Module 7: Organ Systems and Homeostasis
Topic 2 Content: The Digestive System Notes

The Digestive System

The Digestive System. Click ***NEXT*** to begin.

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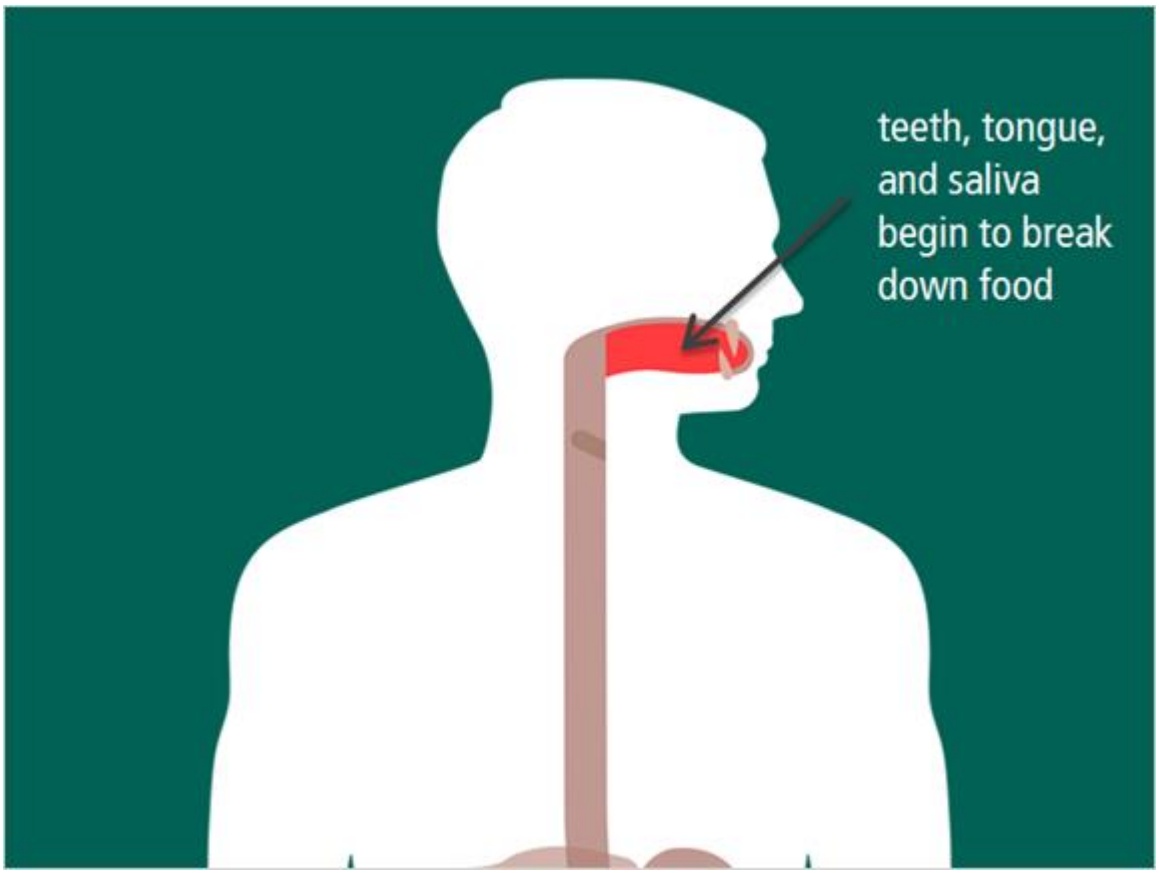
The Process of Digestion

