Notes - Chap 23 - Digestive System       Name _______________________

Alimentary Canal (GI tract) - Continuous muscular tube that digests and absorbs food.

_________________ → _______________ → _______________ → _______________

_________________ → _______________ → _______________ → _______________

Accessory Digestive Organs:
1.                  2.                  3.
4.                  5.                  6.

Digestive Process - Broken into 6 activities:
1. Ingestion - Taking food into the alimentary canal (thru the mouth)
2. Propulsion -
   Swallowing -
   Peristalsis -

3. Mechanical Digestion - Chewing / churning food in stomach / and ↓
   Segmentation -
   1.                      2.

   Why chew your food before you swallow?
4. Chemical Digestion -

What happens to food after it’s digested?

5. Absorption - Individual food molecules (proteins, carbs, fats) and vitamins and minerals are all absorbed by cells lining the small intestine (water is absorbed by cells of the large intestine) and then everything enters the blood stream for transport throughout the body.

6. Defecation -

Mesentery -

1.

2.

The whole alimentary canal is lined with 4 basic tissue layers:
From deep to superficial:
1. **Mucosa:**
   1. Innermost layer
   2. 
   3. 
   4. 

   *What type of tissue is this?*

2. **Submucosa:**
   1. 
   2. 

3. **Muscularis:**
   1. Thick layer of *circular* and *longitudinal* muscles (segmentation + peristalsis)
   2. 

4. **Serosa:**
   1. Outermost layer / Protection

*Mouth* - where food enters

- mechanical and some chemical digestion starts here
Masticate - chew food / tear and grind food into smaller pieces / vol or invol

Lips + Cheeks -

Tongue:

1.

2.

3.

4.

Bolus - a compact bundle of chewed food mixed with saliva to be swallowed as a unit

Saliva - produced by glands in + around the mouth / produce 1.5 liters a day

1.

2.

3.

4.

Teeth - Masticate (chew) food (mechanical digestion) / the smaller pieces increase surface area for more efficient chemical digestion
Deciduous Teeth -

Why have deciduous teeth? (2)

Permanent Teeth -

Incisors -

Canines -

Premolars and Molars -

Pharynx -

Larynx -

What happens when you laugh while swallowing?

Epiglottis -

Esophagus -
What is heartburn? How is it caused?

Gastroesophageal Sphincter -

Deglutition - swallowing

4-8 seconds for solid / 1-2 seconds liquid

Can you swallow while hanging upside-down?

Stomach - Storage tank where chemical breakdown of protein begins / continuously churns food with gastric juices to form a creamy paste - Chyme.

How do you know when to stop eating? / What makes you feel full?

Pyloric Sphincter -

Small Intestine - 2.5cm thick and 6-7 meters long / chyme enters from the stomach and this is where the majority of digestion and absorption occurs / has 3 sections ↓

Duodenum -

Jejunum - middle section of small intestine

Ileum -
Villi and Microvilli -

**Segmentation** - Sections of the small intestine alternately contract and relax which helps mix up the chyme and allows for more efficient absorption because all the chyme will eventually touch the interior walls. At the same time, chyme is moved thru the small intestine by peristalsis.

**Liver** - does many things, but for now it produces bile.

  **Bile** - chemical that breaks up fat so that it can be absorbed.

**Hepatitis** -

**Cirrhosis** -

*Regeneration or Fibrosis?*

**Gallbladder** -

**Pancreas** -

**Ileocecal Valve** -

**Large Intestine** -
Rectum - 

Defecation -

Rectal Valves - 3 Folds of tissue in the rectum that allow gas (flatus) to be passed and not feces

Anus - Last 3 cm of the large intestine / has 2 sphincters that both need to be used in combination to hold back feces

Internal Anal Sphincter -

External Anal Sphincter -

Picture ➞

Diarrhea -

Why?

Constipation -