**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**

**Chapter 4 Study Guide**

**Lesson 1**

1. What are fossils?

2. Compare and contrast molds, casts, and trace fossils.

3. What is a petrified fossil?

4. Who studies fossils?

5. How does the fossil record help scientists?

6. What type of rock do fossils form in? Why can’t they form in igneous rock?

**Lesson 2**

7. What is the difference between relative age and absolute age?

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?

9. What are extrusions and intrusions? How is their age compared to the rocks around them?

10. What is an unconformity?

**Lesson 4**

11. What is the geologic time scale?

12. Look at page 122 – know how to do the math to fill-in the duration of years.

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

called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

and then those were subdivide into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.