

FOSSIL RECORDS AND EVOLUTIONARY RELATIONSHIPS – QUIZ 1

Part I – Multiple Choice

1. What is a fossil?

- A. A preserved remain, impression, or trace of an ancient organism
- B. A living organism that has never changed
- C. A newly formed genetic mutation
- D. A modern organism living in an ancient environment

2. How can the fossil record provide evidence for evolutionary relationships?

- A. It shows that all organisms appeared at the same time.
- B. It documents changes in organisms and transitional forms through geological time.
- C. It proves that organisms never change.
- D. It shows that fossils have identical DNA.

3. If two groups of organisms share several similar anatomical features in fossils, what can those similarities suggest?

- A. They may share a common ancestor.
- B. They must be exactly the same species.
- C. They lived during exactly the same year.
- D. They could not have evolved.

4. A fossil contains a combination of traits found in two different major groups of organisms. What is such a fossil often called when it provides evidence of evolutionary transition?

- A. A transitional fossil
- B. A vestigial organ
- C. An allele
- D. A population bottleneck

5. Why are transitional fossils important when studying evolution?

- A. They show that every species changes into a completely different species during its lifetime.
- B. They can document combinations of traits that connect major groups through evolutionary history.
- C. They prove that all organisms have the same body structure.
- D. They demonstrate that fossils cannot be dated.

6. A fossil species from 150 million years ago has a jaw structure that is intermediate between the jaw structures of two groups that lived before and after it. What does this evidence most directly support?

- A. The possibility of an evolutionary transition between the groups
- B. The conclusion that the fossil species was the direct parent of every later species
- C. The conclusion that evolution stopped 150 million years ago
- D. The conclusion that the two groups are unrelated

Part II – Select All That Apply

Directions: Select **ALL** answers that are correct.

7. Which types of evidence can be used along with fossils to study evolutionary relationships?

- A. DNA sequence comparisons
- B. Homologous structures
- C. Comparisons of protein sequences
- D. An organism's favorite food

8. Which observations from fossils can provide evidence about evolutionary history?

- A. Changes in anatomical features across successive rock layers
 - B. The appearance and disappearance of groups through geological time
 - C. Similar structures appearing in related fossil groups
 - D. The exact thoughts of an extinct organism
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Part III – True or False

Directions: Write **T** or **F** on the line.

9. _____ The fossil record can show that organisms have changed over long periods of geological time.
10. _____ Fossils found in older rock layers generally represent organisms that lived more recently than fossils found in younger rock layers.
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