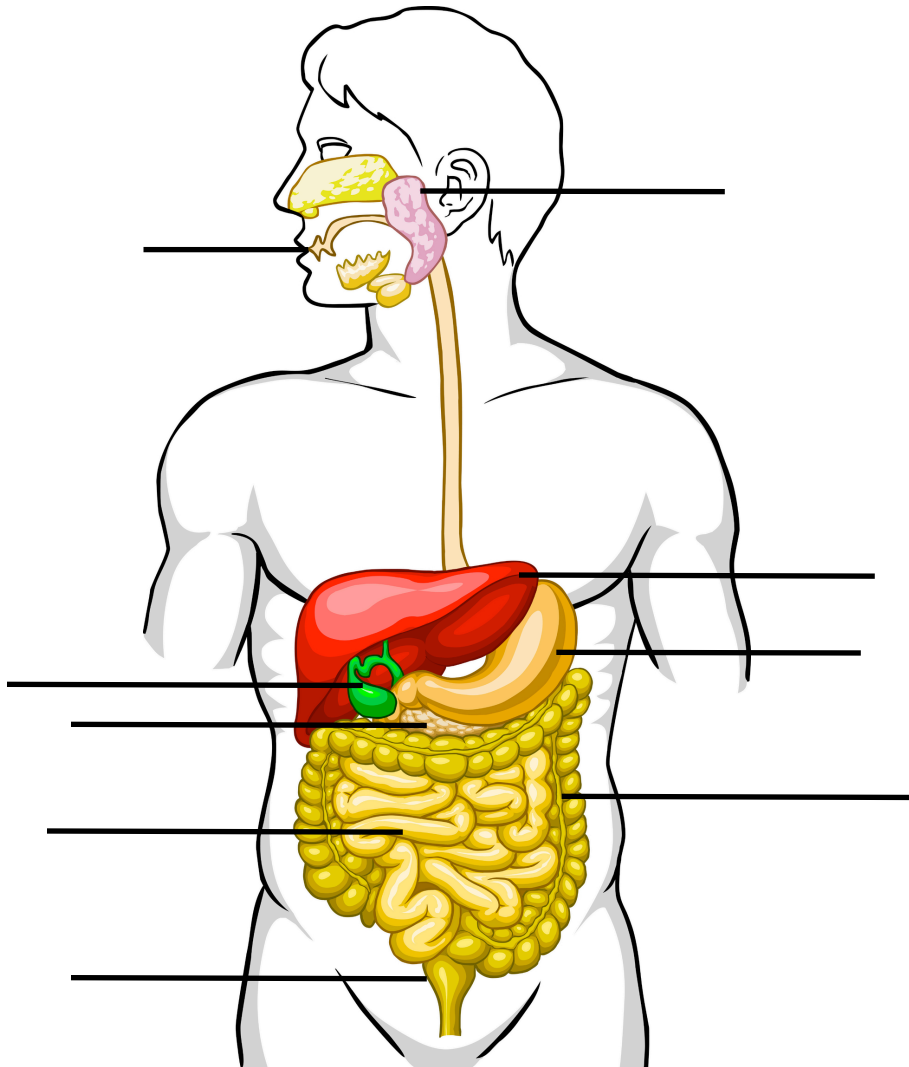


Digestive System

- _____: food enters the system
 - Physical and _____ breakdown begins
- _____: Further breakdown, chemical/enzymatic
- _____: Nutrients enter _____ system, delivered to tissues of the body
- Elimination of Waste (_____): Removal of wastes from body

Labeling the Digestive System:



Gastrointestinal Tract

- Tube within a tube
- Direct link/path between organs

GI Tract:	Accessory Organs
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PART 1: Digestion

Mouth

- Salvia produced by _____.
- Lubricates food so it can be _____.
- Dissolves food particles so food can be tasted, food must be dissolved to be tasted
- On average we produce .75 to 1.5L of saliva per day
- Most of it is water which moistens the food into a ball or _____
- **Chemical Digestion:**
 - Salvia contains the enzyme _____ which begins to break down _____.
- **Physical Digestion:**
 - Teeth (cut, grind, crush) and tongue (mixes food with saliva)

Epiglottis

- A flap of soft tissue covers the entrance to the _____ to prevent food from entering the _____

Esophagus

- Connects mouth to stomach
- Composed of _____ (contracts in rhythmic wavelike fashion = _____)
- Peristalsis (not gravity!) moves bolus down esophagus

Stomach

- _____ muscular bag that stores the food you eat, breaks it down into tiny pieces.
- **Chemical Digestion:**
 - Gastric Juices: - _____ provides a protective coating.
 - _____ kills many harmful substances that are ingested with food.
 - _____ is a _____ - digesting enzyme.
- **Mechanical Digestion:**
 - Stomach _____ helps to mix food.

Small Intestine

- 2.5cm diameter, _____ in length
- _____ in the first portions, _____ in the latter portions
- Food entering the small intestine from the stomach is a liquid known as _____

- Small intestine broken into three sections:
 - _____: Most _____ happens here
 - _____: Most nutrient _____ happens here
 - _____: Absorbs mostly _____ and bile salts

- **Chemical Digestion:**

- Digestive _____ line the cells of the small intestine and breakdown small food particles.
 - _____: Broken down by sucrase, maltase, and lactase.
 - _____ Broken down by peptidase.
 - _____: Broken down by lipase.

- **Mechanical Digestion:**

- _____ helps break food into smaller particles.

Pancreas

- Secretes _____ for digestion and _____ that regulate absorption and storage of glucose.
- Food entering small intestine is very acidic therefore the pancreas releases _____ ions to _____ the acid.
- Regulates blood sugar by producing insulin

Liver

- Involved in the removal and breakdown of _____ (such as alcohol)
- Liver produces and secretes _____
 - Bile: a substance that emulsifies _____ for faster breakdown

Gallbladder

- Stores bile until food enters the _____
- Fatty diets can cause _____

Part 2: Absorption

Small Intestine

- Long _____ folds/tubes (_____, singular: villus) project from the lining of the small intestine to increase the surface area for absorption
- _____ project from the cell membranes of the villi to increase the _____ even more
- Capillaries (tiny blood vessels) line the inside of villi to absorb nutrients into the circulatory system.
- Villi/microvilli increase the surface area of the small intestine 10-30x
- More surface area = _____
- All of these folds give the small intestine a surface area close to that of a tennis court

Use this space to draw a picture of a villi and it's capillary

Large Intestine

- 7.6cm diameter, _____ in length
- Colon: largest part of the large intestine.

- Water, salts, minerals are absorbed here, Nearly 8 L of fluid enters the large intestine
– only about 0.1 L or so comes out as solid waste.
- Contains _____ that help further breakdown food.
- Further absorbs _____, B12, and other vitamins.
- Absorbs _____.

Rectum

- The lower 20cm of the large intestine where _____ are stored.
- It may take 4 to 72 hours for the undigested material to pass through the large intestine, depending on the types and volume of food eaten.

Portion of GI Tract	What's broken down here?	What's absorbed here?
Mouth		
Esophagus		
Stomach		
Small Intestine		
Large Intestine		