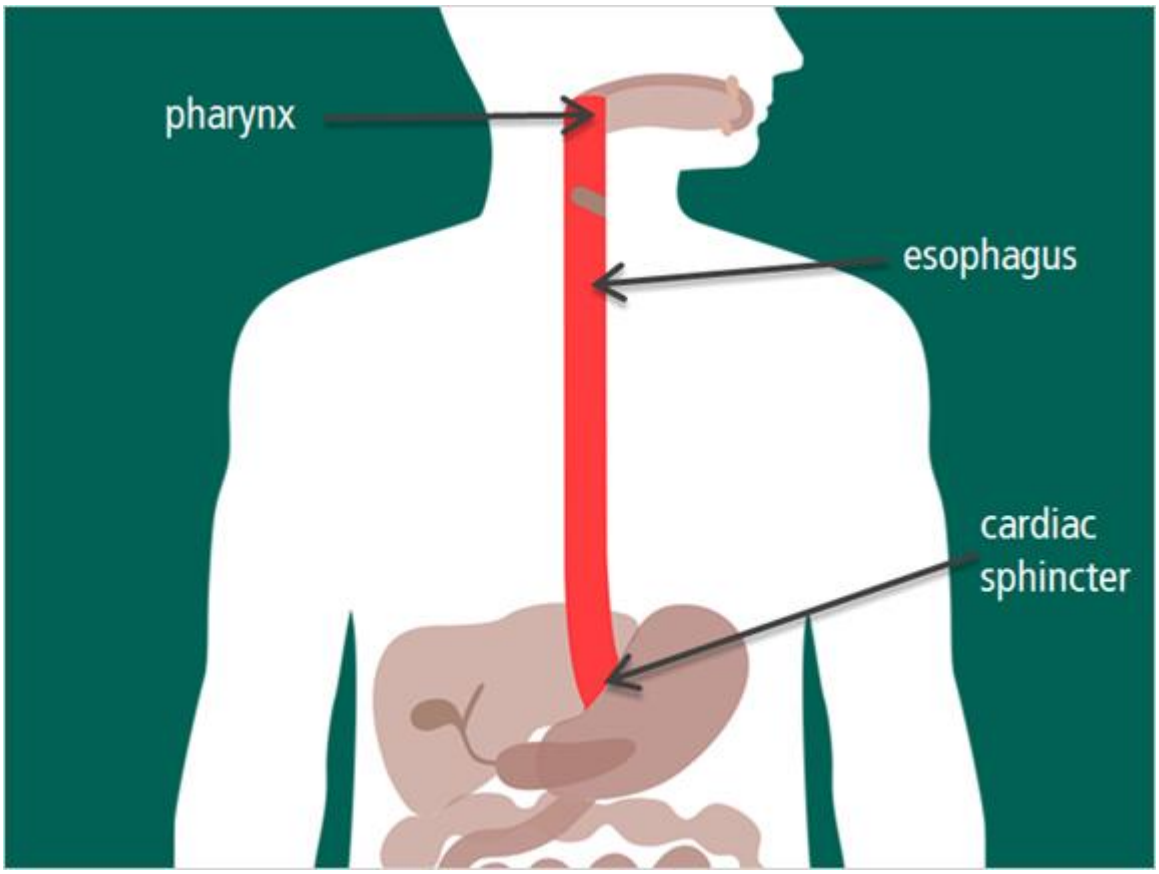
You have just arrived at your favorite restaurant with your friends. You order a grilled chicken sandwich and lemonade. The sight and smell of the sandwich prompt your salivary glands to moisten and chemically digest your food.

