

## Chapter 16 Food and Digestion

### Study Guide

#### 1. Food and Energy

##### a. Why You Need Food

###### i. **Nutrients**

###### ii. **Calorie**

##### b. **Carbohydrates**

###### i. Simple Carbohydrates

###### 1. **Glucose**

###### ii. Complex Carbohydrates

###### 1. **Fiber**

##### c. **Fats**

###### i. **Unsaturated Fates**

###### ii. **Saturated Fats**

###### iii. **Cholesterol**

##### d. **Proteins**

###### i. **Amino Acids**

###### ii. Complete and Incomplete Proteins

##### e. **Vitamins**

##### f. **Minerals**

##### g. **Water**

##### h. **The Food Pyramid**

##### i. **Food Labels**

###### i. **Serving Size**

###### ii. **Calories from Fat**

###### iii. **Daily Values**

###### 1. **Percent Daily Value**

###### iv. **Ingredients**

#### 2. The Digestive Process Begins

##### a. Functions of the Digestive System

###### i. **Digestion**

###### ii. **Absorption**

b. **The Mouth**

- i. **Saliva**
- ii. **Mechanical Digestion**
- iii. **Chemical Digestion**

1. **Enzyme**

c. **The Esophagus**

- i. **Epiglottis**
- ii. **Mucus**
- iii. **Peristalsis**

d. **The Stomach**

3. **Final Digestion and Absorption**

a. **The Small Intestine**

- i. **The Role of the Liver**
  - 1. **Bile**
  - 2. **Gallbladder**
- ii. **Help From the Pancreas**
- iii. **Absorption in the Small Intestine**
  - 1. **Villi**

b. **The Large Intestine**

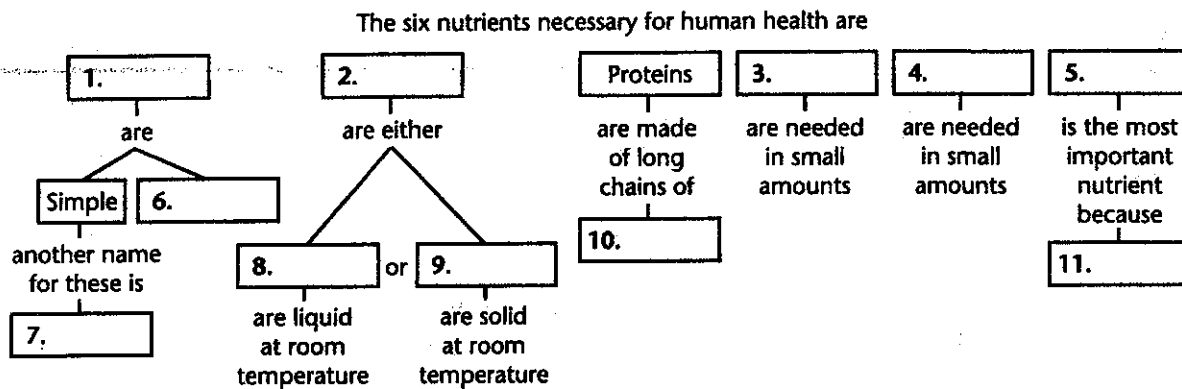
- i. **Rectum**
- ii. **Anus**

**SECTION 16-1 REVIEW AND REINFORCE**

**Food and Energy**

**◆ Understanding Main Ideas**

Fill in the blanks in the concept map below.



Answer the following questions in the spaces provided.

12. Nutrients provide two things that are necessary for body processes. What are these two things?

---



---

13. What is the difference between a calorie and a Calorie?

---



---

**◆ Building Vocabulary**

Answer the following questions in the spaces provided.

14. What is the Food Guide Pyramid used for?

---



---



---

15. What is a Percent Daily Value?

---



---



---

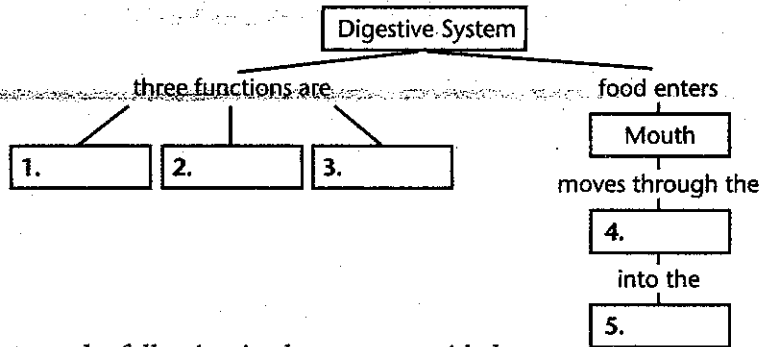
**SECTION 16-2**

**REVIEW AND REINFORCE**

# The Digestive Process Begins

## ◆ Understanding Main Ideas

Fill in the blank rectangles to complete this concept map.



