

The Diversity of Living Things: Unit 1, Lesson 3, "Evidence of Evolution"

Answers

1. T; T; T; T

2. Sample answer: There was once a sea where the fossil was found.

3. Sample answer: A fossil record is an account of the remains of living organisms.

4. Students should define or sketch each vocal term in the lesson.

5. The amber preserves all of an organism's features, even soft body parts and wings.

6. *See students' pages for annotations.*

7. This organism lives on the edge of a body of water, and possibly on both water and land.

8. Sample answer: the organism has a tail and fins like a fish, but lives above water like a four-legged vertebrate.

9. A common ancestor is the most recent species from which two different species evolved.

10. The bones in the human arm should match in color or in color name to the bones in the cat arm/bat wing. Colors or color names to be used are yellow, dark green, teal, purple, and orange.

11. Out of these species listed, bullfrog and lamprey are the least closely related to humans, because their cytochrome c molecules differ the most from human cytochrome c.

12. Students should circle the following differences between the hippopotamus/humpback whale DNA sequences: T/C, C/G, G/C.

13. Sample answer: These tiny bones are not involved in the whale's movement at all.

14. Sample answer: The modern whale appears to be best adapted for swimming long distances under water because it has fins to swim fast and can breathe underwater for a long time.

Visual Summary Answers

15. fossils

16. Similarities

17. tiny leg bones

18. The fossil record is a history of the organisms that existed in the geologic past, as preserved in fossils.

Lesson Review

1. fossil

2. fossil record

3. Accept fossil evidence, anatomical evidence, molecular evidence, or developmental evidence.

4. Fossil evidence shows that organisms have changed over time.

5. It suggests that a human and a bat shared a common ancestor.

6. Sample answer: I would expect to find either common structures, common embryological evidence, common DNA, or unused structures in common.

7. The data suggest that turtles are more related to humans than tuna., but not as closely related as chimpanzees.

8. Cytochrome c is just one protein that is being compared. There are many others in which we would find differences between our species and the chimpanzee.

9. In the fossil record, later fossils are more similar to modern organisms than are early fossils. This suggests that change has occurred over time.