

Lesson 3

Digestion and Excretion

Guide to Reading

● Building Vocabulary

Look for ways the words below are related. Keep these connections in mind as you read the lesson.

- digestion (p. 185)
- digestive system (p. 185)
- excretory system (p. 186)

● Focusing on the Main Ideas

In this lesson, you will learn to

- **explain** the parts and functions of the digestive system.
- **explain** the parts and functions of the excretory system.
- **apply** the skill of advocacy to promote ways to care for the digestive and excretory systems.

● Reading Strategy

Sequencing Create a flowchart that shows the path of food as your body digests it.

The Digestive System

As explained in Chapter 4, the foods you eat contain nutrients. Nutrients are substances that nourish and provide energy for the body. *The process by which your body breaks down food into small nutrient particles is called **digestion**. The body system that controls this process is the **digestive** (dy-JES-tiv) **system**.* The digestive system has eight main parts, which are shown in **Figure 7.6** on the next page. The arrow shows the order in which the different parts enter into the process of digestion.

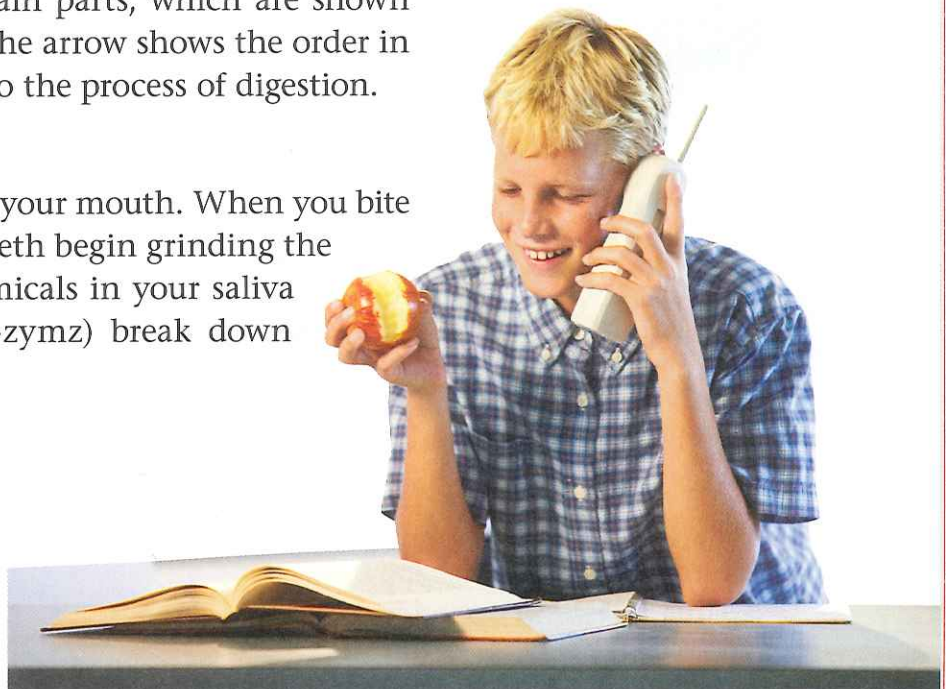
The Digestive Process

The digestive process begins in your mouth. When you bite into an apple, for example, your teeth begin grinding the bite of apple into small bits. Chemicals in your saliva (suh-LY-vuh) called *enzymes* (EN-zymz) break down the apple further.

- ▶ The process of digestion begins in your mouth. **How can eating healthy foods help your digestive system?**

Quick Write

Write a short paragraph explaining how you think digestion and excretion are related.



When you swallow, the crushed apple passes into your throat. Muscles contract and relax to push the fruit down the esophagus and into the stomach. The esophagus is a muscular tube that connects the mouth to the stomach. Strong acid, enzymes, and churning muscles in your stomach break down the food particles even further. The food particles move next into the small intestine. There, digestion breaks down the food particles into nutrients that are absorbed into the blood. The blood carries these nutrients throughout the body.

Reading Check Explain What are enzymes? What is their role?

