

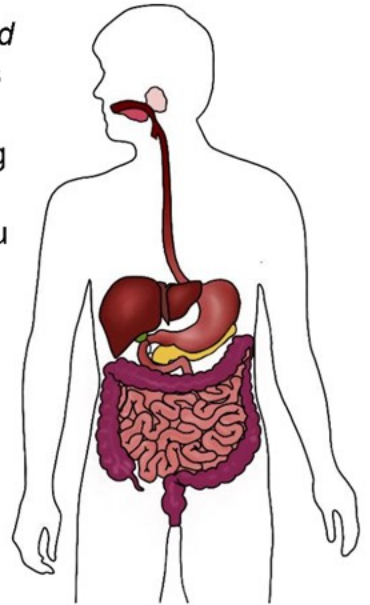
Name: KEY

The Digestive System

Introduction: The foods that we eat contain the nutrients that our body cells need to do their daily jobs, grow, and multiply. Nutrients such as carbohydrates, proteins, lipids, vitamins, minerals, and water are bound up in our food, though. How do we get these important nutrients out of our food and into our cells? That is the job of the digestive system! **Digestion** is the process of breaking down food into smaller molecules that the body can use.

The digestive system is broken down into two groups of organs: *organs that food enters* and *organs that food does not enter*. Organs that food physically passes through make up the **gastrointestinal tract**. The gastrointestinal tract is often referred to as the GI tract, digestive tract, or alimentary canal. This long, winding tube starts at the mouth and coils through the body, ending at the anus. In a living adult, this tract is usually between 16 and 23 feet! Think about how tall you are. Your gastrointestinal tract is more than three times your height! Organs included in the gastrointestinal tract are the mouth, pharynx, esophagus, stomach, small intestine, large intestine, rectum, and anus.

Organs that do not have food enter them (but help with digestion) are known as **accessory organs**. These organs *help* with the breakdown of food, but do not hold or contain food at any time. They aid digestion by creating chemicals or applying force to help break down food. The accessory organs include the teeth, tongue, salivary glands, liver, gallbladder, and pancreas.



Both accessory organs and the gastrointestinal tract are responsible for **chemical digestion** and **mechanical digestion**. In mechanical digestion, physical force is used to break down food. Examples of mechanical digestion include the teeth chewing or the stomach churning. In chemical digestion, enzymes are used to break down food. Many of these enzymes are produced in the accessory organs, such as the liver or pancreas. An example of chemical digestion would be salivary amylase (an enzyme in saliva) breaking down carbohydrates as you chew.

After food has been broken down into smaller units by chemical and mechanical digestion, **absorption** is able to occur. In the process of absorption, nutrients pass through the wall of the gastrointestinal tract into the bloodstream.

Lastly, **defecation** or **elimination** occurs when unabsorbed materials are eliminated from the body as feces. It takes food between 1 and 5 days to pass through the GI tract from mouth to anus.

1. What are 6 examples of nutrients that our cells need to grow, multiply, and complete their daily functions? Carbohydrates, proteins, lipids, vitamins, minerals, and water
2. What exactly is digestion? The process of breaking down food into smaller molecules that the body can use
3. What are the two groups of organs within the digestive system? Gastrointestinal tract & accessory organs (or organs that food enters and organs that food does not enter)
4. What is an example of mechanical digestion? Teeth chewing or stomach churning

5. What is an example of chemical digestion? Salivary amylase (enzyme in saliva) breaks down carbohydrates as you chew
6. After chemical and mechanical digestion have occurred, which process is able to happen? Absorption
7. Where do nutrients and other small molecules pass to as they are absorbed through the wall of the gastrointestinal tract? Bloodstream
8. What is the process called when “feces is eliminated from the body?” Defecation/elimination

Matching: Each statement describes either the **gastrointestinal tract** or the **accessory organs** of the digestive system. Put a checkmark in the box that each statement is describing.

Description	Gastrointestinal tract	Accessory organ	Not part of the digestive system!
Also known as the alimentary canal	X		
Pathway of organs that food passes through	X		
Organs that food does not pass through		X	
Also known as the digestive tract	X		
Also known as the urinary tract			X
16 to 23 feet	X		
5 to 10 feet			X
Includes the pancreas		X	
Includes the gallbladder		X	
Includes the large intestine	X		
Includes the pharynx	X		
Includes the liver		X	
Includes the small intestine	X		
Includes the stomach	X		
Includes the teeth		X	
Includes the mouth	X		
Includes the esophagus	X		
Includes the tongue		X	
Includes the salivary glands		X	
Includes the rectum	X		
Includes the esophagus	X		
Includes the anus	X		

Anatomy of the Digestive System

