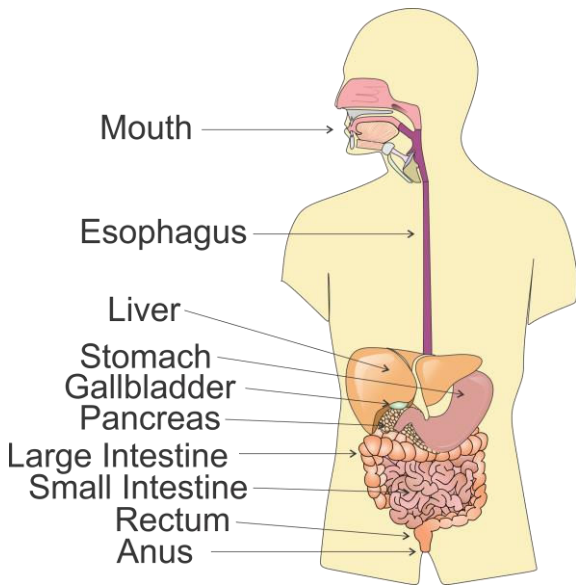


Human Body - Part I

Section 5: The Digestive System



The purpose of the **digestive system** is to disassemble the food we eat into molecules the body can use as energy. It also rids the body of waste. Digestion begins in the mouth and continues through the pharynx, to the esophagus, into the stomach, small intestine, and large intestine, and finally leaves the body through the anus. The liver, gallbladder, and pancreas also aid in the digestion process.

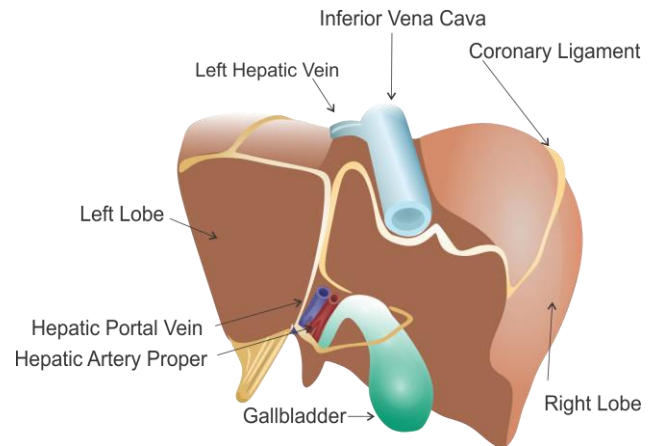
Digestion is the process of breaking down food. Both mechanical and chemical digestion begins in the mouth, where food breaks into molecules that can be absorbed. **Mechanical digestion** is where food is chewed, mixed, and churned. **Chemical digestion** begins in the mouth as saliva. It is the process of changing food on a molecular level through the action of enzymes or proteins that speed up chemical reactions in the body.

As food is chewed, it enters the body through the esophagus. The **esophagus** is a narrow, muscular tube that carries food from the throat to the stomach. Food travels through the body through waves of muscle contractions called **peristalsis**. It provides the force needed to move the food to the stomach. The **stomach** is found at the end of the esophagus. It has muscular walls that contract and relax and gastric juices that move the food around, breaking it into smaller pieces. The **small intestine** starts at the stomach and ends at the large intestine. Most chemical digestion takes place in the small intestine. Absorption of nutrients happens here too, and it is increased by **villi** or small projections that increase the surface area. The **large intestine** absorbs water from undigested chyme into the bloodstream. The remaining material is ready for elimination from the body.

Human Body - Part I

Section 5: The Digestive System Continued

The liver, gallbladder, and pancreas also aid in the digestion process. The **liver** has many essential functions in the body. Its main job is to filter blood from the digestive tract. It regulates the chemical levels in your blood and excretes **bile**, a substance that breaks up fat particles stored in the **gallbladder**. The **pancreas** produces enzymes that flow into the small intestine. It helps break down starches, proteins, and fats.



Review:

1. Compare chemical digestion to mechanical digestion.
2. Explain peristalsis.
3. What is the function of the small intestine?