

Checking Concepts

Choose the word or phrase that best answers the question.

- What is any evidence of ancient life called?
 - half-life
 - a fossil
 - unconformity
 - disconformity
- Which of the following conditions makes fossil formation more likely?
 - buried slowly
 - attacked by scavengers
 - made of hard parts
 - composed of soft parts
- What are cavities left in rocks when a shell or bone dissolves called?
 - casts
 - original remains
 - molds
 - carbon films
- When the tiny spaces inside a fossil are filled in with minerals, you have what kind of preservation?
 - original remains
 - permineralized remains
 - molds and casts
 - carbon films
- To say “the present is the key to the past” is a way to describe which of the following principles?
 - superposition
 - succession
 - radioactivity
 - uniformitarianism
- A fault can be useful in determining which of the following for a group of rocks?
 - absolute age
 - radiometric age
 - index age
 - relative age
- Which of the following is an unconformity between parallel rock layers?
 - angular unconformity
 - fault
 - disconformity
 - nonconformity
- Which process forms new elements?
 - superposition
 - uniformitarianism
 - permineralization
 - radioactive decay
- In one type of radioactive decay, which of the following breaks down, releasing an electron?
 - alpha particle
 - proton
 - beta particle
 - neutron
- About how old is Earth, based on radiometric dating?
 - 2,000 years
 - 5,000 years
 - 3.5 billion years
 - 4.6 billion years

Thinking Critically

- How do relative and absolute ages differ?
- How many half-lives have passed in a rock containing one eighth of the original radioactive material and seven eighths of the daughter product?
- The fossil record of life on Earth is incomplete. Give some reasons why.
- Suppose a lava flow were found between two sedimentary rock layers. How could you use the lava flow to learn about the ages of the sedimentary rock layers? (Hint: Most lava contains radioactive isotopes.)
- Suppose you're correlating rock layers in the western United States. You find a layer of volcanic ash deposits. How can this layer help you in your correlation over a large area?

Developing Skills

- Recognizing Cause and Effect** Explain how some woolly mammoths could have been preserved intact in frozen ground. What conditions must have persisted since the deaths of these animals?