

Biology and Chemistry Fundamentals

Science · Practice Test · 12 Questions

1. What concept describes when a population of organisms is divided, leading to unique characteristics over time?

- A) Heredity
- B) Isolation
- C) Selection
- D) Variation

2. Which evidence provides preserved remains or traces of past organisms?

- A) Biography
- B) Comparative morphology
- C) Embryology
- D) Fossils

3. Why is variation essential for evolution?

- A) It creates identical organisms
- B) It causes uniform traits
- C) It prevents adaptation
- D) It provides differences that aid survival

4. What is the term for trait differences among individuals of the same species?

- A) Adaptation
- B) Heredity
- C) Isolation
- D) Variation

5. Which term defines the transmission of traits from parents to offspring?

- A) Heredity
- B) Isolation
- C) Selection
- D) Variation

6. What does vigorous bubbling during a chemical reaction usually indicate?

- A) Gas production
- B) Boiling
- C) Freezing
- D) Evaporation

7. Why is the breakdown of limestone (CaCO_3) into CaO and CO_2 a decomposition reaction?

- A) One compound breaks into simpler substances
- B) One element replaces another
- C) Two compounds exchange ions
- D) Two substances form one product

8. What type of reaction is $\text{Zn} + \text{CuSO}_4 \rightarrow \text{ZnSO}_4 + \text{Cu}$?

- A) Combination
- B) Decomposition
- C) Double replacement
- D) Single replacement

9. Which classification is incorrect?

- A) $2\text{H}_2 + \text{O}_2 \rightarrow 2\text{H}_2\text{O}$: Combination
- B) $2\text{KClO}_3 \rightarrow 2\text{KCl} + 3\text{O}_2$: Decomposition
- C) $\text{Fe} + \text{CuSO}_4 \rightarrow \text{FeSO}_4 + \text{Cu}$: Double Replacement
- D) $\text{AgNO}_3 + \text{NaCl} \rightarrow \text{AgCl} + \text{NaNO}_3$: Double Replacement

10. What is the correct chemical equation for 'Hydrogen gas reacts with oxygen gas to produce water'?

- A) $\text{H} + \text{O} \rightarrow \text{H}_2\text{O}$
- B) $\text{H}_2 + \text{O}_2 \rightarrow \text{H}_2\text{O}$
- C) $\text{H}_2 + \text{O} \rightarrow \text{H}_2\text{O}_2$
- D) $\text{H}_2\text{O} \rightarrow \text{H}_2 + \text{O}_2$

11. Which equation correctly balances $\text{Fe} + \text{O}_2 \rightarrow \text{Fe}_2\text{O}_3$ according to the Law of Conservation of Mass?

- A) $\text{Fe} + \text{O}_2 \rightarrow \text{Fe}_2\text{O}_3$
- B) $2\text{Fe} + \text{O}_2 \rightarrow \text{Fe}_2\text{O}_3$
- C) $4\text{Fe} + 3\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3$
- D) $\text{Fe} + 3\text{O}_2 \rightarrow 2\text{Fe}_2\text{O}_3$

12. What happens to atoms during a chemical reaction?

- A) Atoms are destroyed
- B) Atoms disappear
- C) Atoms change elements
- D) Atoms are rearranged