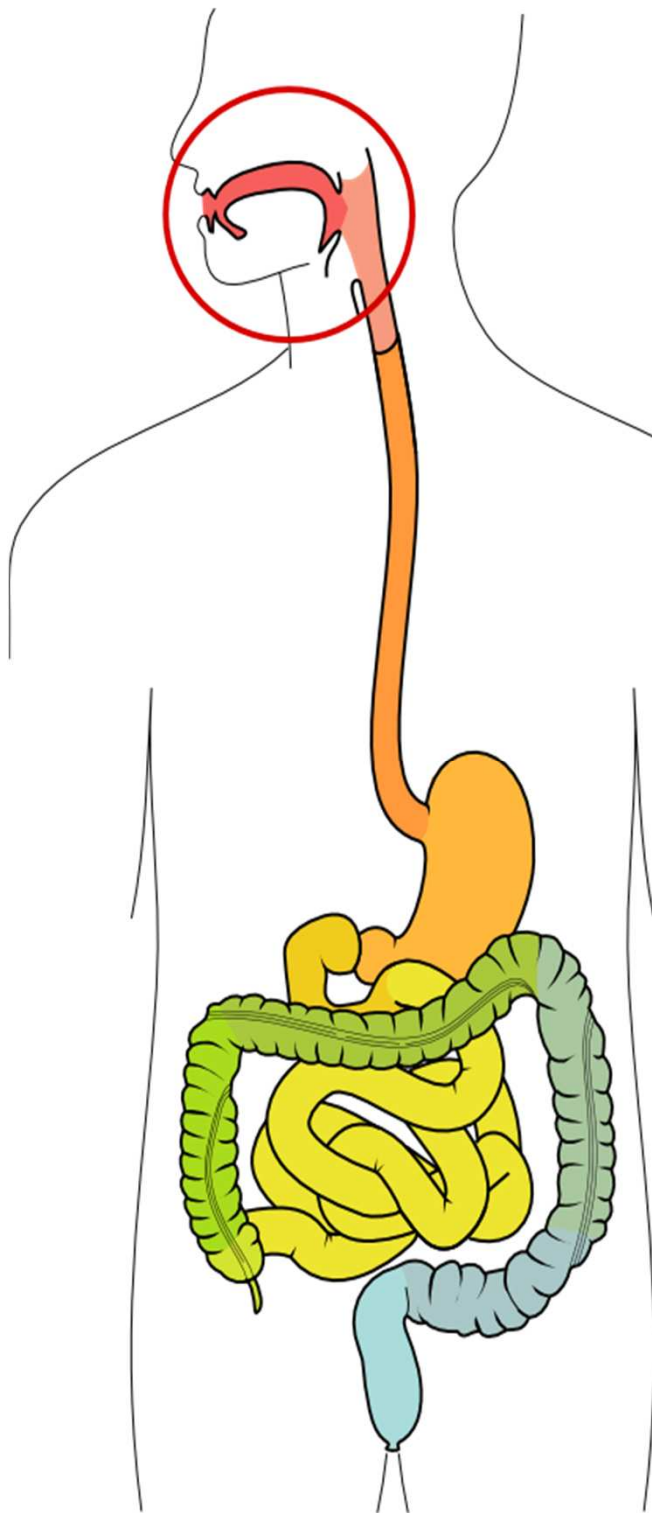
Ileum  
(small intestine)