The Mouth



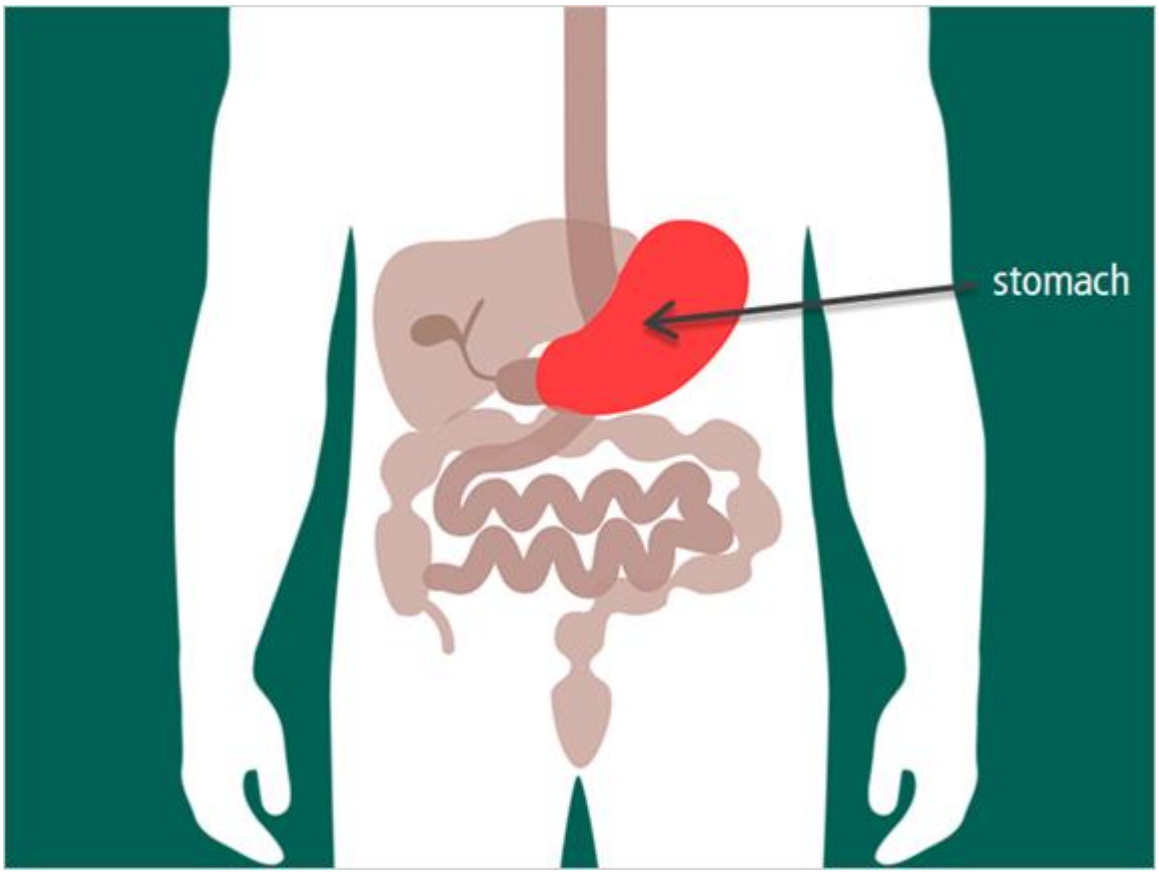
As soon as you take a bite of your sandwich, your digestive system gets to work. As you chew your food, you are mechanically breaking down the sandwich into smaller pieces.

The Esophagus



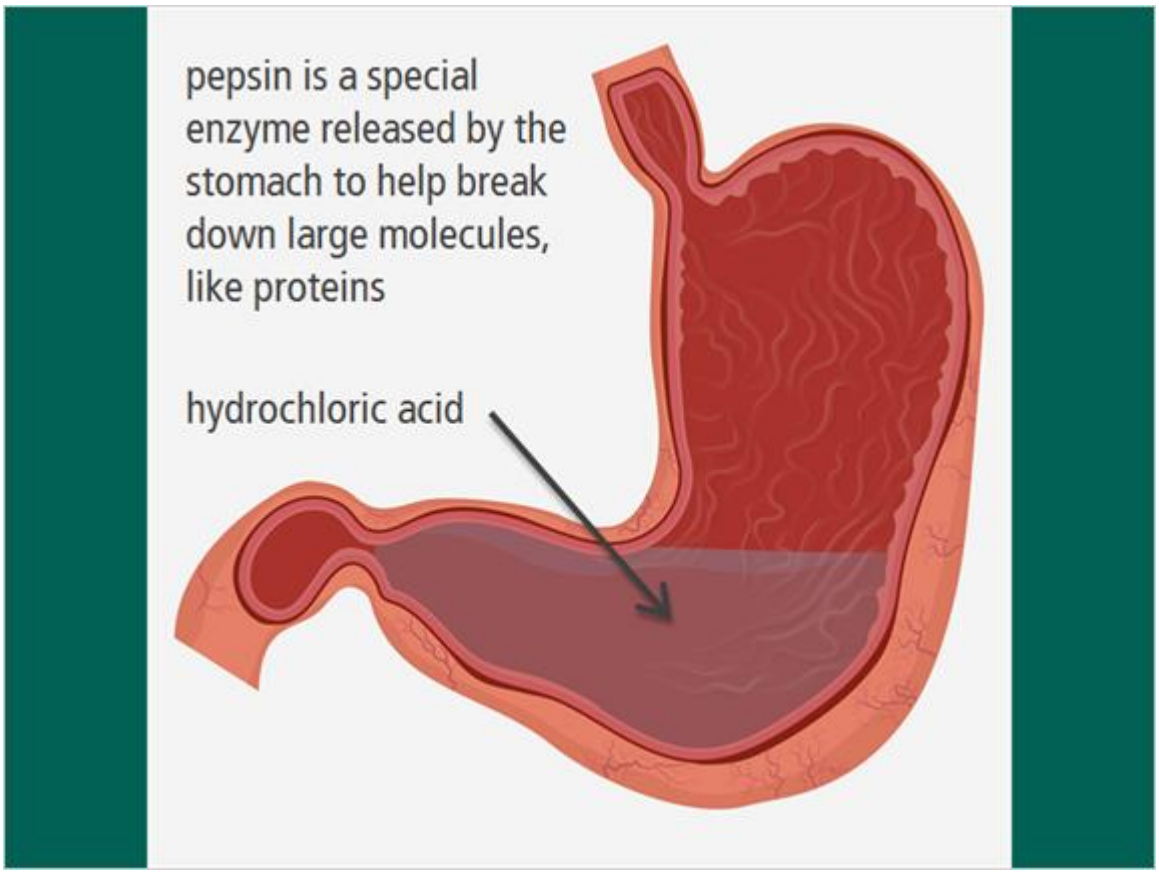
As you swallow your food, it passes through the pharynx, commonly referred to as the throat, and then travels down into the esophagus. The esophagus has a small, ring-like muscle, called the cardiac sphincter that allows food to pass into the stomach and prevents it from coming back out.

