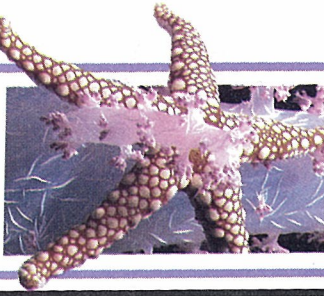


# Chapter Review



## Study Outline

### 1–1 Understanding Life

- Biology is the study of living things.
- Major unifying themes link biology to other sciences.
- All living things share certain characteristics that distinguish them from nonliving things.
- Some things, such as viruses, are difficult to classify as either living or nonliving.

### 1–2 Life Processes

- The function of many life processes is to maintain homeostasis, a constant internal environment.
- All living things carry on certain life processes that are characteristic of life. These processes include nutrition, transport, respiration, synthesis and assimilation, growth, excretion, regulation, and reproduction.
- Metabolism includes all the chemical reactions occurring within the cells of an organism.

## Vocabulary Review

biology (3)	synthesis (7)
organism (4)	assimilation (7)
homeostasis (6)	growth (7)
nutrition (6)	excretion (7)
nutrients (6)	regulation (7)
ingestion (6)	reproduction (8)
digestion (6)	asexual reproduction (8)
transport (6)	sexual reproduction (8)
respiration (6)	metabolism (8)

### A. Sentence Completion—Fill in the vocabulary term that best completes each statement.

1. Organisms need \_\_\_\_\_ for energy, growth, repair, or maintenance.
2. In \_\_\_\_\_, a single organism produces offspring identical to itself.

3. Organisms release chemical energy by the process of \_\_\_\_\_.
4. Substances are incorporated into the body by the process of \_\_\_\_\_.
5. \_\_\_\_\_ is the removal of cellular wastes from the body.
6. Simple substances are combined chemically into more complex substances by \_\_\_\_\_.
7. \_\_\_\_\_ is the process by which substances enter and leave cells and are distributed among the cells of an organism.
8. Individual living things are referred to as \_\_\_\_\_.

### B. Matching—Select the vocabulary term that best matches each definition.

9. The process of maintaining homeostasis
10. The study of living things
11. An increase in size
12. To take in food from the environment
13. The process by which two parents produce offspring
14. The condition of a constant internal environment
15. The chemical reactions occurring in the cells of an organism

## Content Review

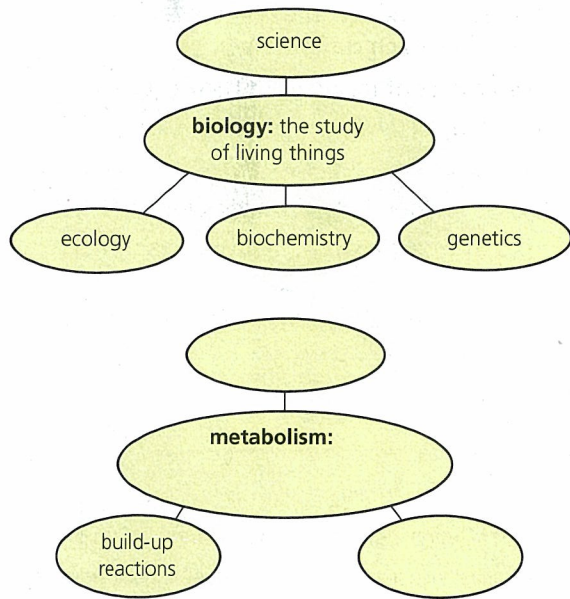
16. List the nine characteristics of living things.
17. Why are viruses difficult to place in the category of living things?
18. How does nutrition in green plants differ from nutrition in animals?
19. Explain the relationship between the processes of ingestion and digestion.
20. Explain how nutrients are related to respiration.
21. How does aerobic respiration differ from anaerobic respiration?
22. In animals, what materials are used in synthesis?

3. Discuss the relationship between growth and assimilation.
4. How does growth occur in multicellular organisms?
5. How does the excretory system help to maintain homeostasis in the body?
5. Describe the difference in function between the nervous system and the endocrine system.
7. Compare the appearance of a parent with its offspring produced by asexual reproduction.
3. Describe the two opposing processes that occur in metabolism.

### Graphic Organizing

For information on graphic organizers, see Appendix G at the back of this text.

9. **Word Map:** Copy the incomplete word map for *metabolism* onto a piece of paper. Then complete it, using the word map for *biology* as a model.



### Critical Thinking

1. List four ways in which an automobile is like a living thing. (*Comparing and Contrasting*)
1. List four ways in which an automobile is **not** like a living thing. (*Comparing and Contrasting*)
2. Would you classify a virus as living or nonliving? Explain the reasons for your classification. (*Classifying*)

### Creative Thinking

33. A "computer virus" is a program that can reproduce itself inside a computer. In time, it can grow and evolve. Is a computer virus alive? Why or why not?
34. The unmanned Viking space probe that was sent to Mars checked for signs of life on the planet. How could such a probe confirm the existence of life?

### Problem Solving

35. Design a simple experiment to determine if seeds that have been stored for many years are viable.
36. Baby chickens require a constant source of food. As chicks grow, more energy is needed for daily activities. The following table gives the grams of food eaten by a chick over a five day period.

Number of Days	Food Eaten (grams)
0	0.0
1	1.0
2	3.2
3	6.5
4	10.6
5	15.4

On a separate piece of paper construct a line graph using this data. Based on your graph, predict the amount of grain that will be eaten by the chick on the sixth and seventh day.

### Projects

37. Prepare a collection of various small organisms. Collect and place each one in a separate clean jar with several leaves of vegetation. Moisten the leaves with a few drops of water every day. Poke holes in the top of each jar for ventilation. Refer to field guides in your school library to classify the organisms. Then, label each jar with the name of the organism. Ask your teacher if you may display the collection in the classroom.

38. National park rangers have a variety of duties, including protecting inhabitants of the park and teaching visitors about the park and its many plants and animals. In a written report, explain why a national park ranger must be familiar with the characteristics of life and the life processes.