

## Chapter 2, Sections 3&4 Notes

### Functions of the Digestive System

- Digestion – breaks food down into molecules the body can use
- Absorption – nutrients taken into the blood stream
- Elimination – waste products are expelled

#### Digestion:

- Process of breaking things down into smaller pieces
- Mechanical – physically break into smaller pieces
- Chemical – breaks down into smaller chemical building blocks

#### Absorption:

- Nutrients pass through the wall of Dig. Syst. Into blood
- Delivered to the cells of the body

### The Mouth

- Both mechanical and chemical digestion
- Saliva helps with both

#### Mechanical Digestion in mouth:

- Teeth, incisors cut into pieces, canines tear into smaller pieces, molars grind into very small pieces
- Saliva moistens food

#### Chemical Digestion in the mouth:

- Enzymes in the saliva break down starches into sugars
- Enzymes are proteins that speed up chemical reactions
- Each enzyme is specific to a certain type of reaction

### The Esophagus

- Back of throat has two openings: trachea (windpipe) esophagus (food pipe)
- Epiglottis covers trachea when food is swallowed
- Esophagus is muscular and squeezes food from throat to stomach
- Lined with mucus so food is easier to swallow
- Contractions of the muscles are rhythmic and called peristalsis
- Peristalsis occurs through out the digestive system

### The Stomach

- J shaped muscular organ
- Most mechanical digestion takes place
- Small amount of chemical digestion

#### Mechanical Digestion in the stomach:

- Three layers of strong muscles churn stomach contents together
- Churning mixes food with stomach fluids (Hydrochloric Acid, enzymes)
- Food remains in stomach until all solid material is reduced to a liquid form

#### Chemical Digestion in the stomach:

- Chemical digestion happens when food is mixed with juices made by cells lining the stomach
- Pepsin is an enzyme produced by the stomach that digests proteins
- Proteins are broken done into smaller pieces called amino acids
- Digestive juice also contains Hydrochloric Acid which kills bacteria and helps Pepsin work effectively
- Stomach lining is protected from the acid by a layer of mucus

- Mucus is produced by the epithelial cells that line your stomach
- These epithelial cells are quickly replaced if they become damaged
- By the time food leaves your stomach most of the proteins have been chemically digested into amino acids