The Stomach



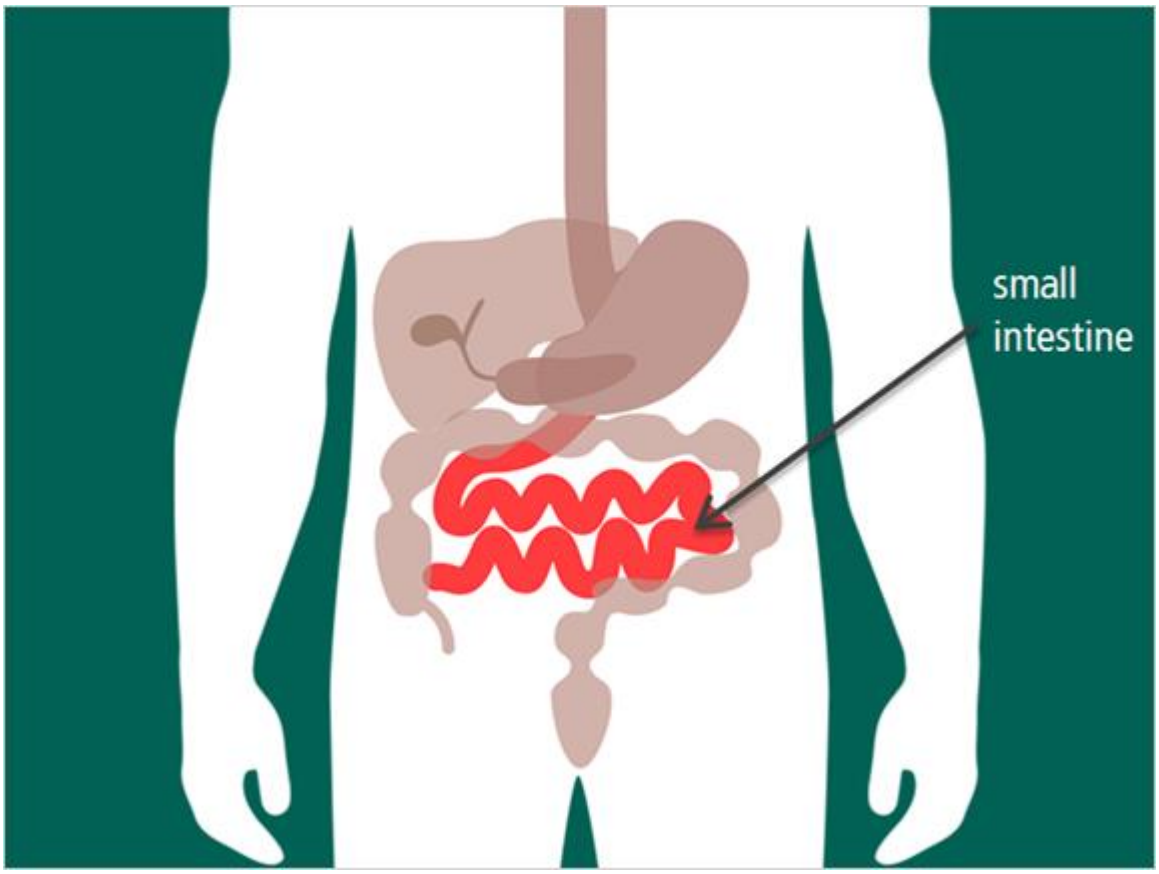
The stomach continues to break down your sandwich, mechanically through contractions, and chemically with digestive enzymes and acids.