Answer the following in the space provided.

6. Explain the difference between mechanical digestion and chemical digestion.

---



---

## ◆ Building Vocabulary

Fill in the space to complete each sentence.

7. When you swallow food, a flap of tissue called the \_\_\_\_\_ seals off your windpipe.
8. \_\_\_\_\_ is a thick, slippery substance that lines the esophagus.
9. The process of \_\_\_\_\_ involves the movement of nutrients through the wall of your digestive system into your blood.
10. Involuntary waves of muscle contractions that keep food moving in one direction through the digestive system are called \_\_\_\_\_.
11. Most mechanical digestion occurs in the \_\_\_\_\_.
12. The \_\_\_\_\_ connects the mouth and the stomach.
13. In your mouth, \_\_\_\_\_ mixes with food to moisten it.
14. The process of breaking down food into small nutrient molecules is called \_\_\_\_\_.
15. A protein that speeds up chemical reactions in the body is a(n) \_\_\_\_\_.  
Chemical digestion is accomplished by these proteins.

**SECTION 16-3 REVIEW AND REINFORCE**

# Final Digestion and Absorption

## ◆ Understanding Main Ideas

Place a check mark in the correct column.

	Small Intestine	Large Intestine
1. Contains bacteria that feed on material passing through.		
2. Most absorption of nutrients occurs here.		
3. Is lined with villi.		
4. Is directly attached to the stomach.		
5. Prepares wastes for elimination from the body.		
6. Most chemical digestion occurs here.		
7. Receives bile and enzymes from other organs.		
8. Is the last section of the digestive system.		

Answer the following questions on the back of this sheet.

- 9. What happens to the water contained in the materials that pass into the large intestine?
- 10. How does fiber aid digestion?

## ◆ Building Vocabulary

Match each term with its function by writing the letter of the correct function on the line beside the term.

- |                       |  |
|-----------------------|--|
| _____ 11. liver       | a. stores bile   |
| _____ 12. gallbladder | b. tiny finger-shaped structure in which absorption occurs         |
| _____ 13. pancreas    | c. solid wastes exit the body through this opening                 |
| _____ 14. rectum      | d. produces bile   |
| _____ 15. anus        | e. structure in which waste material is compressed into solid form |
| _____ 16. bile        | f. produces enzymes that flow into the small intestine             |
| _____ 17. villus      | g. breaks up fat molecules   |

© Prentice-Hall, Inc.

Name: \_\_\_\_\_

Class: \_\_\_\_\_

Choose the letter of the correct answer.

1. What carbohydrate helps your digestive system function even though your body cannot digest it?  
[A] glucose                      [B] fiber                      [C] starch                      [D] cholesterol
2. Which of these foods contains a large amount of carbohydrates?  
[A] poultry                      [B] oil                      [C] fish                      [D] fruit
3. If a person can select only one kind of nutrient during a period of emergency, what should the person choose?  
[A] proteins                      [B] vitamins                      [C] carbohydrates                      [D] water
4. About how much water does the human body normally need in a day?  
[A] half a liter                      [B] one liter                      [C] ten liters                      [D] two liters
5. Which of the following are NOT among the six nutrients needed by the body?  
[A] minerals                      [B] water                      [C] fats                      [D] enzymes
6. Nutritionists place certain foods at the top of the Food Guide Pyramid to indicate that  
[A] these foods are not easily digested.  
[B] foods from this group should be included with every meal.  
[C] people should eat very small amounts from this group.  
[D] people should make most of their food choices from this group.
7. What organ produces bile?  
[A] small intestine                      [B] stomach                      [C] liver                      [D] pancreas
8. Each food label lists the total number of Calories and also the number of Calories that come from  
[A] protein.                      [B] sugar.                      [C] fat.                      [D] cholesterol.
9. On a food label, how many Calories per day are used as the standard to determine the Percent Daily Value?  
[A] 20,000                      [B] 1,000                      [C] 100                      [D] 2,000
10. Which nutrient is needed for all body processes to take place?  
[A] vitamins                      [B] carbohydrates                      [C] water                      [D] fats

Choose the letter of the correct answer.

