

Chapter - 8 | Nature of Matter: Elements, Compounds, and Mixtures

QUIZ-01

- Which of the following is a uniform mixture?
 A. Sprout salad
 B. Poha
 C. Sugar dissolved in water
 D. Mixture of sand and iron filings (C)

Explanation: Sugar dissolved in water is a uniform mixture where components cannot be seen separately.

- Which substance is a compound formed by combining sodium and chlorine?
 A. Baking soda
 B. Sodium hydroxide
 C. Sodium chloride
 D. Chlorine dioxide (C)

Explanation: Sodium chloride is formed by the chemical combination of sodium and chlorine in a 1:1 ratio.

- Which gas causes lime water to turn milky?
 A. Oxygen
 B. Hydrogen
 C. Nitrogen
 D. Carbon dioxide (D)

Explanation: Carbon dioxide reacts with lime water to form calcium carbonate, making the solution milky.

- What kind of mixture is air?
 A. Non-uniform mixture
 B. Uniform mixture
 C. Compound
 D. Element (B)

Explanation: Air is a uniform mixture of gases like nitrogen, oxygen, argon, and carbon dioxide.

- Which of the following is a compound?
 A. Iron
 B. Water
 C. Air
 D. Sulfur (B)

Explanation: Water is a compound formed from hydrogen and oxygen in a fixed ratio.

- What is the ratio of hydrogen to oxygen in a water molecule?
 A. 1:1
 B. 1:2
 C. 2:1
 D. 3:1 (C)

Explanation: Water has two atoms of hydrogen and one atom of oxygen, giving a 2:1 ratio.

- Which of the following is a pure substance?
 A. Sea water
 B. Fruit juice
 C. Glucose
 D. Air (C)

Explanation: Glucose is a pure substance made of only one type of molecule.

- What is formed when iron and sulfur are heated together?
 A. A mixture of iron and sulfur
 B. Iron sulfide (compound)
 C. Iron oxide
 D. Sulfur dioxide (B)

Explanation: On heating, iron and sulfur react to form iron sulfide, a compound with new properties.

- Which of the following is an alloy?
 A. Sodium chloride
 B. Air
 C. Stainless steel
 D. Water (C)

Explanation: Stainless steel is a uniform mixture of iron, nickel, chromium, and carbon.

- Which material shows magnetic attraction before heating but not after?
 A. Sulfur
 B. Sample A (iron + sulfur mixture)
 C. Sample B (iron sulfide)
 D. Charcoal (B)

Explanation: Sample A contains iron, which is attracted by a magnet. Sample B (iron sulfide) does not show magnetic properties.