The Stomach: Pepsin



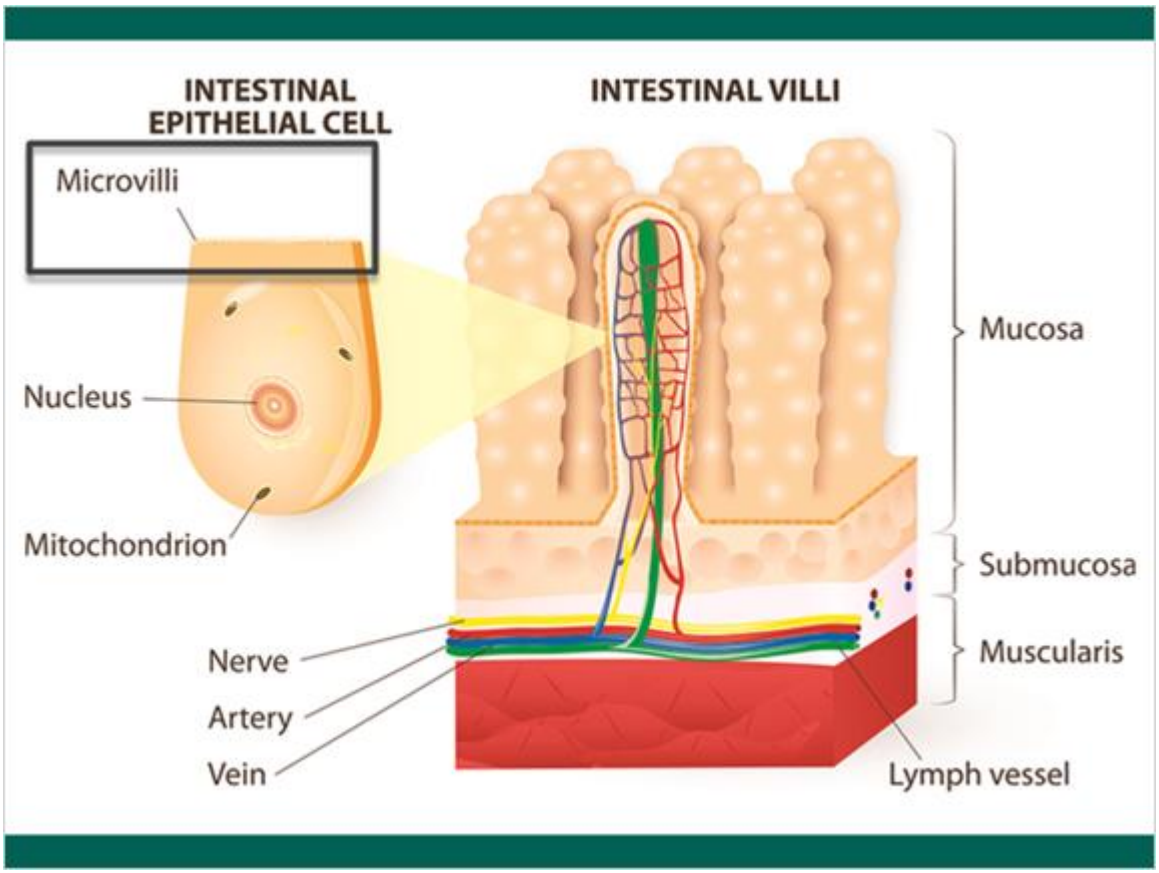
Pepsin is a special enzyme released by the stomach to help break down large molecules, like proteins. Pepsin works best in an acidic environment, which is great since the stomach environment is highly acidic due to the presence of hydrochloric acid.

