

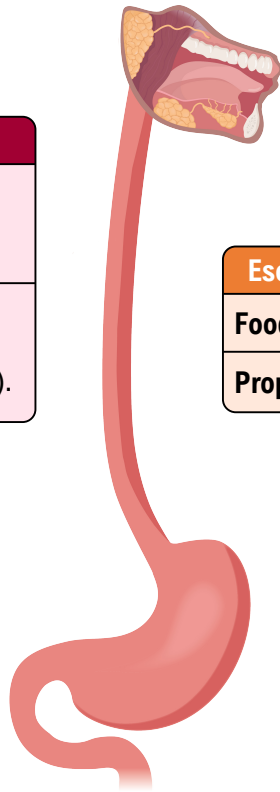
TOPIC: ORGANS OF THE GASTROINTESTINAL TRACT

Mouth and Esophagus

◆ Digestion starts in the _____:

Mouth	First site of digestion.
Mechanical Digestion	Chewing w/ _____ & wetting w/ _____.
Chemical Digestion	Saliva contains amylase (_____) & lipase (lipids).

Esophagus	Connects mouth to stomach.
Food name	_____
Propulsion	_____



EXAMPLE

Answer the following questions about digestion in the mouth and esophagus.

- Which accessory organ(s) help with chemical digestion in the mouth? _____
- Which accessory organ(s) help with mechanical digestion in the mouth? _____
- Does digestion occur in the esophagus? Y / N

PRACTICE

True or False: if false, choose the answer that best corrects the statement.

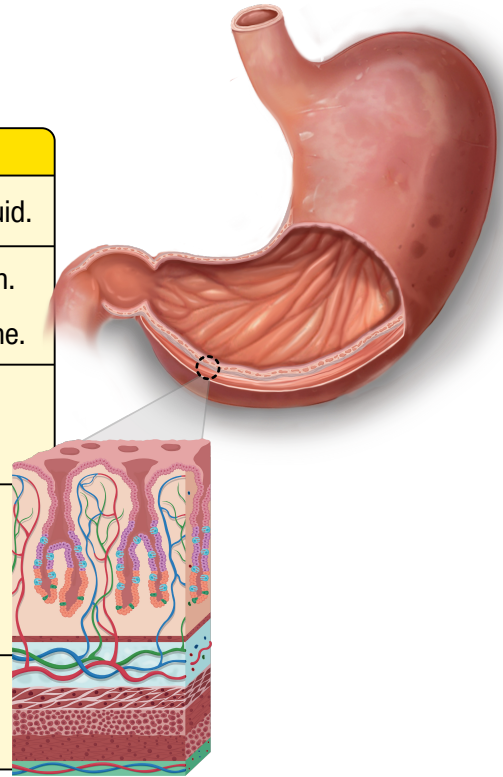
Digestion of carbohydrates starts in the esophagus.

- True.
- False, digestion of carbohydrates starts in the mouth with salivary amylase.
- False, digestion of carbohydrates starts in the mouth with salivary lipase.
- False, digestion of carbohydrates starts in the small intestine.

TOPIC: ORGANS OF THE GASTROINTESTINAL TRACT

Stomach

Stomach	Muscular ____ - ____ organ that can expand.
Food name	_____ – mix of broken-down food and digestive fluid.
Structures	Esophageal sphincter: between esophagus & stomach. Pyloric sphincter: between stomach & _____ intestine.
Mechanical Digestion	Peristalsis _____.
Chemical Digestion	Stomach _____ → denatures proteins. _____ → pepsin – digests protein. Gastric _____ → digests fat.
Features	Tissue is protected by _____. Gastric glands secrete gastric _____.



EXAMPLE

Answer the following questions about digestion in the stomach.

- a) What type of digestion takes place in the stomach: mechanical, chemical, or both? _____
- b) For each type of digestion explain how it occurs in the stomach in a few words. If it does not occur, leave the line blank.
- Mechanical digestion: _____
 - Chemical digestion: _____
- c) Which macronutrient undergoes the most digestion in the stomach? _____

PRACTICE

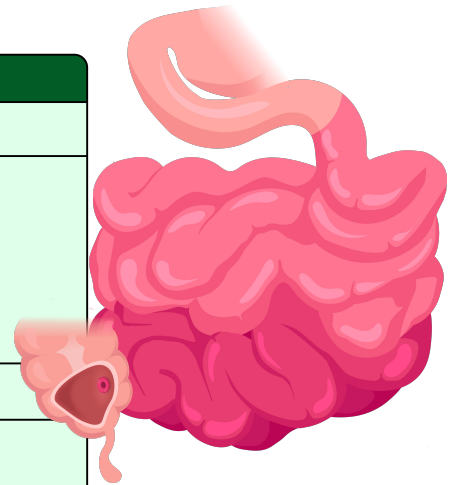
Gastric juice is highly acidic. How is stomach tissue protected from this acid?