Rectum

anus

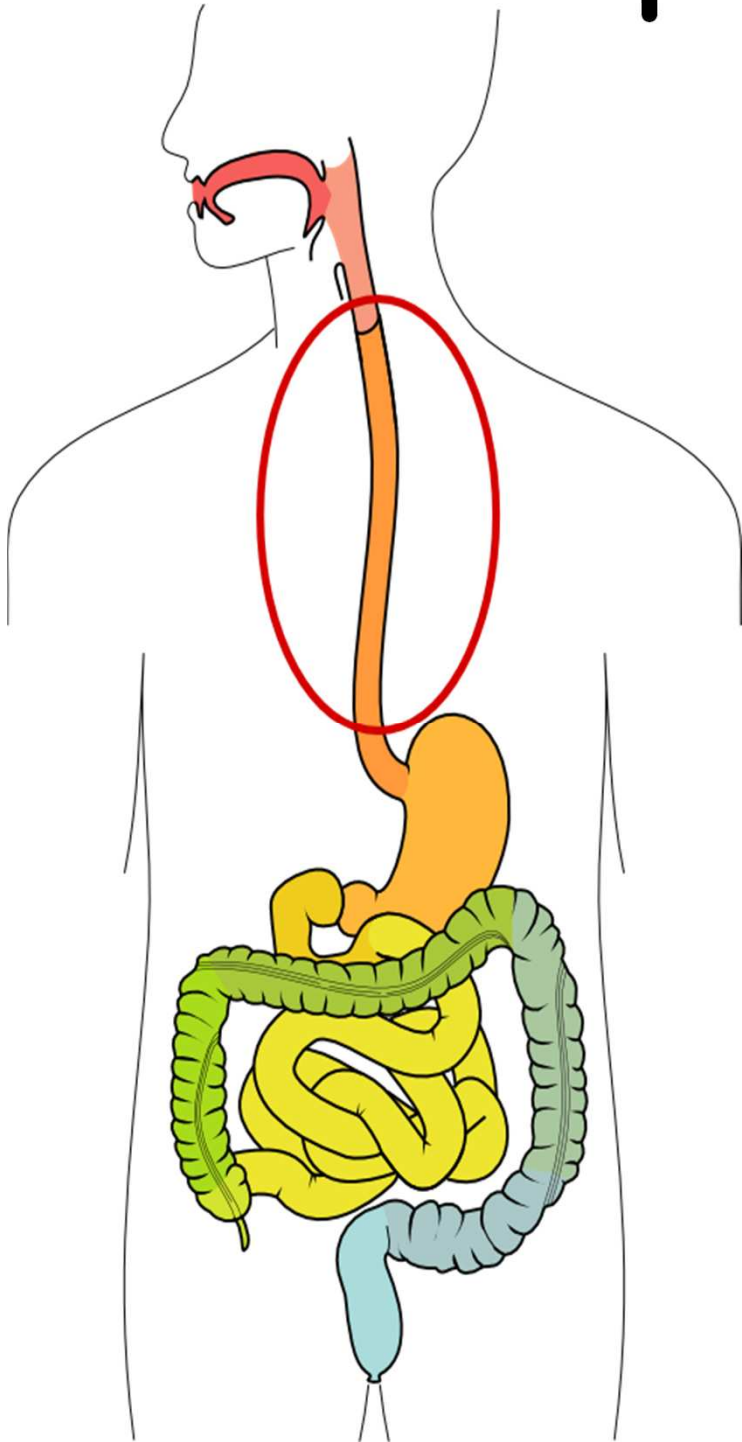


# Oral Cavity



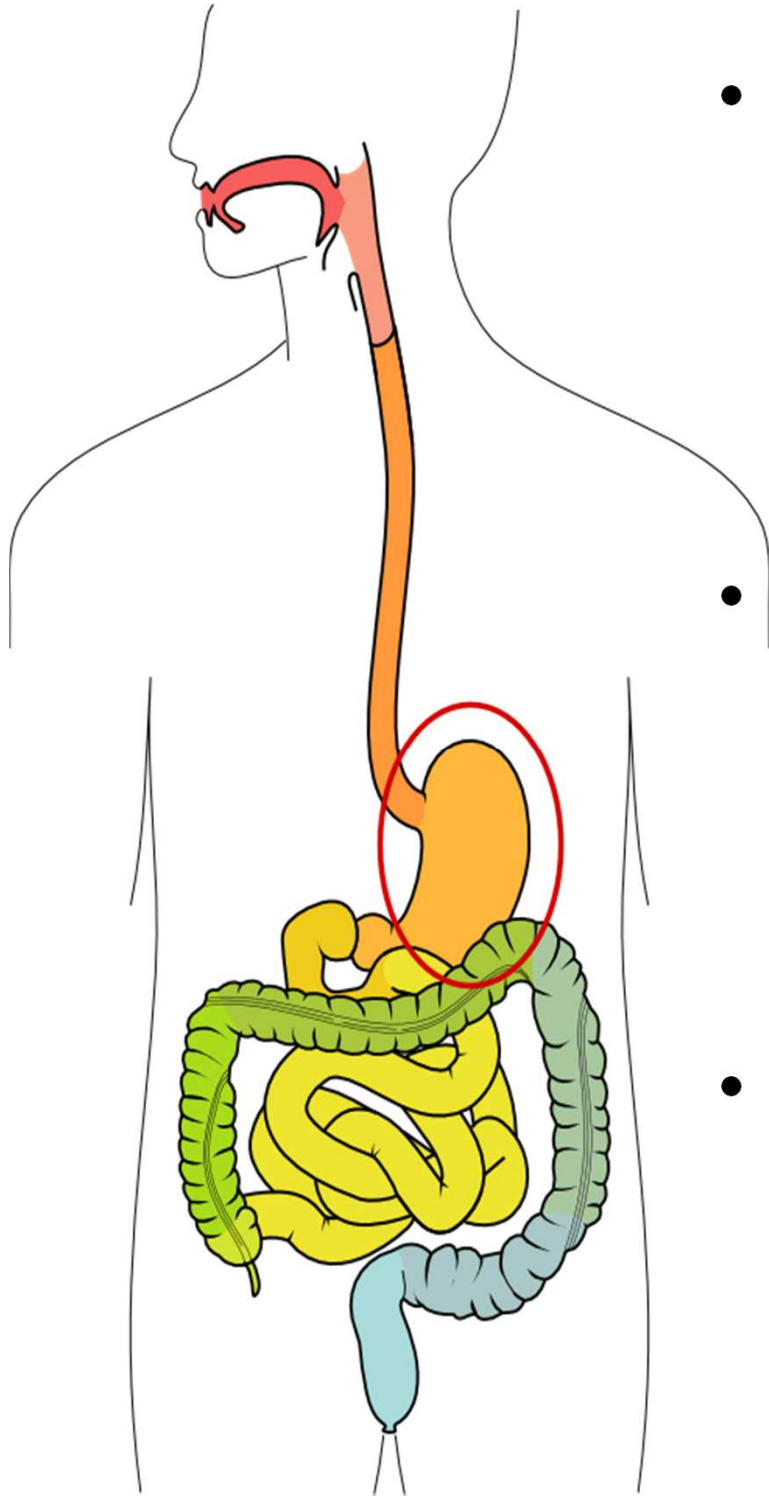
- Chewing
- Saliva moistens food
- Saliva contains enzymes

