Biology 003 Tutorial Worksheets

Tutorial #14: "Antiquity of Life"

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1. Define the following terms

absolute dating

Big Bang

carbon-14 dating

continental drift

dendrochronology

fossil

geological time scale

half-life

isomer

isotope

paleontologist

Paleozoic era

Pangaea

plate tectonics

racemization

radiocarbon dating

radiometric dating

relative dating

sedimentary rock

2. What is the foremost theory on the origin of the Universe? Explain the major events of the theory and what evidence is used to support this theory.

3. What is the estimated age of the Universe? How was this age calculated?

4. Describe events that have shaped and changed the Earth. What events are constantly changing the Earth?

5. What events can you think of in recent years that have changed the Earth?

6. Do the Continents and Oceans change over time? What causes these changes?

7. At what age do we estimate the Earth to be? How was this calculated?

8. Use the concept of Plate Tectonics to explain the development of Pangaea.

9. List different types of fossils and how they formed. Can they still form today?

10. How do we collect fossil records and why are they important in attempting to date events?

11. What is relative dating? How is the relative age of a fossil or event determined?

12. What is the basis of a geological time scale and how is it useful to relative dating?

13. What are the four great eras of the geological time scale? What era and period are we in?

14. What problems do you think arises with relative dating? What is absolute dating and how is it more accurate than relative?

15. What are isotopes? What is meant by a radioactive isotope?

16. What is radioactive decay and what happens in the process? Give examples showing the reaction.

17. What is radiometric dating and how are certain isotopes useful?

18. What is a half-life? How is it calculated or determined?

19. Explain Carbon-14 dating and why it is used for dating in Geology and Biology.

20. What evidence supports carbon dating? Are there any times it is inaccurate?

21. What is dendrochronology and how is it used in absolute and relative dating?

22. What are L- and D-Forms of amino acids? What form of amino acids do living organisms make and use?

23. What is meant by racemization and when does it occur?

24. How can racemization of amino acids be used in dating? What problems arise with this method?