

Q2W1-H.W- History of life

Matching

Match each item with the correct statement below.

- | | |
|---------------------|--------------------|
| a. petrified fossil | e. amber-preserved |
| b. imprint | f. fossil |
| c. trace fossil | g. mold |
| d. cast | |

- _____ 1. An exact stone copy of an original organism, the hard parts of which have been penetrated and replaced by minerals
- _____ 2. Any evidence of an organism that lived long ago
- _____ 3. A fossil embedded in tree sap, valuable because the organism is preserved intact
- _____ 4. An empty space left in rock, showing the exact shape of the organism that was buried and decayed there
- _____ 5. The fossil of a thin object, such as a leaf or feather, that falls into sediments and leaves an outline when the sediments hardened
- _____ 6. An object formed when a mold is filled in by minerals from the surrounding rock
- _____ 7. A footprint, trail, or burrow, providing evidence of animal activity

Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 8. A clear fish imprint in a rock indicates that the rock is probably _____.
 - a. igneous
 - b. metamorphic
 - c. volcanic
 - d. sedimentary
- _____ 9. Which group of organisms is believed to have been the earliest to evolve?
 - a. land plants
 - b. aquatic dinosaurs
 - c. mammals
 - d. cyanobacteria
- _____ 10. Humans are thought to have evolved during the _____ Era.
 - a. Precambrian
 - b. Paleozoic
 - c. Mesozoic
 - d. Cenozoic
- _____ 11. Which fact is the basis for using the fossil record as evidence that evolution has taken place?
 - a. There are fossils of all life-forms to be found in rock layers.
 - b. All fossils were formed at the same time.
 - c. Fossils have been shown to provide a complete record of human evolution.
 - d. In undisturbed layers of rock strata, the older fossils are found in the deeper layers.
- _____ 12. Which of the following fossils are not found in sedimentary rock?
 - a. imprints
 - b. frozen mammoths
 - c. amber
 - d. petrified wood
- _____ 13. According to one theory, the first prokaryotes probably obtained their food _____.
 - a. by consuming organic molecules available in their environment
 - b. by eating carbohydrates formed by autotrophs
 - c. through a combination of photosynthesis and aerobic respiration
 - d. through the synthesis of organic molecules from inorganic molecules
- _____ 14. The Geologic Time Scale begins at the formation of Earth approximately _____ years ago.
 - a. 4.6 million
 - b. 4.6 thousand
 - c. 4.6 billion
 - d. 46 million