# Esophagus



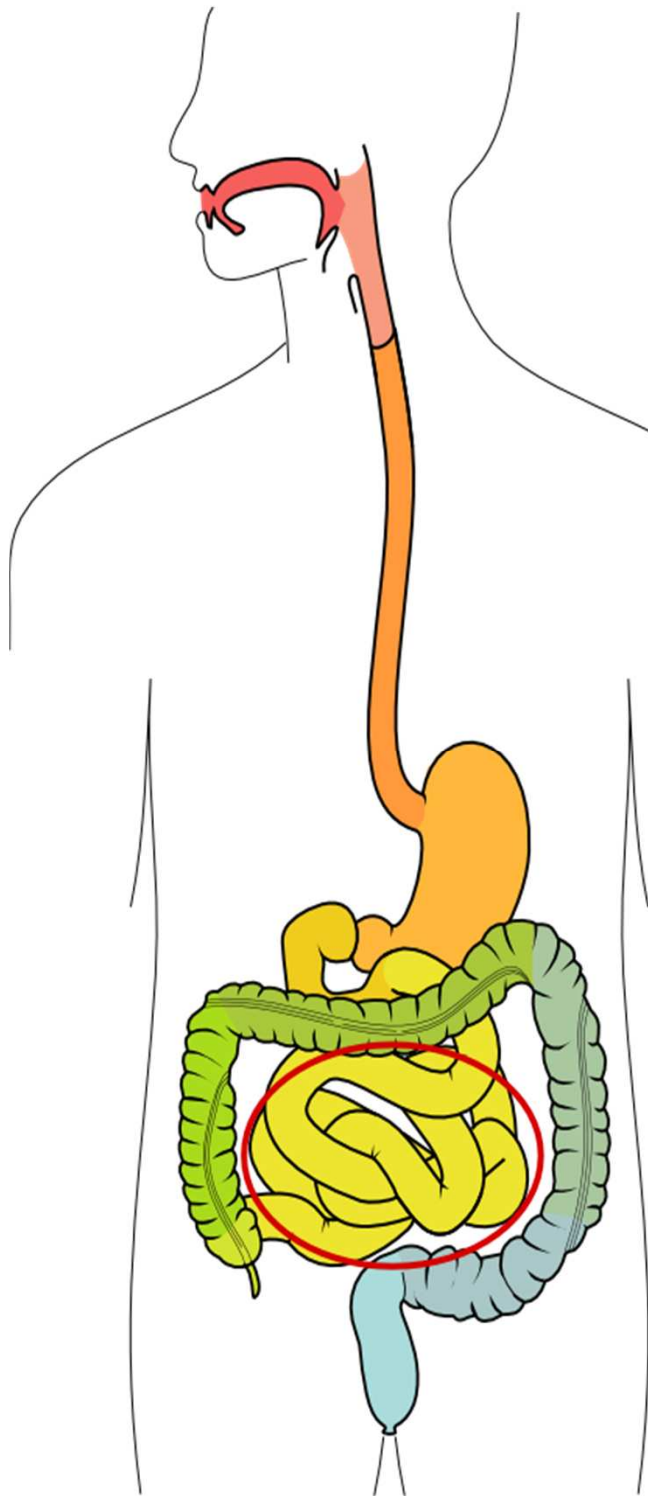
- Moves food to the stomach by peristalsis

