

# Directed Reading A (Lesson 6-1)

## Section: Earth's Story and Those Who First Listened

### THE PRINCIPLE OF UNIFORMITARIANISM

Write the letter of the correct answer in the space provided.

- \_\_\_\_\_ 1. Who is responsible for outlining the principle now called uniformitarianism?
- Albert Einstein
  - James Hurst
  - James Hutton
  - Charles Lyell
- \_\_\_\_\_ 2. The principle of uniformitarianism states that
- the geologic processes once at work are now changing.
  - Earth changes only at certain times and only after certain events.
  - Earth is uniform and unchanging; it has always been as it is now.
  - the same geologic processes have been at work throughout Earth's history.
3. Which of the following processes was NOT observed by Hutton when he developed the idea of uniformitarianism?
- Rivers carry rock particles upstream.
  - In time, new rock will be raised and create new landforms.
  - Rock particles are deposited and form new layers of sediment.
  - Rock is broken down into smaller particles.

Match the correct description with the correct term. Write the letter in the space provided.

- |  |                      |
|--|----------------------|
| _____ 4. the principle that states that past geologic processes can be explained by current geologic processes | a. James Hutton      |
| _____ 5. the principle that states that geologic change occurs suddenly  | b. catastrophism     |
| _____ 6. rare, sudden events that cause change   | c. Charles Lyell     |
| _____ 7. the author of <i>Theory of the Earth</i>  | d. catastrophes      |
| _____ 8. the author of <i>Principles of Geology</i>  | e. uniformitarianism |

Directed Reading A *continued*

---

**MODERN GEOLOGY—A HAPPY MEDIUM**

9. During the late 20th century, scientists challenged uniformitarianism again. What do these scientists believe about catastrophes?

---

---

---

10. What present-day evidence suggests that the extinction of dinosaurs was the result of a catastrophic event?

---

---

---

**PALEONTOLOGY—THE STUDY OF PAST LIFE**

Match the correct definition with the correct term. Write the letter in the space provided.

- |  |                    |
|--|--------------------|
| _____ 11. the study of past life using fossils                 | a. paleontology    |
| _____ 12. scientists who study past life using fossils         | b. fossils         |
| _____ 13. remains of organisms preserved by geologic processes | c. paleontologists |
| _____ 14. the study of the history of the Earth                | d. geology         |

Skills Worksheet

# Directed Reading A (Lesson 6-2)

## Section: Relative Dating: Which Came First?

Write the letter of the correct answer in the space provided.

- \_\_\_\_\_ 1. Determining the age of objects or events in relation to other objects or events is called
- a. relative sequencing.
  - b. relative dating.
  - c. relative history.
  - d. relative geology.

### THE PRINCIPLE OF SUPERPOSITION

- \_\_\_\_\_ 2. As long as a sequence of rock layers is undisturbed, scientists know that
- a. older rocks lie above younger rocks.
  - b. younger rocks lie under older rocks.
  - c. younger rocks lie above older rocks.
  - d. older rocks have eroded away.
- \_\_\_\_\_ 3. The principle that states that younger rocks lie above other rocks in undisturbed sequences is called
- a. relative dating.
  - b. superposition.
  - c. uniformitarianism.
  - d. catastrophism.
4. How do disruptions of rock sequences pose a challenge to geologists?

---

---

### THE GEOLOGIC COLUMN

5. What is the geologic column?

---

---

---

6. How do geologists use the geologic column?

---

---

Directed Reading A *continued*

---

**DISTURBED ROCK LAYERS**

7. Explain how a crosscutting feature is always younger than the rock layers it cuts across.

---

---

---

**Match the correct description with the correct term. Write the letter in the space provided.**

- |   |                  |
|---|------------------|
| _____ 8. a break in the Earth's crust along which blocks of crust slide relative to one another | a. superposition |
| _____ 9. younger sediment deposited on top of older layers                                      | b. folding       |
| _____ 10. molten rock that has squeezed into existing rock and hardened                         | c. fault         |
| _____ 11. rock layers bent and buckled by the Earth's internal forces                           | d. tilting       |
| _____ 12. rock layers slanted by the Earth's internal forces but without folding                | e. intrusion     |

**GAPS IN THE RECORD—UNCONFORMITIES**

13. When a layer or several layers of rock are missing from a rock-layer sequence, this is called a(n) \_\_\_\_\_

14. Name two possible explanations for a missing layer in a rock-layer sequence.

---

---

15. When sediment stops at some point and restarts, an unconformity is created by \_\_\_\_\_.

---

16. An unconformity is created when an area is uplifted and exposed to \_\_\_\_\_ by wind and water.

---