Chapter 12 Concept Review
BIOLOGY

Directions: Answer the following questions using your notes and textbook

1. _______________________________- minerals carried by water are deposited around or replace the hard structure

2. Amber-preserved fossils- organisms trapped in ___________ _______________ that hardens into amber

3. Most fossils form in _________________________ rock

4. Best ____________________________ for fossilization include wetlands, bogs, rivers, lakebeds, and floodplains

5. ______________________ Dating- estimate of date by comparing placement of fossils in rock layers.

6. ________________________ dating- technique using natural decay rate of unstable isotopes

7. __________________ fossils are another tool to determine the age of rock layers.

8. Index fossils- organisms that existed only during specific spans of time over large geographic area. Estimate __________ of rock layers by _________________ they contain

9. _____________________ time scale- representation of the history of Earth
   a. Organizes by major ___________________ or events
   b. Uses evidence from _________________ and geologic records

10. Miller-Urey experiment (1953)- demonstrated that organic compounds could be made by simulating conditions on early Earth

11. Meteorite hypothesis- _________________ molecules may have arrived on Earth through meteorite or asteroid impacts

12. Iron-sulfide bubbles hypothesis- biological molecules formed in chimneys of _________________ vents

13. Single-celled organisms changed Earth’s surface by depositing _________________. Changed atmosphere by giving off oxygen

14. 3.5 billion years ago, _____________________________ life evolved (cyanobacteria)
15. Higher _____________________ levels in atmosphere and oceans allowed evolution of aerobic prokaryotes

16. Eukaryotic cells may have evolved through ________________________

17. Endosymbiosis theory- one organisms lives within body of another, and both ________________________ from relationship

   a. Early mitochondria and chloroplasts were once simple ______________________ cells taken up by larger prokaryotes 1.5 billion years ago

   b. Based theory on fact that mitochondria and chloroplasts have their own __________ and ______________________

18. The evolution of _____________________ reproduction led to increased diversity

19. One of most important _____________________ in history of life

   a. First appeared during _____________________ era (544 million years ago)

   b. Huge ______________________ of animal species evolved

20. Paleozoic Era ended with mass ________________________

21. Reptiles radiated during the Mesozoic era. Era ended with mass extinction caused by meteorite impact

22. Mammals radiated during the _____________________ era

23. ________________________ - category of mammals with flexible hands and feet, forward looking eyes, and enlarged brains relative to body size.

24. Modern humans arose about ________________ years ago

25. Increased skull and brain size gave humans a ________________________ advantage