11. What substance coats and protects the inside of the stomach?  
[A] pepsin                      [B] mucus                      [C] bile                      [D] saliva
12. According to the Food Guide Pyramid, which group should make up the largest part of a person's diet?  
[A] fruits    [B] fats, oils, and sweets  
[C] milk, yogurt, and cheese                      [D] bread, cereal, rice, and pasta
13. Which of the following is NOT a function of the digestive system?  
[A] breaking down food into molecules that the body can use  
[B] eliminating undigested wastes from the body  
[C] absorbing food molecules into the blood  
[D] preventing disease

Fill in the word or phrase that best completes the statement(s).

14. Chemical digestion in the stomach is helped by the strong acid called \_\_\_\_\_ acid.
15. Enzymes are proteins that help in the kind of digestion called \_\_\_\_\_ digestion.
16. Nutrient molecules pass from the small intestine into the bloodstream through tiny structures called \_\_\_\_\_.
17. Potatoes and rice are sources of \_\_\_\_\_ carbohydrates, which are made of sugar molecules linked in a chain.
18. Nutrients that are needed for tissue growth and repair, can serve as an energy source, and take part in chemical reactions within cells are known as \_\_\_\_\_.
19. The energy in food is measured in units called \_\_\_\_\_.

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.

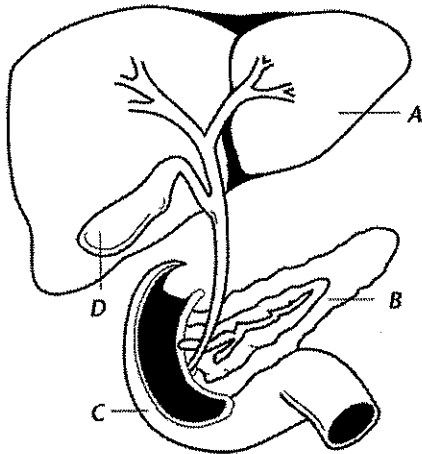
20. Nutrients that are needed in small amounts to act as helper molecules in a variety of chemical reactions in the body are called carbohydrates.
21. Most chemical digestion takes place in the small intestine.

If the statement is true, write true. If it is false, change the underlined word or words to make the statement true.

22. Food is pushed through the esophagus to the stomach by the waves of muscle contraction known as absorption.
23. The breakdown of complex food molecules into simpler ones is chemical digestion.
24. The most important nutrient is protein.

Use the diagram to answer the question(s).

***Digestion and Absorption***

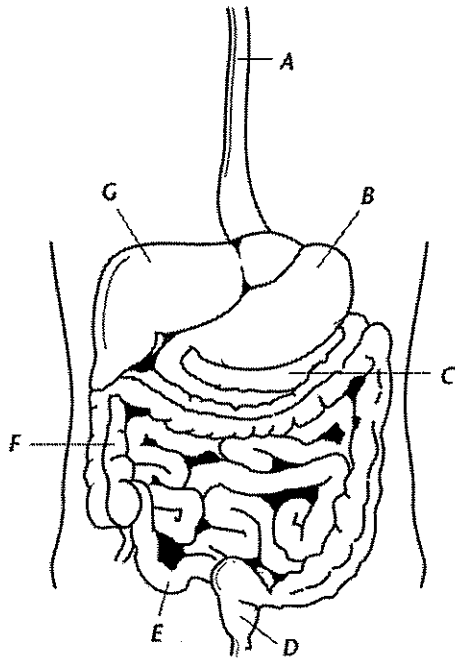


25. Identify organ D and give its function.
26. Give the letter and name of the organ through which food is absorbed.



Use the diagram to answer the question(s).

### **The Digestive System**



27. What is the name and function of organ A?
28. What is peristalsis? Give the letter(s) of the organ(s) in which it occurs.

Write an answer to the following question(s).

29. Explain how your mouth helps to digest food.
30. Identify two chemicals in digestive juice in the stomach and explain what they do.