

Chapter 14

The History of Life

Reinforcement and Study Guide

Section 14.1 The Record of Life

In your textbook, read about the early history of Earth.

For each statement below, write **true** or **false**.

- _____ 1. Earth is thought to have formed about 4.6 billion years ago.
- _____ 2. The conditions on primitive Earth were very suitable for life.
- _____ 3. Geological events on Earth set up conditions that would play a major role in the evolution of life on Earth.
- _____ 4. Violent rainstorms beginning 3.9 million years ago formed Earth's oceans.
- _____ 5. The first organisms appeared on land between 3.9 and 3.5 billion years ago.

In your textbook, read about a history in the rocks.

For each statement in Column A, write the letter of the matching item in Column B.

Column A

Column B

- | | |
|---|---------------------|
| _____ 6. A footprint, trail, or burrow, providing evidence of animal activity | a. petrified fossil |
| _____ 7. A fossil embedded in tree sap, valuable because the organism is preserved intact | b. imprint |
| _____ 8. An exact stone copy of an original organism, the hard parts of which have been penetrated and replaced by minerals | c. trace fossil |
| _____ 9. Any evidence of an organism that lived long ago | d. cast |
| _____ 10. The fossil of a thin object, such as a leaf or feather, that falls into sediments and leaves an outline when the sediments hardened | e. amber-preserved |
| _____ 11. An empty space left in rock, showing the exact shape of the organism that was buried and decayed there | f. fossil |
| _____ 12. An object formed when a mold is filled in by minerals from the surrounding rock | g. mold |

Chapter

14

The History of Life, *continued*

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Section 14.1 The Record of Life,
continued

In your textbook, read about the age of a fossil.

Answer the following questions.

13. Explain how relative dating works.

14. What is the limitation of relative dating?

15. What dating technique is often used by paleontologists to determine the specific age of a fossil?

16. How do scientists use this dating technique to determine the ages of rocks or fossils?

In your textbook, read about a trip through geologic time.

Complete the table by checking the correct column for each statement.

Statement	Era			
	Pre-Cambrian	Paleozoic	Mesozoic	Genozoic
17. The first photosynthetic bacteria form dome-shaped structures called stromatolites.				
18. Primates evolve and diversify.				
19. Divided into three periods: Triassic, Jurassic, and Cretaceous				
20. An explosion of life, characterized by the appearance of many types of invertebrates and plant phyla				
21. Mammals appear.				
22. Dinosaurs roam Earth, and the ancestors of modern birds evolve.				
23. Flowering plants appear.				
24. Amphibians and reptiles appear.				