

Quiz 6

- 1. The empirical formula of a compound indicates:**
 - a) The physical properties of the compound.
 - b) The exact ratio of atoms of each element in the compound.
 - c) The potential chemical reactions of the compound.
 - d) The molecular weight of the compound.
- 2. What is the reason for cleaning the magnesium strip with steel wool before the experiment?**
 - a) To prevent it from reacting with the crucible.
 - b) To ensure accurate measurement of magnesium's mass.
 - c) To decrease the reaction time with oxygen.
 - d) To remove any impurities or oxide layer for a more complete reaction.
- 3. The primary purpose of heating the crucible before adding the magnesium strip is to:**
 - a) Make the crucible easier to handle.
 - b) Reduce the mass of the crucible.
 - c) Increase the reaction speed.
 - d) Drive off moisture and any other volatile deposits.
- 4. When the mass of the product (magnesium oxide) formed in the reaction is 3.32 grams and the initial mass of magnesium was 2.00 grams, the mass of oxygen that reacted with magnesium is:**
 - a) 2.00 gram.
 - b) 1.32 grams.
 - c) 5.32 grams.
 - d) 2.32 grams.
- 5. To determine the empirical formula of a compound, one should:**
 - a) Determine the molecular weight of the compound.
 - b) Calculate the moles of each element and find the simplest whole number ratio.
 - c) Measure the volume of the reactants and products.
 - d) Calculate the total mass of the compound.
- 6. Cooling the crucible to room temperature before weighing is crucial because:**
 - a) It prevents chemical reactions from continuing.
 - b) It increases the accuracy of the crucible's weight measurement.
 - c) Hot objects can appear to weigh less due to warm air currents.
 - d) It changes the chemical composition of the product.
- 7. In addition to magnesium oxide, magnesium can react with another gas present in the air to form a minor byproduct. This gas is:**
 - a) Carbon dioxide
 - b) Nitrogen
 - c) Oxygen
 - d) Hydrogen
- 8. After the reaction, to ensure all products are in the desired form, the experiment calls for the addition of which substance to the crucible?**
 - a) Ethanol
 - b) Hydrochloric acid
 - c) Water
 - d) Sodium hydroxide solution
- 9. The correct formula for magnesium oxide, based on the charges of magnesium and oxygen, is:**
 - a) MgO_2
 - b) Mg_2O
 - c) MgO
 - d) Mg_3O_2
- 10. After the burning of magnesium is complete, the magnesium oxide produced typically appears as:**
 - a) A blue-green ash.
 - b) A black solid.
 - c) A clear liquid.
 - d) A white powder.