Mechanism of Digestion

1. Oral Cavity
   - Food taken through mouth
   - Teeth break down the food
   - Saliva = Amylase + Lysozyme
   - Chewing breaks food into small particles
   - Saliva moistens & lubricates food forming bolus
   - Bolus is swallowed & moves through oesophagus by peristalsis
   - Chyme is this semi-digested, acidic and pulpy food
   - 30% hydrolysis of starch
   - Antibacterial agent: Prevents infection

2. Stomach
   - Gastric glands in mucosa lining:
     » Mucus neck cells – Mucus
     » Peptic cells – Pepsinogen
     » Parietal or oxyntic cells – HCl
   - Food mixes with gastric juices by churning movement
   - Chyme is this semi-digested, acidic and pulpy food
   - Gastric juices & enzymes
     » HCl provides the acidic pH
     » Pepsinogen (proenzyme) is converted into Pepsin by HCl
     » Pepsin converts protein into peptones & proteoses
     » Prorenin (proenzyme) is converted to Renin by HCl
     » Casein (milk protein) is converted to peptides by Renin

3. Small Intestine
   - Consisted of duodenum, jejunum, and ileum
   - Chyme is further mixed & churned here by peristalsis
   - Pancreas & liver secrete enzymes that help breakdown & absorb food into the blood
   - Absorbed nutrients are assimilated upon reaching target
   - Digestive juices & enzymes
     » Pancreatic juices breakdown carbohydrates & proteins
     » Intestinal juices breakdown carbohydrates & proteins
     » Bile converts fat globules into fat droplets by emulsification
     » Pancreatic lipase converts triglycerides into fatty acids & glycerol

4. Large Intestine
   - Significantly less digestive activities
   - Bacteria act on leftover food particles
   - Absorption of minerals, water & certain drugs occur
   - Secretes mucus that helps in lubrication & holding up waste particles
   - Undigested & unabsorbed faecal matter is passed to rectum
   - Faeces is egested through anus

Parasites Infecting Digestive System
- Tapeworm
- Hookworm
- Pinworm
- Roundworm
- Threadworm
- Virus
- Bacteria

Digestive System Disorders
- Jaundice
- Nausea & Vomiting
- Blood in stool
- Peptic ulcers
- Diarrhoea
- Gallstones