The Small Intestine



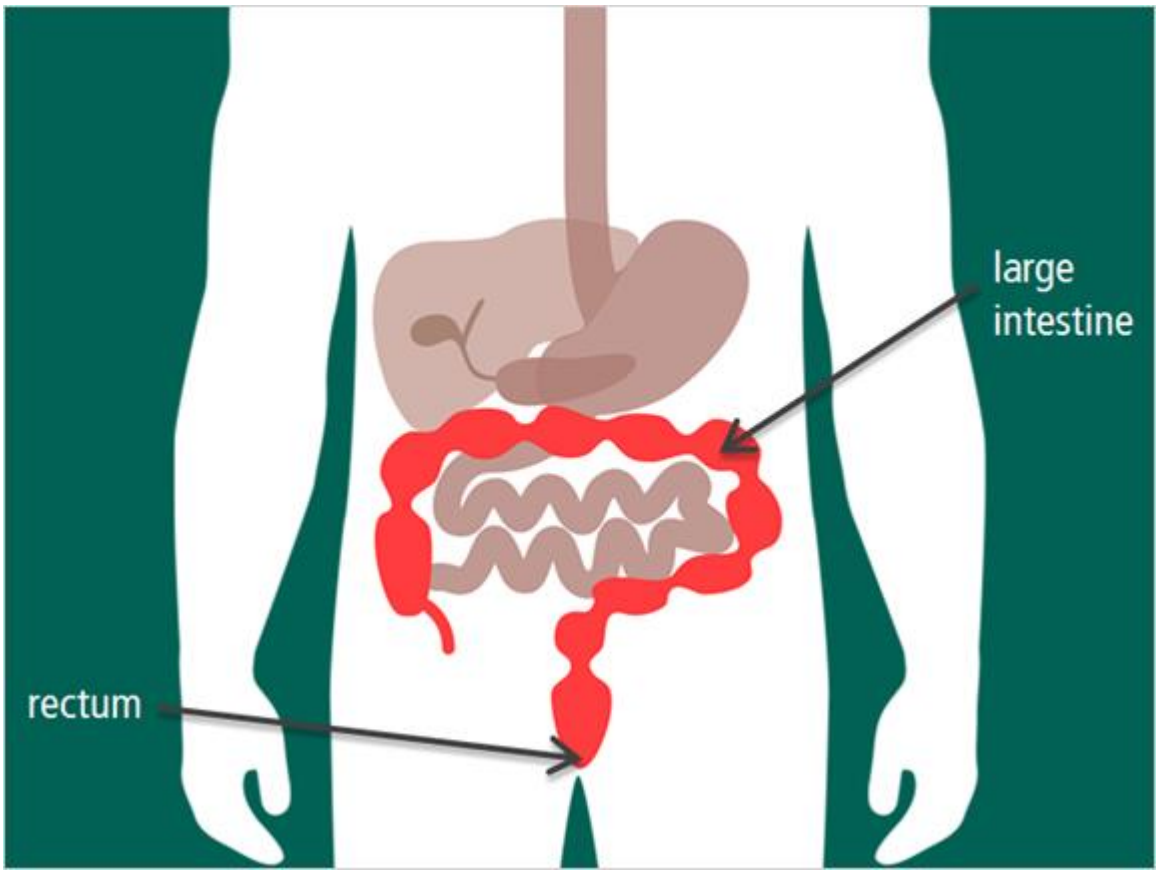
Once the sandwich is broken down into smaller nutrients for the body to absorb, it passes to the small intestine. Although referred to as the small intestine, this muscular tube is approximately six meters in length, which is about 20 feet.

The Small Intestine: Microvilli



Once your stomach has broken down your food into smaller nutrients, the nutrients are absorbed into the lining of the small intestine by small folds in the intestine called microvilli.

The Large Intestine



Once your sandwich passes through the small intestine, all of the nutrients have been absorbed, leaving only indigestible substances and water. These substances are then passed to your large intestine, which is about 1.5 meters, or five feet in length. The large intestine absorbs all of the water and passes the indigestible wastes through the rectum to be excreted from the body.