

# The Digestive and Excretory Systems

Did you ever wonder who chooses the food served in your school cafeteria? Dietitians plan menus and supervise the cooking of food. They work in schools, hospitals, and company lunchrooms. Dietitians make sure the meals provide a balanced diet.

## Digestive System

Think about the different foods you ate yesterday.

Although foods contain many nutrients, your body must change the food before it can be used. The food must be broken down into different forms by the digestive system. The digestive system includes the mouth, pharynx, esophagus, stomach, large intestine, and small intestine.

Food enters your digestive system through the mouth. The teeth tear and crush the food into smaller pieces. The physical breakdown of food is called mechanical digestion. Saliva mixes with the food in the mouth. Saliva contains enzymes that break down certain food molecules. The breaking down of food into simpler molecules by enzymes is called chemical digestion.

From the mouth, the partly digested food enters the pharynx. The pharynx splits into two tubes, one side leads to the windpipe, or trachea. Air goes down this tube. When you swallow, a flap of tissue closes off the trachea. This ensures that food goes down the other tube, called the esophagus. The esophagus is a muscular tube that contracts. The wavelike contractions of the esophagus push food into the stomach.



## The Stomach

Both mechanical and chemical digestion takes place in the stomach. The stomach walls secrete gastric juices containing enzymes. The gastric juices continue the chemical digestion of food. Contractions of the muscular stomach walls mix food with the juices. This mechanically breaks down the food. As a result of these processes, food is turned into a thick liquid.

## The Intestines

The stomach muscles push the liquid from the stomach into the small intestine. Most of the chemical digestion of food occurs in the small intestine. In this organ, food mixes with a variety of enzymes. The cells that line the walls of the small intestine release some of the enzymes. Other enzymes in the small intestine are made in the pancreas and liver. The gallbladder stores the enzyme from the liver until it is needed.

Digestion in the small intestine changes food into substances that the body can use. These substances are ready to be absorbed into the bloodstream.

