

CHAPTER REVIEW

Know the Terms

Select the most appropriate words from the following list to complete the paragraph.

- | | | |
|-------------|------------|--------------|
| respiration | biology | aerobic |
| synthesis | metabolism | homeostasis |
| cells | energy | organism |
| anaerobic | nutrition | reproduction |

(1) is the study of living things. Anything that is living is called a/an (2), which is composed of one or more (3) and utilizes (4) to maintain its organization and carry out normal functions. This is derived through the process of (5). There are two forms of this in living organisms. One type requires the use of oxygen and is called (6). (7) respiration does not require oxygen. The total of all chemical reactions within an organism is called (8). Some of these reactions involve building more complex molecules from less complex ones. This is called (9). In all cases, however, the organism is trying to maintain a constant internal environment, called (10).

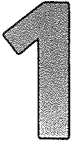
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Match the word with the correct definition.

- | | |
|------------------------|-------------------------|
| a. nutrients | f. life |
| b. regulation | g. transport |
| c. excretion | h. growth |
| d. sexual reproduction | i. assimilation |
| e. ingestion | j. asexual reproduction |

- | | |
|--|-----------|
| 11. taking in food | 11. _____ |
| 12. reproduction involving only one parent | 12. _____ |
| 13. removal of wastes from an organism | 13. _____ |
| 14. the passing of substances into or out of cells or circulation within an organism | 14. _____ |
| 15. incorporation of materials into an organism | 15. _____ |
| 16. reproduction involving two parents | 16. _____ |
| 17. the process by which living organisms increase in size | 17. _____ |
| 18. all activities that help maintain homeostasis | 18. _____ |
| 19. quality distinguishing organisms from inorganic materials | 19. _____ |
| 20. substances an organism takes from its environment | 20. _____ |

CHAPTER REVIEW



Understand the Concepts

Answer the following questions in one or two sentences.

1. You dissolve sugar in water, evaporate the water, and grow a crystal of highly organized sugar molecules. Energy holds the molecules together in a definite form and size. You drop the crystal, and it breaks. You have changed it into two crystals. Eventually you eat it, and it is gone. In one sentence explain why you think it was or was not alive. _____

2. Why must foods be digested? _____

3. Why do complex organisms need transport systems? _____

4. What is the purpose of ^{cellular} respiration in living organisms? _____

5. How are the processes of synthesis and assimilation related? _____

6. How do living organisms grow? _____

7. Where do wastes come from? _____

8. How do the nervous, endocrine, and excretory systems contribute to homeostasis in animals? _____

9. In what way is reproduction important to living organisms? _____

10. What is metabolism? _____

TEST**Part A****MATCHING QUESTIONS**

From the list below, select the term that best fits each of the following descriptions. Each term may be used more than once, but there is only one correct answer for each question.

- | | |
|--------------------|------------------|
| a. differentiation | g. transport |
| b. growth | h. transpiration |
| c. assimilation | i. reproduction |
| d. regulation | j. respiration |
| e. egestion | k. metabolism |
| f. homeostasis | i. synthesis |

- | | |
|--|--------------------|
| 1. incorporation of materials into the body | 1. ____ |
| 2. specialization of cells | 2. ____ |
| 3. stabilized internal environment | 3. ____ |
| 4. sum of all chemical reactions occurring within cells | 4. ____ |
| 5. formation of complex substances from simple ones | 5. ____ |
| 6. discharge of undigested material from the digestive tract | 6. ____ |
| 7. function of the circulatory system | 7. ____ |
| 8. increase in the size and/or number of cells | 8. ____ |
| 9. movement of substances from the roots to the leaves | 9. ____ |
| 10. process that in animals is accomplished by the nervous, endocrine, and excretory systems | 10. ____ |

MULTIPLE-CHOICE QUESTIONS

Select the lettered choice that best fits each question or statement. In each case, there is only one correct choice.

