

## Q2W1-Test1 - History of life

### True/False

Indicate whether the statement is true or false.

- \_\_\_ 1. Geological events on Earth set up conditions that would play a major role in the evolution of life on Earth.
- \_\_\_ 2. By the end of the Mesozoic, the continents took on their modern shape.
- \_\_\_ 3. The conditions on primitive Earth were very suitable for life.
- \_\_\_ 4. Earth is thought to have formed about 4.6 billion years ago.
- \_\_\_ 5. The first organisms appeared on land between 3.9 and 3.4 billion years ago.

### Multiple Choice

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

- \_\_\_ 6. Urey and Miller subjected water, ammonia, methane, and hydrogen to heating and cooling cycles and jolts of electricity in an attempt to \_\_\_\_\_.
  - a. determine the age of microfossils
  - b. find out how ozone forms in the atmosphere
  - c. determine how the dinosaurs became extinct
  - d. form complex organic compounds
- \_\_\_ 7. 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. an atmosphere rich in water vapor, oxygen, and ATP
  - b. development of prokaryotic cells in early oceans
  - c. appearance of amino acids, monosaccharides, and lipids
  - d. organization of molecules into complex organic molecules
- \_\_\_ 8. 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  - b. A sea had been replaced by land in ancient times.
  - c. A saltwater sea had changed to a freshwater lake in ancient times.
  - d. A forest had once grown there but had become submerged by water.
- \_\_\_ 9. Which of the following fossils are not found in sedimentary rock?
  - a. petrified wood
  - b. frozen mammoths
  - c. imprints
  - d. amber
- \_\_\_ 10. According to one theory, the first prokaryotes probably obtained their food \_\_\_\_\_.
  - a. through a combination of photosynthesis and aerobic respiration
  - b. by eating carbohydrates formed by autotrophs
  - c. by consuming organic molecules available in their environment
  - d. through the synthesis of organic molecules from inorganic molecules

- \_\_\_ 11. Which of the following statements are true about fossils?
- Fossil insects that were trapped in ice or hardened into amber.
  - Fossils are usually found in sedimentary rock layers.
  - There are many different ways that fossils can be formed.
  - all of these
- \_\_\_ 12. Which event contributed most directly to the evidence of aerobic organisms?
- the presence of organisms able to carry on photosynthesis
  - an increase in the concentration of methane in the ancient atmosphere
  - an increase in the number of organisms carrying on fermentation
  - a decrease in the sun's light intensity
- \_\_\_ 13. Which group of organisms is believed to have been the earliest to evolve?
- cyanobacteria
  - land plants
  - mammals
  - aquatic dinosaurs
- \_\_\_ 14. Humans are thought to have evolved during the \_\_\_ Era.
- Precambrian
  - Cenozoic
  - Paleozoic
  - Mesozoic
- \_\_\_ 15. The Geologic Time Scale begins at the formation of Earth approximately \_\_\_ years ago.
- 46 million
  - 4.6 thousand
  - 4.6 million
  - 4.6 billion
- \_\_\_ 16. A clear fish imprint in a rock indicates that the rock is probably \_\_\_\_.
- igneous
  - metamorphic
  - volcanic
  - sedimentary
- \_\_\_ 17. The primitive Earth atmosphere is hypothesized to have consisted mostly of \_\_\_\_.
- oxygen, nitrogen, and water vapor
  - hydrogen, methane, ammonia, and water vapor
  - amino acids, ATP, carbohydrates, and oxygen
  - none of these
- \_\_\_ 18. Since the 1950s, experiments have been conducted that lead scientists to conclude that life may have originated \_\_\_\_.
- when prokaryotes joined together to make the first eukaryotic cell
  - spontaneously as originally thought
  - in small pools of water where amino acids could be concentrated
  - in other parts of the universe
- \_\_\_ 19. Before biogenesis became an accepted cornerstone of biology, it was widely accepted that \_\_\_\_.
- flies could be produced only from other flies
  - Francesco Redi and Louis Pasteur would be unable to test the current beliefs
  - living things could arise spontaneously from other living things
  - maggots were the immature offspring of flies
- \_\_\_ 20. Which fact is the basis for using the fossil record as evidence that evolution has taken place?
- In undisturbed layers of rock strata, the older fossils are found in the deeper layers.
  - Fossils have been shown to provide a complete record of human evolution.
  - All fossils were formed at the same time.
  - There are fossils of all life-forms to be found in rock layers.

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