

Name: _____ Date: _____

Sifting Sand and Stone: 12th Grade Fossil Chronology Quiz

Scholars identify the chemical fingerprints and physical markers of deep time preserved in isotopic ratios and index fossils like the Burgess Shale fauna.

1. Which of these specialized fossils serves as an 'index fossil' for the Cambrian Period due to its rapid evolution and wide distribution?

- A. Stromatolites
- B. Anomalocaris
- C. Paradoxides (Trilobite)
- D. Glossopteris

2. The Law of Superposition states that in an undisturbed sequence of rocks, the oldest layers are found at the bottom.

- A. True
- B. False

3. The process where organic cell walls are replaced with silica or calcium carbonate, turning wood into 'stone' is called _____.

- A. Carbonization
- B. Permineralization
- C. Molding
- D. Desiccation

4. Which isotope is most appropriate for a researcher attempting to date a hominid fossil found in volcanic ash that is approximately 2 million years old?

- A. Carbon-14
- B. Potassium-40
- C. Nitrogen-14
- D. Uranium-238

5. Ichnofossils, such as burrows or footprints, represent the actual skeletal remains of an organism.

- A. True
- B. False

6. The extinction event that marks the boundary between the Paleozoic and Mesozoic Eras is colloquially known as the _____.

- A. Great Oxygenation
- B. K-Pg Boundary
- C. Great Dying
- D. Cambrian Explosion

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7. In a geologic cross-section, a fault that cuts through three layers of sedimentary rock is considered _____ the rocks it cuts.

- A. Older than
- B. Younger than
- C. The same age as
- D. Evidence of erosion of

8. The Proterozoic Eon is characterized by the dominance of complex, multicellular terrestrial life.

- A. True
- B. False

9. Which specific geological environment is most conducive to the preservation of soft-bodied organisms, as seen in the Burgess Shale?

- A. High-energy beach zones
- B. Rapid burial in anaerobic mud
- C. Slow accumulation in desert dunes
- D. Exposed rocky mountain ridges

10. Geologists use an 'unconformity' in a rock sequence to identify a period of _____ in the geologic record.

- A. Rapid deposition
- B. Mass extinction
- C. Missing time
- D. Volcanic activity