

Name: _____ Date: _____

Comprehensive Geologic Time Scales, Fossil Record Evidence, and Earth History Stratigraphy Assessment: A Middle and High School Science Mastery Quiz

Evaluate student understanding of the geologic time scale and how fossils serve as evidence of environmental change in this comprehensive earth science quiz.

1. Which principle allows geologists to determine that a rock layer containing Trilobite fossils is older than a layer containing Dinosaur fossils located directly above it?

- A. The Principle of Superposition
- B. The Theory of Plate Tectonics
- C. The Process of Carbon Dating
- D. The Law of Fossil Fuels

2. If a scientist discovers marine shell fossils in a high-altitude mountain range, what is the most logical inference regarding the area's geologic history?

- A. The mountain was created by a volcanic eruption recently.
- B. The area was once covered by an ocean and uplifted over time.
- C. Ancient organisms migrated uphill to escape predators.
- D. The fossils were carried there by strong wind currents.

3. How do index fossils help geologists identify the relative age of rock layers in different geographic locations?

- A. They are only found in one specific type of rock.
- B. They represent organisms that lived for a very long period.
- C. They are widely distributed and represent a specific, short timeframe.
- D. They are the only fossils that contain measurable amounts of DNA.

4. Which division of the geologic time scale is the longest, covering approximately 88% of Earth's history?

- A. The Mesozoic Era
- B. The Paleozoic Era
- C. The Cenozoic Era
- D. The Precambrian Eon

5. A sudden disappearance of multiple fossil species across several rock layers globally most likely indicates which event?

- A. A mass extinction event
- B. A period of rapid sedimentary deposition
- C. A localized forest fire
- D. The evolution of a single new species