# Stomach



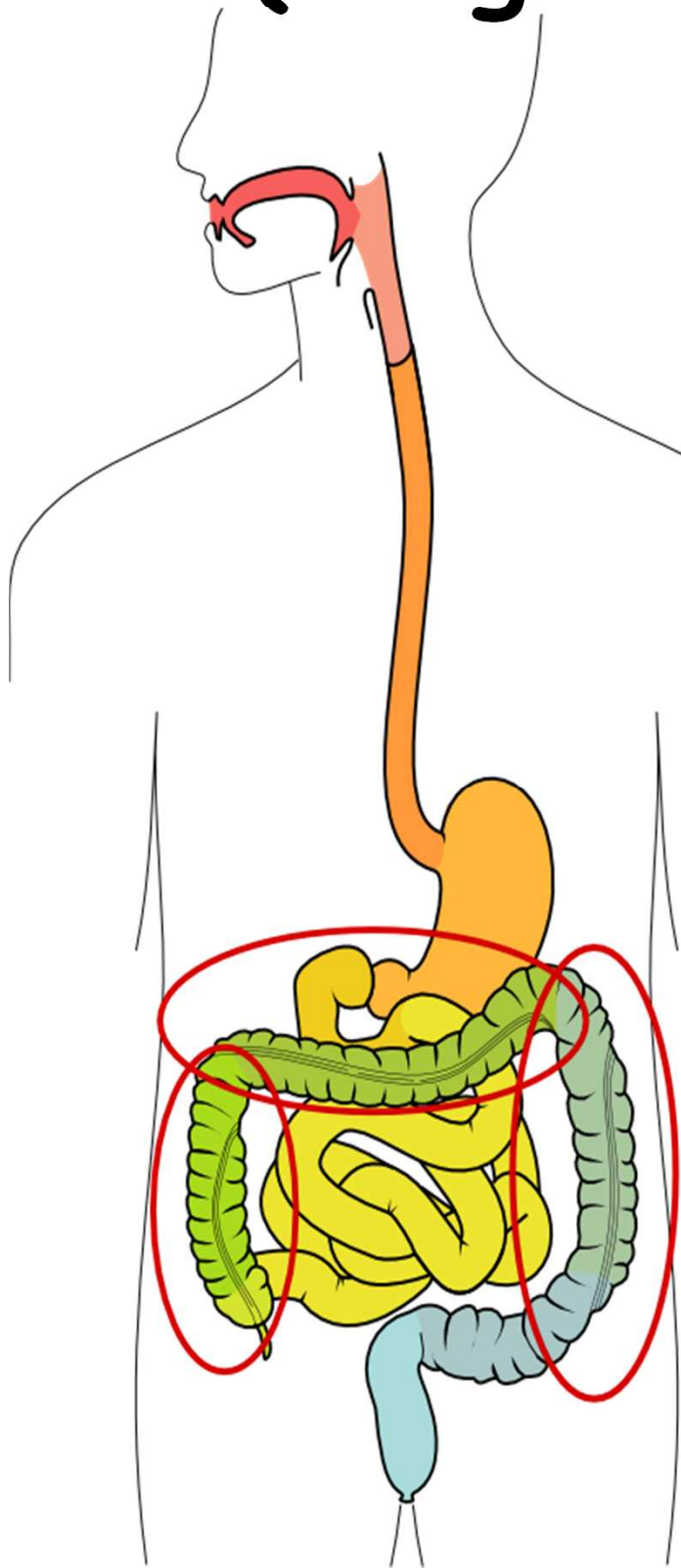
- Sphincters control movement of food into and out of the stomach
- Stomach glands release gastric juices
  - water, enzymes, mucus, acid
- Most food moves on to the small intestine within 4 hours

# Small Intestine



- Liver and pancreas secrete enzymes into the small intestine
- Digestion is completed
- Nutrients are absorbed through the intestinal walls

# Colon (Large Intestine)



- Bacteria produce some vitamins
- Vitamins absorbed into bloodstream
- Water is reabsorbed
- Feces move on to the rectum

# Carbohydrate Digestion

- **Mouth**

- Salivary amylase breaks starch into sugar

- **Stomach**

- pH is too low for amylase to work

- **Small Intestine**

- Pancreatic juices neutralize stomach acids

- Intestinal and pancreatic enzymes complete carbohydrate digestion



# Protein Digestion

- **Mouth**

- Only mechanical digestion occurs

- **Stomach**

- Hormone gastrin signals stomach to secrete acid

- Acid converts pepsinogen to protein digesting enzyme pepsin

- **Small Intestine**

- Pancreas secretes trypsin into small intestine

- Trypsin and other enzymes secreted by small intestine digest protein into amino acids

# Fat Digestion

- **Mouth and Stomach**

- Only mechanical digestion occurs here

- **Small Intestine**

- Bile from liver (stored in gall bladder) emulsifies fat

- Lipase from pancreas splits fat into fatty acids and glycerol