

CHAPTER 11

FOOD AND DIGESTION

SECTION **Food and Energy**
11-1 (pages 370-380)

This section tells about the six nutrients needed by the body. It also describes the Food Guide Pyramid and how to read labels on foods.

► **Why You Need Food** (pages 370-371)

1. What two things does food give to your body?
 - a. _____
 - b. _____
2. Is the following sentence true or false? Food is required for the body to maintain homeostasis, keeping a steady internal state. _____
3. The substances in food that give the raw materials and the energy needed by the body are called _____.
4. List the six kinds of nutrients that people need to stay healthy.
 - a. _____
 - b. _____
 - c. _____
 - d. _____
 - e. _____
 - f. _____
5. The amount of energy released by nutrients in the body is measured in units called _____.
6. Is the following sentence true or false? The more active you are, the more Calories you need. _____

► **Carbohydrates** (pages 371-372)

7. Carbohydrates are a major source of _____.

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8. Is the following sentence true or false? Carbohydrates are not needed for making new body cells. _____

Match the foods with the kinds of carbohydrates. Each kind of carbohydrate may be used more than once.

Foods	Kinds of Carbohydrates
_____ 9. fiber	a. Simple carbohydrate
_____ 10. glucose	b. Complex carbohydrate
_____ 11. starch	
_____ 12. sugar	

► **Fats** (page 373)

13. What are fats? _____

14. Circle the letter of the nutrient that provides the most energy.
a. glucose b. fats c. carbohydrates d. vitamins

15. List three jobs that fats have in the body.

a. _____

b. _____

c. _____

16. Complete the following table to compare the two kinds of fats.

Kinds of Fats		
Characteristics	Unsaturated Fats	Saturated Fats
Liquid or Solid		
Foods Found In		

17. Is the following sentence true or false? Cholesterol, a waxy, fatlike substance found only in animal products, is required in a balanced diet.

18. Circle the letter of the maximum amount of your daily Calorie intake that should come from fats.

- a. 12 percent b. 30 percent c. 50 percent d. 60 percent

► **Proteins (page 374)**

19. Nutrients that contain nitrogen, as well as carbon, hydrogen, and oxygen are called _____.

20. List three ways in which proteins are used by the body.

a. _____

b. _____

c. _____

21. Is the following sentence true or false? The body can make all of the amino acids it needs to make proteins. _____

Match the kind of protein with its characteristics. Each kind of characteristic may be used more than once.

Characteristics

Kinds of Proteins

_____ 22. Missing one or more essential amino acids

a. complete protein

_____ 23. Contains all the essential amino acids

b. incomplete protein

_____ 24. Comes from animal sources, such as meat and eggs

_____ 25. Comes from plant sources, such as grains and nuts

► **Vitamins (pages 374–376)**

26. What are vitamins? _____

CHAPTER 11, Food and Digestion (continued)

27. Circle the letter of each sentence that is true about vitamins.
- a. The body needs large amounts of vitamins.
 - b. Most people get the vitamins they need from foods.
 - c. If you eat a variety of foods, you will get enough of each vitamin.
 - d. Fat-soluble vitamins are stored in fatty tissues in the body.

► **Minerals** (page 376)

28. Nutrients that are not made by living things are called _____.
29. How do you get minerals into your diet? _____
- _____

Match the mineral with its function. See Figure 6 on page 512.

Minerals	Functions
_____ 30. iron	a. Needed for normal muscle and nerve function
_____ 31. fluorine	b. Helps maintain water balance
_____ 32. magnesium	c. Forms an important part of red blood cells
_____ 33. potassium	d. Helps form bones and teeth

► **Water** (page 377)

34. The most abundant substance in the body is _____.
35. Why is water the body's most important nutrient? _____
- _____
- _____

► **The Food Guide Pyramid** (pages 377–379)