- | | |
|---|---------------------------------|
| 11. Biology is the study of | 11. ____ |
| a. animals only | c. plants |
| b. small living things only | d. all living things |
| 12. Viruses are examples of | 12. ____ |
| a. nonliving particles | c. types of bacteria |
| b. living organisms | d. difficult things to classify |
| 13. Which of the following is NOT a characteristic of organisms? | 13. ____ |
| a. reproduction | c. growth |
| b. unlimited size | d. energy use |
| 14. Substances that organisms obtain from the environment and use for energy, growth, repair, or maintenance are called | 14. ____ |
| a. cells | c. nutrients |
| b. seeds | d. hormones |
| 15. One of the most remarkable aspects of biology is NOT the diversity of life but its | 15. ____ |
| a. fragility | c. uniqueness |
| b. smallness | d. unity |

Part B-1**MULTIPLE-CHOICE QUESTIONS (continued)**

16. The elimination of waste substances from an organism is called 16. ____
a. metabolism c. growth
b. excretion d. osmosis
17. Which of the following systems uses hormones as chemical messengers? 17. ____
a. nervous c. excretion
b. skeletal d. endocrine
18. The release of chemical energy is called 18. ____
a. transpiration c. respiration
b. assimilation d. anabolism
19. One distinction between growth in plants and animals is that 19. ____
a. only animals increase in size
b. only animal cells increase in number
c. only plants have the ability to grow indefinitely
d. only plant cells become specialized
20. Which of the following systems is NOT found in a plant? 20. ~~____~~
a. nervous c. endocrine
b. excretion d. transport
21. Which of the following statements is TRUE for respiration? 21. ____
a. Respiration involves one simple reaction.
b. Sugar is the only food substance that is broken down.
c. Some organisms can respire without breaking down food.
d. Organisms cannot survive without a constant supply of energy.
22. The process of differentiation is the 22. ~~____~~
a. specialization of cells for specific functions
b. regulation of a constant internal environment
c. incorporation of new materials into an organism
d. reproduction between identical parents
23. Growth, reproduction, and nutrition are all examples of 23. ____
a. organisms c. organ systems
b. life processes d. cells

SHORT-ANSWER QUESTIONS

In one or two complete sentences, answer the following questions on a separate sheet of paper.

- ~~24. What are the differences between sexual and asexual reproduction?~~
25. What is the relationship between respiration and nutrients?
26. What are the two basic types of nutrition?

ESSAY QUESTION

In one or two paragraphs, answer the following question on a separate sheet of paper.

- ~~27. Briefly explain cellular specialization and its relation to growth. Give some examples.~~

MULTIPLE-CHOICE QUESTIONS (continued)

16. Which of the following may NOT clearly be classified as living? 16. ____
 a. bacteria c. plant seeds
 b. weeds d. garden flowers
17. Which of the following statements is TRUE for respiration? 17. ____
 a. Respiration involves one simple reaction.
 b. Sugar is the only food substance that is broken down.
 c. Some organisms can respire without breaking down food.
 d. Organisms cannot survive without a constant supply of energy.
18. Which organisms have the ability to make their own food? 18. ____
 I. green plants II. bacteria III. animals
 a) I only c) I and II only
 b) II only d) I, II, and III
19. Asexual reproduction 19. ____
 a. involves two parents
 b. results in offspring identical to the parent
 c. is necessary for the continued life of the organism
 d. occurs in all organisms
20. Carbon dioxide and water are 20. ____
 a. needed for aerobic respiration
 b. needed for anaerobic respiration
 c. produced during aerobic respiration
 d. not associated with the respiration process
21. Which of the following statements about hormones is NOT correct? 21. ____
 a. They are produced in a number of organs.
 b. They are chemicals.
 c. They help maintain an organism's homeostasis.
 d. They are only produced in response to changes in an organism's internal environment.
22. Anaerobic respiration occurs in the absence of 22. ____
 a. oxygen c. water
 b. hormones d. carbon dioxide

SHORT-ANSWER QUESTIONS

In one or two complete sentences, answer the following questions on a separate sheet of paper.

23. What is the relationship between synthesis and assimilation?
 24. How would one determine whether something was living or nonliving?
~~25. Contrast the two types of reproduction.~~

ESSAY QUESTIONS

In one or two paragraphs, answer the following questions on a separate sheet of paper.

26. Discuss how the digestive, transport, and excretory systems are involved in homeostasis.
 27. Describe the two basic types of nutrition, and give an example of organism that uses each type.