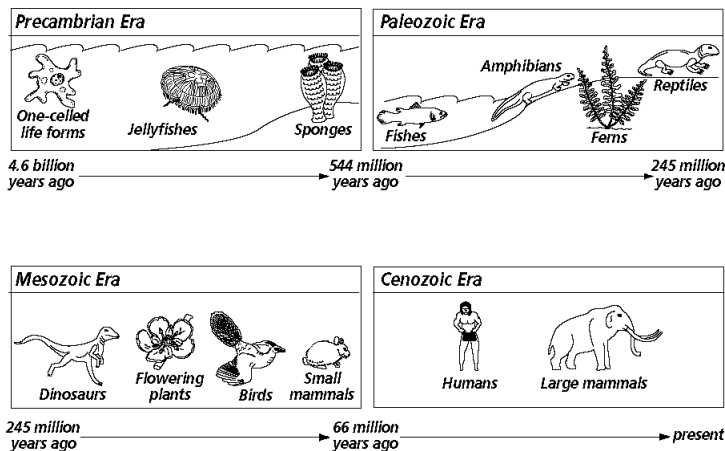


Figure 14-4

- ____ 15. According to Figure 14-4, in how many eras have mammals existed?
 - a. 5
 - b. 7
 - c. 4
 - d. 2
- ____ 16. According to Figure 14-4, what was the earliest form of multicellular life on Earth?
 - a. land plants
 - b. reptiles
 - c. fish
 - d. invertebrates
- ____ 17. According to Figure 14-4, the correct chronological order of organisms as they develop are _____.
 - a. dinosaurs, jawed fish, birds, prokaryotes
 - b. jawed fish, dinosaurs, prokaryotes, birds
 - c. prokaryotes, jawed fish, dinosaurs, birds
 - d. birds, dinosaurs, jawed fish, prokaryotes
- ____ 18. Before biogenesis became an accepted cornerstone of biology, it was widely accepted that _____.
 - a. living things could arise spontaneously from other living things
 - b. flies could be produced only from other flies
 - c. Francesco Redi and Louis Pasteur would be unable to test the current beliefs
 - d. maggots were the immature offspring of flies
- ____ 19. Which event contributed most directly to the evidence of aerobic organisms?
 - a. an increase in the number of organisms carrying on fermentation
 - b. an increase in the concentration of methane in the ancient atmosphere
 - c. a decrease in the sun's light intensity
 - d. the presence of organisms able to carry on photosynthesis
- ____ 20. While looking for fossils on an eroded hillside, you discover fossil coral and fish in one layer. In a layer just above, you find the fossil imprint of a fern frond and some fossil moss. Assuming the rock has not been disturbed, which of the following is the most probable conclusion?
 - a. The area had been a sea until recent times.
 - b. A saltwater sea had changed to a freshwater lake in ancient times.
 - c. A forest had once grown there but had become submerged by water.
 - d. A sea had been replaced by land in ancient times.
- ____ 21. Urey and Miller subjected water, ammonia, methane, and hydrogen to heating and cooling cycles and jolts of electricity in an attempt to _____.
 - a. find out how ozone forms in the atmosphere
 - b. determine the age of microfossils
 - c. form complex organic compounds
 - d. determine how the dinosaurs became extinct

- _____ 22. The primitive Earth atmosphere is hypothesized to have consisted mostly of _____.
 a. oxygen, nitrogen, and water vapor
 b. hydrogen, methane, ammonia, and water vapor
 c. amino acids, ATP, carbohydrates, and oxygen
 d. none of these
- _____ 23. Which of the following statements are true about fossils?
 a. There are many different ways that fossils can be formed.
 b. Fossils are usually found in sedimentary rock layers.
 c. Fossil insects that were trapped in ice or hardened into amber.
 d. all of these
- _____ 24. Scientists agree that two developments must have occurred for life to come into being: the formation of simple organic molecules important to life and _____.
 a. organization of molecules into complex organic molecules
 b. appearance of amino acids, monosaccharides, and lipids
 c. an atmosphere rich in water vapor, oxygen, and ATP
 d. development of prokaryotic cells in early oceans
- _____ 25. Since the 1950s, experiments have been conducted that lead scientists to conclude that life may have originated _____.
 a. when prokaryotes joined together to make the first eukaryotic cell
 b. in other parts of the universe
 c. in small pools of water where amino acids could be concentrated
 d. spontaneously as originally thought

Completion

Complete each statement.

- A. spontaneous generation
 B. Biogenesis
 C. archaeobacterial
 D. protocells
26. The idea that life arises only from life is referred to as _____.
27. The ancient belief that nonliving materials could be transformed into living organisms was referred to as _____.
28. Structures called _____, capable of growth and metabolism, have been produced in the laboratory. Structures like these may have eventually evolved into heterotrophic prokaryotes.
29. Organisms known as _____ are chemosynthetic autotrophs that survive in harsh conditions where there is little sunlight or oxygen.

True/False

Indicate whether the statement is true or false.

- _____ 30. Earth is thought to have formed about 4.6 billion years ago.
- _____ 31. By the end of the Mesozoic, the continents took on their modern shape.
- _____ 32. The first organisms appeared on land between 3.9 and 3.4 billion years ago.
- _____ 33. The conditions on primitive Earth were very suitable for life.
- _____ 34. Geological events on Earth set up conditions that would play a major role in the evolution of life on Earth.
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