

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Chrono-Quest: Decoding the 11th Grade Fossil Record

Biostratigraphy, carbon dating, and faunal succession—the essential tools used by geologists to reconstruct Earth's biological timeline.

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**1. Which principle suggests that in an undisturbed sequence of sedimentary rocks, each layer is older than the one above it?**

- A. The Principle of Faunal Succession
- B. The Principle of Original Horizontality
- C. The Principle of Superposition
- D. The Law of Cross-Cutting Relationships

**2. Petrification occurs when minerals from groundwater seep into the organic tissues of an organism and crystallize, effectively turning it to stone.**

- A. True
- B. False

**3. A fossil that is widely distributed, lived for a short period of geological time, and is used to define geologic periods is known as a(n) \_\_\_\_\_ fossil.**

- A. Trace
- B. Index
- C. Replacement
- D. Carbon

**4. Which geological era is often referred to as the 'Age of Mammals' due to the rapid diversification of mammalian species following the K-Pg extinction?**

- A. Paleozoic
- B. Mesozoic
- C. Cenozoic
- D. Proterozoic

**5. Carbon-14 dating is the most effective method for determining the age of dinosaur fossils from the Jurassic period.**

- A. True
- B. False

**6. What type of fossilization occurs when a thin film of carbon residue is left behind after the more volatile components of an organism decay?**

- A. Carbonization
- B. Recrystallization
- C. Molding

Name: \_\_\_\_\_ Date: \_\_\_\_\_

D. Casting

**7. The \_\_\_\_\_ extinction event, which occurred approximately 252 million years ago, was the most severe in Earth's history, wiping out nearly 96% of marine species.**

- A. Devonian
- B. Ordovician
- C. Permian
- D. Triassic

**8. Coprolates and fossilized footprints are categorized as which type of fossil?**

- A. Body Fossils
- B. Trace Fossils
- C. Microfossils
- D. Chemical Fossils

**9. The Great Oxygenation Event was triggered by the evolution of photosynthetic cyanobacteria during the Precambrian.**

- A. True
- B. False

**10. The appearance of many phyla of animals in a relatively short period of geologic time is known as the \_\_\_\_\_ Explosion.**

- A. Devonian
- B. Cretaceous
- C. Cambrian
- D. Silurian