# Chapter 4 Study Guide

## Lesson 1

1. What are fossils? – **Preserved remains or traces of living things.**

2. Compare and contrast molds, casts, and trace fossils. **A mold is a hollow area in sediment in the shape or part of an organism. A cast is a solid copy of the shape of the organism. Trace fossils provide evidence of the activities of ancient organisms.**

**3. What is a petrified fossil? A** fossil **where minerals replace all or part of an organism**

**4. Who studies fossils? A** paleontologist

5. How does the fossil record help scientists? **The fossil record provides evidence about the history of life and past environments on Earth. It shows how different groups of organism have changed over time.**

6. What type of rock do fossils form in? Why can't they form in igneous rock? **Fossils form in sedimentary rock. They can't form in igneous because they would melt from the heat in the mantle.**

## Lesson 2

7. What is the difference between relative age and absolute age? **The relative age of a rock is its age compared to the ages of other rocks. The absolute age of a rock is the number of years that have passed since the rock formed.**

8. What is the law of superposition? What age of rocks does it determine? (**relative** or absolute) Where are the oldest rocks? Where are the youngest rocks? **The law of superposition states that in undisturbed horizontal sedimentary rock layers the oldest layer is at the bottom and the youngest is at the top.**

9. What are extrusions and intrusions? How is their age compared to the rocks around them? **Lava that hardens on the surface and forms igneous rock is an extrusion. An extrusion is always younger that the rocks below it. Magma that cools and hardens into a mass of igneous rock below the surface is called an intrusion. An intrusion is always younger that the rock layers around and beneath it.**

10. What is an unconformity? **An unconformity is a gap in the geologic record. It shows where rock layers have been lost due to erosion.**

## Lesson 4

11. What is the geologic time scale? **The geologic time scale is a record of the geologic events and the evolution of life forms as shown in the fossil record.**

12. Look at page 122 – know how to do the math to fill-in the duration of years. **Start with the bottom number and subtract the number above it.**

13. Know that geologic time began with Precambrian time and then it was divided into three **_____eras____** **called Paleozoic era, Mesozoic era, and Cenozoic era**

and then those were subdivide into _____**periods**_____

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12. Look at page 122 – figure out again the duration of each of the periods.

13. Know that geologic time began with Precambrian time and then it was divided into three _____

and then those were subdivide into _____