- a) Mucous prevents gastric juice from being in direct contact with the tissue.
- b) Gastric juice is secreted in its inactive form and only becomes active when it touches food.
- c) Gastric pits also released bicarbonate to neutralize the acid.
- d) Peristalsis mixes the gastric juice into the chyme before it has a chance to interact with the tissue.

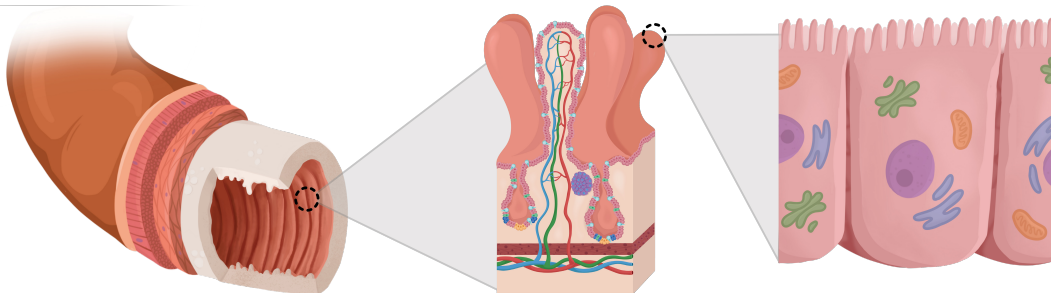
TOPIC: ORGANS OF THE GASTROINTESTINAL TRACT

Small Intestine

Small Intestine	20 foot tube named for its small diameter.
Food name	Chyme.
Structures	Duodenum: _____ area. Jejunum: digests and absorbs. Ileum: absorbs. Ileocecal sphincter: between small & large intestine.
Mechanical Digestion	Peristalsis & _____.
Chemical Digestion	_____: from the gallbladder; _____ fat. _____ juice: from pancreas. ◆ Amylase, _____, protease.
Features	Villi: finger-like projections that ____ surface area. Microvilli: membrane projections that create a ____ border. Brush border enzymes: _____ enzymes finish digestion.



DJ Ileum feels the peristaltic pulse.



EXAMPLE

Identify specific features of the small intestine that improve its ability to absorb nutrients. How do these structures aid in absorption?

PRACTICE

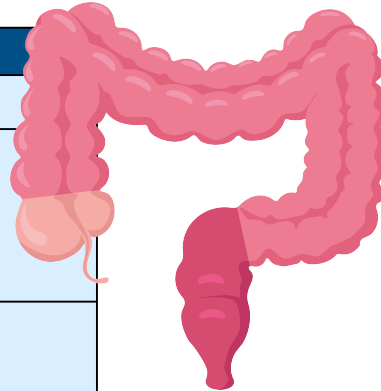
Which of the following statements is true regarding the small intestine?

- I) The small intestine is divided into three main sections.
- II) Much of the chemical digestion in the small intestine is performed by enzymes that are released by the gallbladder.
- III) Brush border enzymes are attached to the microvilli.
- a) I & II. b) II & III. c) I & III. d) I, II, & III.

TOPIC: ORGANS OF THE GASTROINTESTINAL TRACT

Large Intestine

Large Intestine	5 foot tube named for its diameter.
Food Name	_____.
Structures	Cecum: _____ like structure at connection to sm. int. Colon: main site of _____ absorption. Rectum: temporarily stores feces before excretion.
Absorption	_____, minerals (sodium & potassium), & some vitamins (K, B1, B7, & B12).
Defecation	_____ food expelled as feces.
Features	<i>Gut microbiome:</i> ecosystem of _____.



EXAMPLE

A major role of the large intestine is to remove excess water from undigested food.

a. If the large intestine removes too much water from the undigested food, how will that affect the feces?

b. If the large intestine removes too little water from the undigested food, how will that affect the feces?

PRACTICE

Which of the following statements below correctly describes the role of the large intestine.

I) Digest carbohydrates with brush border enzymes.

II) Absorb water, minerals, & vitamins.

III) Create feces.

a) I & II.

b) II & III.

c) I & III.

d) I, II, & III.