36. How does the Food Guide Pyramid help you plan a healthy diet?
- _____
- _____

37. Which foods in the pyramid should make up the largest part of the diet?

38. The intake of foods in the _____ group should be limited.

► **Food Labels (pages 379–380)**

39. Is the following sentence true or false? All foods except meat, poultry, fresh vegetables, and fresh fruit must be labeled with nutrition information. _____

40. How are food labels useful? _____

41. The information on the food label, such as the number of Calories and the nutrient content, is based on the _____.

42. What does it mean when a food label shows that Calories is equal to 110?

43. What is the Percent Daily Value on a food label? _____

44. The food label lists the ingredients in the food in order by _____, starting with the main ingredient.

45. Why is it helpful to read the list of ingredients? _____

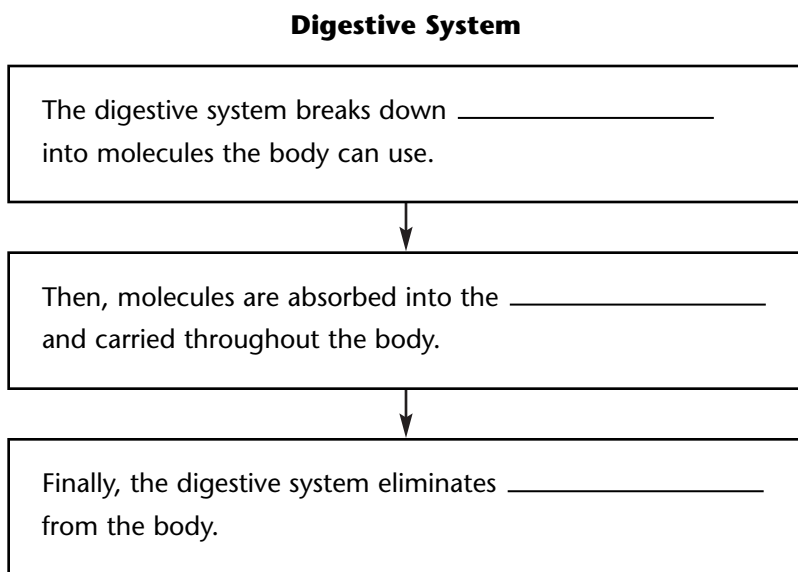
CHAPTER 11, Food and Digestion (continued)

SECTION **The Digestive Process Begins** **11-2** (pages 382-387)

This section explains what the digestive system does and describes the functions of the mouth, the throat, and the stomach.

► **Functions of the Digestive System** (pages 382-383)

1. Complete the flowchart to show the role of the digestive system.



2. What is digestion? _____

3. Is the following sentence true or false? In chemical digestion, foods are physically broken down into smaller pieces by chewing.

4. The process by which nutrient molecules pass through the wall of the digestive system and into the blood is called _____.
5. What happens to materials that are not absorbed? _____

► **The Mouth (page 384)**

6. The fluid released when your mouth waters is called _____.
7. Circle the letter of the object that begins the process of mechanical digestion in the mouth.
 - a. saliva b. teeth
 - c. enzymes d. mucus
8. What occurs during chemical digestion in the mouth? _____

► **The Esophagus (page 385)**

Match each term with its definition.

Terms	Definitions
_____ 9. epiglottis	a. A thick, slippery substance that makes food easier to swallow
_____ 10. esophagus	b. A flap of tissue that seals off the windpipe, preventing food from entering it
_____ 11. mucus	c. A muscular tube that connects the mouth to the stomach
_____ 12. peristalsis	d. Involuntary waves of muscle contraction that push food through the digestive system

13. _____ is a response that can remove harmful materials or disease-causing organisms from the body.

► **The Stomach (pages 386–387)**

14. Circle the letter of each sentence that is true about the stomach.
 - a. The stomach is a J-shaped muscular pouch in the abdomen.
 - b. Mechanical digestion does not occur in the stomach.
 - c. Digestive juice in the stomach contains an enzyme that breaks down proteins.
 - d. Hydrochloric acid in the stomach kills many bacteria that are swallowed with food.

