Name _____ Date _____ Class _____

SECTION 6-1 **SECTION SUMMARY**

Fossils

Guide for Reading

- **What is the rock cycle?**
- **What are the different kinds of fossils?**

Rocks are made of mixtures of minerals and other materials. The three major groups of rocks are igneous, sedimentary, and metamorphic. **Igneous rock** forms when molten material cools and hardens at or below Earth's surface. **Sedimentary rock** forms when particles of other rocks or the remains of plants and animals are pressed and cemented together. **Metamorphic rock** is formed when an existing rock is changed by heat, pressure, or chemical reactions.

Forces inside Earth and at the surface produce a rock cycle that builds, destroys, and changes the rocks in the crust. The **rock cycle** is a series of processes on and beneath Earth's surface that slowly changes rocks from one kind to another. The rock cycle can follow many different pathways.

Most fossils form from animals or plants that once lived in or near quiet water such as swamps, lakes, or shallow seas. Scientists who study fossils are called **paleontologists**. **Fossils found in rock include petrified fossils, molds and casts, carbon films, and trace fossils. Other fossils form when the remains of organisms are preserved in substances such as tar, amber, or ice.**

Petrified fossils are fossils in which minerals replace all or part of an organism. The most common fossils are molds and casts. A **mold** is a hollow area in sediment in the shape of an organism or part of an organism. A mold forms when the hard part of an organism, such as a shell, is buried in sediment. Later, water carrying dissolved minerals may seep into the empty space of a mold. If the water deposits the minerals there, the result is a **cast,** a copy of the shape of an organism. Another type of fossil is a **carbon film,** an extremely thin coating of carbon on rock. **Trace fossils** provide evidence of the activities of ancient organisms. Fossil footprints, trails, and burrows are examples of trace fossils. Some processes preserve the remains of organisms with little or no change. Organisms can be preserved in tar, amber, or ice.

Paleontologists use the fossils they collect to determine what past life forms were like. Fossils provide evidence of Earth's climate in the past. Paleontologists also use fossils to learn about past environments and changes in Earth's surface.

Name _____ Date _____ Class _____

SECTION 6-1 REVIEW AND REINFORCE

Fossils

◆ Understanding Main Ideas

Fill in the blanks in the table below.

Type of Fossil	Description
Petrified fossil	Fossils in which **1.** _____ replace all or part an organism
2. _____	A hollow area in sediment in the shape of an organism
3. _____	A copy of the shape of an organism
Carbon film	An extremely thin coating of **4.** _____ on rock
Trace fossils	Evidence of the **5.** _____ of ancient organisms
6. _____	Remains of organisms in tar, amber, or ice

Answer the following questions on a separate sheet of paper.

7. Describe how a mold is related to a cast.

8. What can a paleontologist tell from fossil footprints of a dinosaur?

◆ Building Vocabulary

Fill in the blank to complete each statement.

9. The type of rock that is made of hardened sediment is called _____.

10. A(n) _____ is a scientist who studies fossils.