Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chapter 19 Review Sheet

1. What is a paleontologist?
2. What is the fossil record?
3. What does the fossil record tell us?
4. Over \_\_\_\_\_\_\_\_% of species on Earth have become \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
5. What does it mean for a species to be extinct?
6. True or False: Fossils can only be of one specific body part.
7. Most fossils form in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ rock.
8. What are the components of sedimentary rock?
9. How is relative dating used to determine the age of a fossil?
10. What is an index fossil?
11. True or False: Relative dating allows paleontologists to estimate the age of a fossil.
12. Scientists use radioactive \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to assign an \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ age to rocks.
13. What is radioactive dating?
14. What is a half-life?
15. By comparing the amounts of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-14 and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_-12 in a fossil, researchers can determine the organism \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
16. What do paleontologists use to represent evolutionary time?
17. The basic divisions of the geologic time scale are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
18. List the following in order from **OLDEST** to **MOST RECENT**: Mesozoic, Precambrian Time, Cenozoic, and Paleozoic.
19. What is the model that scientists use to represent geologic time?
20. What is macroevolution?
21. What is adaptive radiation?
22. What is convergent evolution?
23. Sharks, dolphins, and penguins are all a result from convergent \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
24. What is coevolution?
25. What is punctuated equilibrium?
26. Hypotheses about Earth’s early history are based on a relatively \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
27. True or False: Evidence shows that earth was created in one event.
28. While Earth was young, it was \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ by one or more objects, producing enough \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the entire globe.

Matching – Once Earth melted, its elements rearranged according to density.

1. Formed by the moderately dense elements
2. Formed by the most dense elements
3. Formed by the least dense elements.
4. \_\_\_\_\_ Core
5. \_\_\_\_\_Crust
6. \_\_\_\_\_Atmosphere
7. True or False: The EARLY atmosphere of Earth contained oxygen.
8. List all of the components of Earth’s atmosphere.
9. What allowed the formation of liquid water 3.8 billion years ago?
10. What two scientists simulated Earth’s early atmosphere in a laboratory setting?
11. In these experiments \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ acids, the building blocks of proteins, began to accumulate.
12. What are proteinoid microspheres?
13. Microsphere are NOT cells, but they have a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ permeable membranes and can store and release \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
14. True or False: Scientists know the exact origin of DNA and RNA.
15. What are microfossils?
16. The first life forms on Earth evolved without \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
17. About 2.2 billion years ago, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ bacteria began to pump oxygen into the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
18. True or False: The accumulation of oxygen gas in the atmosphere was beneficial to all life on Earth.
19. True or False: The accumulation of oxygen gas in the atmosphere caused some organisms to become extinct.
20. What does the endosymbiotic theory propose?\*\*\*\*
21. True or False: Asexual reproduction yields offspring that are different from their parents.
22. True or False: Sexual reproduction leads to an increased chance of evolutionary change due to natural selection.