

section • The Rock Cycle

Before You Read

Think about all the different rocks you have seen. Some may have been shiny, others dull. Describe how the rocks you have seen are different.

What You'll Learn

■ what the rock cycle is

■ how rocks change

Read to Learn

What is a rock?

Different rocks have different characteristics. Some are smooth, some are rough, some are striped, and some are spotted.

What are common rocks?

Most buildings and public monuments are made from common rock. Rock used for building stone often contains one or more common materials, called rock-forming minerals. Two rock-forming minerals are quartz and calcite. A rock is a mixture of rock-forming minerals and other materials such as volcanic glass, organic material, or other natural materials.

The Rock Cycle

Scientists have created a model to show how rocks slowly change over time. The rock cycle shows the processes that create and change rocks. The three types of rocks shown in the rock cycle are igneous, metamorphic, and sedimentary. The rock cycle shows how rocks can change from one type of rock to another.

Mark the Text

Underline As you read, underline key words and definitions. Underline ideas and explanations that help you understand the text.

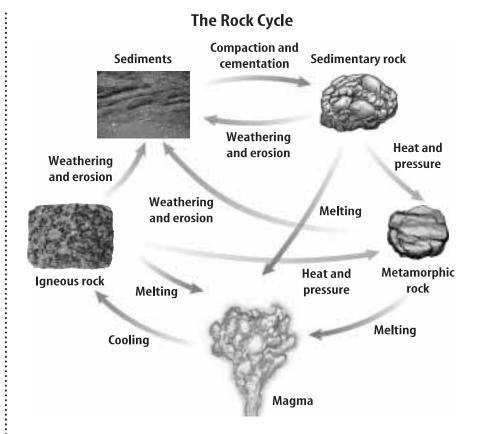
FOLDABLES

A Draw and Label Make a Foldable from two half sheets of notebook paper to list facts about rocks and to describe the rock cycle.



Picture This

1. **Identify** Use colored pencils to add information to the rock cycle. Color arrows that involve heat red, weathering and erosion green, cooling blue, and compaction brown.



How do rocks change?

The rock cycle in the figure above shows there are several processes that change rocks. Weathering breaks down rocks into tiny mineral grains, or sediments. Erosion moves the sediments by wind or water. Layers of sediments pile up. They are compacted, or packed down, by more layers of sediment piling on top of them. Over time, the pressure of compaction turns the sediment into sedimentary rock.

Heat and pressure deep inside Earth may change sedimentary rock into metamorphic rock. The metamorphic rock can then melt and later cool to form igneous rock. The igneous rock may then be weathered into mineral grains. The grains eventually form new sedimentary rock. Any rock can change into any of the three major types of rock. A rock can even change into another rock of the same type. No matter what happens, the mineral material is never lost or destroyed. It is conserved, or used in other forms.

Who discovered the rock cycle?

Scottish scientist James Hutton noticed that some rocks have straight layers, while others are tilted. He saw that some rocks are weathered, while others are not. Hutton observed that rocks change constantly over time.

Reading Check

2. Determine Is mineral material in rocks destroyed or conserved during the changes?

After You Read

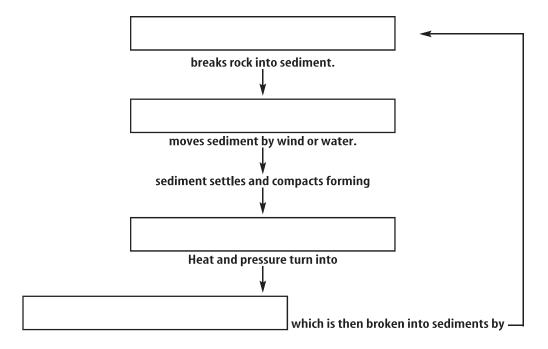
Mini Glossary

rock: mixture of rock-forming minerals and other materials

rock cycle: model that shows how rocks slowly change over time

1. Review the terms and their definitions in the Mini Glossary. Then write a sentence about the rock cycle that explains how rocks change.

2. Fill in the blanks in the boxes below.



3. You underlined the main words, facts, and ideas in this section. How did underlining help you learn about and remember the different types of rocks?



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