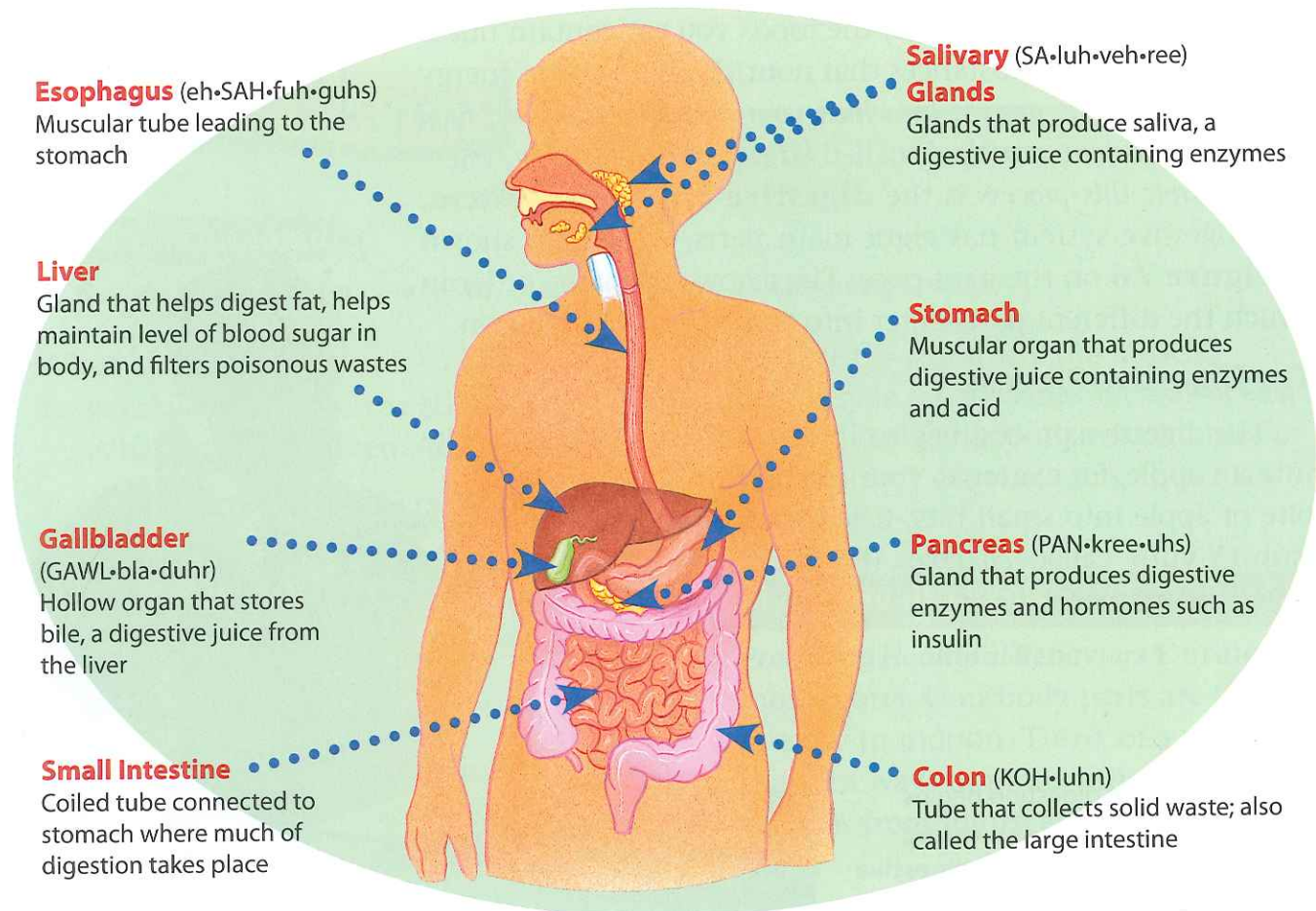
The Excretory System

Your **excretory** (EK-skruh-tohr-ee) **system** gets rid of some of the wastes your body produces and also maintains fluid balance. The parts of the apple that can't be absorbed through digestion

▼ FIGURE 7.6

THE DIGESTIVE PROCESS

The digestive system involves many different body parts. **Where does this process begin?**

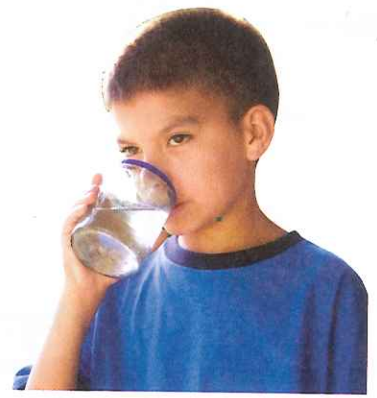


become waste and are excreted, or *removed*, from the body. Your respiratory system and skin are also part of the excretory system. The respiratory system gets rid of carbon dioxide when you exhale. Your skin releases liquid waste and salt in the form of sweat. Your body needs to get rid of wastes to remain healthy. If wastes are not removed, they can build up in the body and damage organs.

Parts of the Excretory System

The major organs of the excretory system are the colon, kidneys, and bladder. Food particles that can't be absorbed in the small intestine are sent to the colon. There, most of the water is removed and absorbed by the body. When the colon fills up, the brain sends a message to the muscles in the colon telling them to contract. This action removes solid waste from the body.

The kidneys have several jobs. They filter the blood, remove water and waste, and maintain the body's fluid balance. When your brain detects too much water in your blood, your kidneys remove the excess water as liquid waste. Liquid waste from the kidneys, or *urine* (YOO·rihn), is stored in the bladder. When the bladder is full, the urine is passed out of the body.



- ▲ Drinking water helps the digestive and excretory systems function. **What is another health benefit of drinking water each day?**



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Reading Check

List Name two organs of the excretory system.

Lesson 3 Review

After You Read

Review this lesson for new terms, major headings, and Reading Checks.

What I Learned

1. **Vocabulary** Define *digestion*, and use it in an original sentence.
2. **Recall** Once food is in the throat, how does it reach the stomach?
3. **List** Name two functions of the kidneys.

Thinking Critically

4. **Analyze** Do you think it would take your body longer to digest a large piece of food or one that has been cut into small pieces? Explain.

5. **Hypothesize** What do you think would happen if a person's kidneys were not working properly?

Applying Health Skills

6. **Advocacy** One way to maintain the health of the digestive system is to eat slowly. Research other ways to keep your digestive and excretory systems healthy. Make a list of your findings. Share this list with family members.