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Relative Dating (Section 2)

p.238 Figure 1 The rock cycle is a series of geologic processes that form and recycle rock on Earth.

What You Will Learn

• The rock cycle includes the formation and recycling of rock.

• Relative dating

establishes the order in which rocks formed or events took place.

• The principle of superposition

states that younger rocks lie above older rocks if the layers are undisturbed.

Why It Matters

Determining the

sequence of events in Earth's history helps determine the story of life and environmental changes on Earth.

Vocabulary

• relative dating = any method of determining whether an event or object is older or younger than other events or objects

• sedimentary rock = a rock that forms from compressed or cemented layers of sediment.

• superposition = a principle that states that younger rocks lie above older rocks if the layers have not been disturbed.

• unconformity = a break in the geologic record created when rock layers are eroded or when sediment is not deposited for a long period of time.

• law of crosscutting relationships =

the principle that a fault or a body of rock is younger than any other body of rock that it cuts through.

Key Concept Scientists can interpret

the sequence of events in Earth's history by studying rock layers

>If you were a detective investigating a crime scene, what would you do? You might dust the scene for fingerprints or search for witnesses. As a detective, you must figure out the sequence of events that took place before you reached the crime scene.

Geologists have a similar goal when investigating Earth. They try to determine the order in which event have happened during Earth's history. But instead of relying on fingerprints and witnesses, geologists rely on rocks and fossils to help them. Determining whether an object or event is older or younger than other objects or events is called relative dating.

The Rock Cycle

Geologic history, from Earth's formation to the present, includes a record of rocks and of changes in life on Earth. This geologic history is sometimes called the geologic record. The rock cycle is an important process in the development