

Directed Reading

Section: Precambrian Time and the Paleozoic Era

1. Where is the geologic history of Earth recorded?

2. What kind of information can scientists get from the types of rock and the fossils in a rock layer?

EVOLUTION

3. The gradual development of new organisms from other organisms since the beginning of life is called _____.

4. In what year was the theory of evolution by natural selection proposed, and by whom?

5. Climatic and geologic changes could affect an organism's ability to _____.

6. What do scientists study to learn why some organisms survived over long periods and others became extinct?

PRECAMBRIAN TIME

7. What is a nebula?
a. the newly formed sun
b. a large cloud
c. a star
d. a planet
8. When did the Earth form?
a. about 540 million years ago
b. about 4.6 billion years ago
c. after Precambrian time
d. before Precambrian time

9. The time interval that began with the formation of Earth is called
a. the Cenozoic Era.
b. the Mesozoic Era.
c. the Paleozoic Era.
d. Precambrian time.
10. When did Precambrian time begin?
a. about 4.6 billion years ago
b. about 540 million years ago
c. about 10 billion years ago
d. about 88 million years ago
11. Approximately when did Precambrian time end?
a. 3 million years ago
b. 540 million years ago
c. 1 million years ago
d. 10,000 years ago
12. About how much of Earth's history occurred during Precambrian time?
a. 20%
b. 40%
c. 50%
d. 88%
13. We know little about Precambrian time because
a. no rocks exist from that time.
b. Earth did not exist.
c. no organisms existed so there are no fossils.
d. Precambrian rocks were damaged and therefore could not be identified.
14. A large area of exposed Precambrian rocks is called a

15. Name four things that cause the formation of shields.

16. How much of the world's minerals occur in the rocks of Precambrian shields?

Name _____ Class _____ Date _____

Directed Reading continued

17. What valuable minerals are found in the rocks of Precambrian shields?

18. Name three possible reasons why fossils are rare in Precambrian rocks.

19. Precambrian fossils consisting of reeflike deposits formed by blue-green

algae are called _____.

20. Where do stromatolites form today?

21. What does the presence of stromatolite fossils in Precambrian rocks indicate?

THE PALEOZOIC ERA

22. When did the Paleozoic Era occur?

- a. before Precambrian time
- b. after Precambrian time
- c. before Earth was formed
- d. after the Mesozoic Era

23. Approximately when did the Paleozoic Era begin?

- a. 540 thousand years ago
- b. 248 million years ago
- c. 540 million years ago
- d. 3.9 billion years ago

24. Approximately when did the Paleozoic Era end?

- a. 540 thousand years ago
- b. 5,000 years ago
- c. 5 million years ago
- d. 248 million years ago

25. When the Paleozoic Era began, Earth's landmasses were

- a. arranged much as they are today.
- b. located in a single region of the world.
- c. unstable due to tectonic activity.
- d. scattered around the world.

Name _____ Class _____ Date _____

Directed Reading continued

26. By the end of the Paleozoic Era, Earth's landmasses had

- a. collapsed and dropped below sea level.
- b. collided to form a supercontinent called Pangaea.
- c. disappeared as a result of tectonic activity.
- d. lost all of their mineral deposits.

27. How do Paleozoic rocks differ from Precambrian rocks?

- a. Paleozoic rocks contain many fossils.
- b. Paleozoic rocks are much older.
- c. Paleozoic rocks were formed by tectonic activity.
- d. Paleozoic rocks are found only in North America.

28. How many periods is the Paleozoic Era divided into?

- a. four
- b. six
- c. seven
- d. three

29. What is the first period of the Paleozoic Era called?

- a. Permian Period
- b. Cambrian Period
- c. Silurian Period
- d. Carboniferous Period

30. Which of the following organisms appeared during the Cambrian Period?

- a. primitive organisms
- b. mammals
- c. marine life-forms
- d. marine vertebrates

In the space provided, write the letter of the description that best matches the term or phrase.

31. brachiopod

a. a fossil that scientists use to date rocks

32. invertebrate

b. the most common Cambrian invertebrate

33. index fossil

c. a shelled animal common during the Cambrian Period

34. trilobite

d. an animal that does not have a backbone

35. Evidence of what type of organism has NOT been found in Cambrian rocks?

In the space provided, write the letter of the description that best matches the term or phrase.

- | | |
|------------------------------|--|
| _____ 36. vertebrate | a. one of the dominant invertebrate life-forms during the Ordovician Period |
| _____ 37. cephalopod mollusk | b. an animal that has a backbone |
| _____ 38. graptolite | c. a tiny invertebrate that lived in the ocean during the Ordovician Period |

39. How did Ordovician fish differ from modern fish?

40. A scorpion-like sea creature that lived during the Silurian Period was the _____.

41. In what period did the first land plants and land animals evolve?

42. Another name for the Devonian Period is the _____.

In the space provided, write the letter of the description that best matches the term or phrase.

- | | |
|------------------------|---|
| _____ 43. rhipidistian | a. the first amphibians |
| _____ 44. Ichthyostega | b. an air-breathing fish with strong fins that could crawl to land |
| _____ 45. lungfish | c. a fish with the ability to breathe air |

46. Name three types of plants that began to develop during the Devonian Period.

47. Briefly describe the climate during the Carboniferous Period.

48. Briefly describe the landscape during the Carboniferous Period.

49. What does the word *carboniferous* mean?

50. Into what periods is the Carboniferous Period divided in North America?

51. What organism from the Carboniferous Period is thought to be the modern ancestor of the sea star?

52. What did the vertebrates that appeared at the end of the Pennsylvanian Period look like?

53. Which period marks the end of the Paleozoic Era?

54. What event occurred at the end of the Permian Period that affected a large number of Paleozoic life-forms?

55. What had happened to the continents by the end of the Permian Period?

56. What environmental changes had occurred by the end of the Permian Period?

57. Name two marine invertebrates that became extinct as a result of the environmental changes at the end of the Permian Period.

58. What animals survived the environmental changes at the end of the Permian Period?
