# Chemistry Practical Class 9 To carry out the reaction of Burning of magnesium ribbon in air and classify it as physical or chemical changes Viva Questions with Answers

**Q1. Define Physical Changes.**

**Answer.** A physical change occurs when there is no change in the composition of a substance and no change in the chemical nature of the substance.
The interconversion of state occurs during physical change.

**SOLID ⇄ LIQUID ⇄ GAS**

**Q2. Define Chemical Changes.**

**Answer.** It is a change that causes a change in the chemical properties of matter, resulting in the formation of a new substance. As an example, consider the burning of oil or fuel.
Heat is evolved or taken in, the formation of bubbles, gas, and fumes, as well as a change in the colour of the reactants, can take place when they form a product.

**Reactants → Products**
**A + B → C (Chemical reaction)**

**Q3. What is a Chemical Reaction?**

**Answer.** A chemical reaction is a chemical change in which the bonds are broken within reactant molecules, and new bonds are formed within product molecules in order to form a new substance. A chemical reaction can be represented by a chemical equation, which specifies the number and type of atoms involved, as well as their arrangement into molecules or ions. The element symbols are used as a shorthand notation for the elements in a chemical equation, with arrows indicating the direction of the reaction.

**Q4 How many types of chemical reactions are there?**

**Answer**. There are 4 types of chemical reactions. They are as follows-

- Combination Reaction
- Decomposition Reaction
- Displacement Reaction
- Double Displacement Reaction

**Q5. Define Combination reaction.**

**Answer.** A reaction in which two or more reactants combine to form a single product is known as a combination reaction. It takes the form of X + Y → XY
Combination reaction is also known as a synthesis reaction.
Example of combination reaction: $2Na + Cl_2 \rightarrow 2NaCl$

**Q6. Define Decomposition Reaction.**

**Answer.** A reaction in which a single compound breaks into two or more simpler compounds is known as a decomposition reaction.
It takes the form of XY → X + Y
A decomposition reaction is just the opposite of a combination reaction.
Example of a decomposition reaction: $CaCO_3 \rightarrow CaO + CO_2$

**Q7. Define Displacement Reaction.**

**Answer.** A chemical reaction in which a more reactive element displaces a less reactive element from its aqueous salt solution. It takes the form X + YZ → XZ + Y
It is also called a substitution reaction
Example of displacement reaction: $Zn + CuSO_4 \rightarrow ZnSO_4 + Cu$

**Q8. Define Double Displacement Reaction.**

**Answer.** A chemical reaction in which ions get exchanged between two reactants which form a new compound is called a double displacement reaction. It takes the form of XY + ZA → XZ + YA
It is also called a metathesis reaction
Example of a double displacement reaction:
$BaCl_2 + Na_2SO_4 \rightarrow BaSO_4 + 2NaCl$

**Q9. What is the formula of Magnesium?**

**Answer.** The formula of Magnesium is Mg.

**Q10. Give the reaction between magnesium and oxygen?**

**Answer.** Magnesium reacts with oxygen to form magnesium oxide.

**Q11. What is the equation for the reaction?**

**Answer.** The equation for the reaction is as follows-
$Mg + O_2 \rightarrow MgO$

**Q12. Note down the observations for the experiment.**

**Answer.** Some of the observations of the experiment are-

- Magnesium burns with dazzling white flame.
- A white powdery mass of magnesium oxide is formed.

**Q13. What is the colour of the flame when magnesium burns in the air?**

**Answer.** Magnesium burns with a dazzling white flame.

**Q14. What will happen when the white powder is added to the water.**

**Answer.** When white powder (magnesium oxide) is added to the water it forms Magnesium hydroxide [$Mg(OH)_2$].

**Q15. Does Magnesium hydroxide have any effect on litmus paper?**

**Answer.** Yes, on testing Magnesium hydroxide with litmus paper, it turns red litmus to blue.

**Q16. Why does Magnesium hydroxide turn red litmus blue?**

**Answer.** Magnesium hydroxide is basic in nature and therefore, it changes red litmus to blue. It has no effect on blue litmus paper.

**Q17. Is magnesium oxide acidic or basic in nature?**

**Answer.** Magnesium oxide is basic in nature.

**Q18. What precautions should be taken while performing the experiment?**

**Answer.** Some precautions that need to be taken while performing the experiment are as follows-

- Sand paper should be used to clean the magnesium ribbon.
- While burning, hold the magnesium ribbon with tongs.
- Do not look directly at the bright light associated with burning Mg. Wear sunglasses.
- It is not safe to handle white powder or magnesium oxide.

**Q19. List the materials required for the experiment.**

**Answer.** Magnesium Ribbon, burner, tongs, watch glass, pH paper strip/red litmus paper.

**Q20. Why is magnesium rubbed with sandpaper?**

**Answer.** Magnesium is rubbed with sandpaper so as to remove any impurities present like rust, dust or greasy surface.

**Q21. What type of reaction is the burning of magnesium ribbon?**

**Answer.** The burning of magnesium ribbon is a combination reaction. This is because magnesium reacts with oxygen to form a single product magnesium oxide.

**Q22. Is the reaction a chemical change or a physical change?**

**Answer.** The reaction is a chemical change because a new product is formed.

**Q23. What is the colour of magnesium metal?**

**Answer.** The colour of magnesium metal is silvery white.

**Q24. Will there be any change observed if the dry litmus paper is brought in contact with the ash of the magnesium ribbon?**

**Answer.** No, there be no change observed if the dry litmus paper is brought in contact with the ash of the magnesium ribbon.