Biology 003 Tutorial Worksheets

Tutorial #14: "Antiquity of Life"

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 da	ing	
radiometric dat	ing	
relative dating		
sedimentary ro	ek	
	st theory on the origin of the Univace is used to support this theory.	verse? Explain the major events of the
3. What is the estimate	ed age of the Universe? How was	s this age calculated?
4. Describe events tha changing the Earth?	t have shaped and changed the Ea	arth. What events are constantly
5. What events can yo	u think of in recent years that hav	re 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?