Study Guide Ch.13

1. To determine the age of a fossil, scientist use the process of dating.
2. There are two types of dating, absolute age dating and relative age dating.
3. Absolute age dating is done by calculating the age of the rocks above and below the rock layers that contain the fossil.
4. Relative age dating is done by calculating the age of the rocks in which the fossils are inside of.
5. In relative age dating, the rock that is on the bottom is older than the rock that is on the top.
6. Fossils cannot be dated directly.
7. Earth’s history is divided into four eons. Eons are the longest time periods.
8. Eras are units of time that come in different lengths.
9. Charles Darwin is an English naturalist that developed a theory for how evolution works.
10. Diverge means to separate. The further back in time that a species diverged from each other, the less they have in common. As a result, the less similar they are to each other.
11. A **variation** is a slight difference in an inherited trait of individual members of a species.
12. Some variations allow some species to survive more than others.
13. **Natural selection** is the process whereby organisms better adapted to their environment tend to survive and produce more offspring. For example, giraffes with longer necks will survive more if the food is elevated or higher.
14. **Adaptations** are variations that make an organism better suited for its environment.
15. **Camouflage** is an adaptation that enables a species to blend in with its environment allowing it to protect itself and go onto survive and reproduce more.
16. Homologous structures, analogous structures, and vestigial structures are all forms of evidence to support the theory of evolution.
17. Vestigial structures are structures or body parts that have lost their original function through evolution.
18. Fossils are remains of life from an earlier time.
19. Organisms buried in sediment may decay or dissolve away leaving a cavity or **mold**.
20. If the space is subsequently filled with sediment, an external **cast** can be made.
21. Another type of fossil is the trace fossil; a fossil of a footprint, trail, burrow, or other trace of an animal rather than of the animal itself. An example of a trace fossil is the footprints in mud that later turn to rock.
22. Change in the hereditary features of a type of organism over time is evolution.
23. Extinctions can occur due to sudden changes like volcanic or meteorite impacts or from gradual or slow changes like when tectonic plates move.
24. A mass extinction occurs when many species become extinct within a few million years or less.
25. The science of the development of embryos from fertilization to birth is
called **embryology**.
26. Natural selection is called survival of the fittest because those organisms that are better adapted to the environment or more fit survive more.