CHAPTER 11, Food and Digestion (continued)

15. Give two reasons why the hydrochloric acid in the digestive juice does not damage the stomach.

a. _____

b. _____



Reading Skill Practice

Using the glossary is a quick way to look up the meanings of key terms in the textbook. The glossary is located in the back of your textbook, beginning on page 681. Make a list of the key terms in this section. Then use the glossary to write the definition for each. Do your work on a separate sheet of paper.



SECTION Final Digestion and Absorption **11-3** (pages 390-393)

This section describes the functions of the small and large intestines in digestion.

► The Small Intestine (pages 390-392)

1. What takes place in the small intestine? _____

2. List the three organs that produce the enzymes and secretions used in the small intestine.

a. _____ b. _____ c. _____

3. The largest and heaviest organ inside the body that is located in the upper part of the abdomen is the _____.

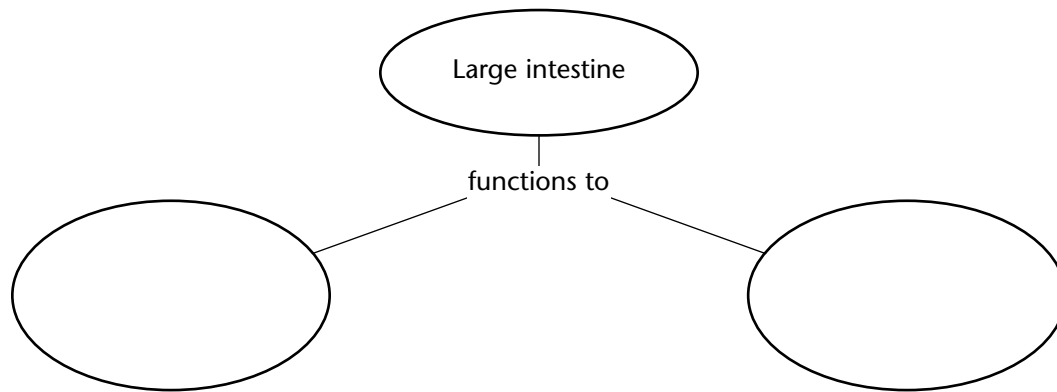
4. The liver produces a substance called _____, which breaks up fat particles.

5. Enzymes produced by the pancreas help break down _____, _____, and _____.
6. What is the role of fiber? _____

7. The tiny finger-shaped structures that cover the inner surface of the small intestine are called _____.
8. Is the following sentence true or false? Nutrient molecules pass from the small intestine into the bloodstream through the villi.

► **The Large Intestine (page 393)**

9. Is the following sentence true or false? The bacteria in the large intestine feed on the material passing through and make certain vitamins for the body. _____
10. Complete the concept map to show the role of the large intestine.



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11. The short tube at the end of the large intestine where waste material is compressed is called the _____.
12. Circle the letter of the muscular opening through which wastes are removed from the body.
- a. rectum b. anus c. pancreas d. villi

CHAPTER 11, Food and Digestion (continued)

WordWise

Answer the questions by writing the correct key term in the blanks. Use the circled letter in each term to find the hidden key term. Then write a definition for the hidden key term.

1. What is the triangular organ that lies between the stomach and the first part of the small intestine and produces enzymes that help break down starches, proteins, and fats?

— — Q — — — — —

2. What is a thick, slippery substance produced by the body that makes food move more easily through the digestive system?

— — — Q —

3. What nutrient acts as a helper molecule in many different chemical reactions within the body?

— — Q — — — — —

4. What is the process by which nutrient molecules pass through the wall of the digestive system into the blood?

— — — — Q — — — — —

5. What fluid is released when your mouth waters?

— — — Q — —

6. What is the organ that stores bile until it is needed in the small intestine?

— — — — — — — — — — Q —

7. What is a protein that speeds up chemical reactions in the body?

— Q — — — — —

8. What is a fat that is usually solid at room temperature and is found in meat, dairy products, and egg yolks?

— — Q — — — — — — — — — —

Key Term: — — — — — — — — —

Definition: _____
