

A Trip Through Geologic Time ▪ *Guided Reading and Study*

The Relative Age of Rocks

This section explains how scientists determine whether a rock is older or younger than other rocks.

Use Target Reading Skills

Complete the first column in the chart by previewing the red headings in this section in your textbook and asking a what or how question for each. As you read the section, complete the second column with the answers.

Relative Age

| Question | Answer |
|---|---|
| What does the position of rock layers reveal? | The position of rock layers shows . . . |
| | |
| | |

Introduction

Match the term with its definition.

Term

- _____ 1. relative age
- _____ 2. absolute age

Definition

- a. The number of years since the rock formed
- b. The age of a rock compared to the ages of other rocks

A Trip Through Geologic Time ▪ *Guided Reading and Study*

The Relative Age of Rocks *(continued)*

The Position of Rock Layers

3. According to the law of superposition, the _____ layer is at the bottom. Each higher layer is _____ than the layers below it.
4. Is the following sentence true or false? The deeper one travels into the Grand Canyon, the younger the rocks become. _____.

Determining Relative Age

5. Complete the table below about the clues that geologists use to find the relative ages of rocks.

| Clues to the Relative Ages of Rocks | | |
|--|---------------------|-----------------------------------|
| Clues | How It Forms | What Clues Tell Geologists |
| Extrusion | a. | b. |
| Intrusion | c. | d. |
| Fault | e. | f. |

- g. A fault cuts through an extrusion. Which layer is the older? _____
6. What is an unconformity?

A Trip Through Geologic Time ▪ *Guided Reading and Study*

7. Look carefully at the figure “Unconformity” in your textbook. Then describe how an unconformity can form.

Using Fossils to Date Rocks

8. Geologists use _____ fossils to match rock layers in different locations.
9. Circle the letter of each sentence that is true about index fossils.
- a. Index fossils must be found in many different areas.
 - b. Index fossils must represent an organism that lived for a very long time.
 - c. Index fossils tell the absolute ages of the rock layers in which they occur.
 - d. A type of ammonite that is different from other ammonites is a useful index fossil.