**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.**

**It determines the relative age of rocks.**

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. Put that number on the line next to it.**

13. Know that geologic time began with Precambrian time and then it was divided into three **\_eras\_**, called **Cenozoic Era, Mesozoic Era, and Paleozoic Era** and then those were subdivide into **periods**

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