

## Chemistry Worksheet Class X

### Chemical Reactions and Equations

1. On what basis is a Chemical Equation balanced?
2. What happens chemically when quicklime is added to water filled in a bucket?
3. What change in color is observed when white silver chloride is left exposed to sunlight? State the type of chemical reaction in this change.
4. Why do gold and platinum not corrode in moisture?
5. Why do potato chips manufacturers fill the packet of chips with nitrogen gas?
6. A zinc plate was put into a solution of copper sulphate kept in a glass container. It was found that blue color of the solution gets fader and fades with the passage of time. After a few days when zinc plate was taken out of the solution, a number of holes were observed on it.
  - (a) State the reason for changes observed on the zinc plate
  - (b) Write the chemical equation for the reaction involved.
7. Write any two observations in an activity which may suggest that a chemical reaction has taken place. Give an example in support of your answer.
8. Identify the type of reaction from the following equation :
  - (a)  $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$
  - (b)  $\text{Pb}(\text{NO}_3)_2 + 2\text{Kl} \rightarrow \text{PbI}_2 + 2\text{KNO}_3$
  - (c)  $\text{CaO} + \text{H}_2\text{O} \rightarrow \text{Ca}(\text{OH})_2$
  - (d)  $\text{CuSO}_4 + \text{Zn} \rightarrow \text{ZnSO}_4 + \text{Cu}$
9. Using balanced chemical equation explain the difference between a displacement reaction and a double displacement reaction?
10. Give an example each for thermal decomposition and photochemical decomposition reactions. Write the relevant balanced chemical equations also.
11. A white salt on heating decomposes to give brown fumes and a residue is left behind:
  - (a) Name the salt
  - (b) Write the equation for the decomposition reaction
12. What happens when an aqueous solution of sodium sulphate reacts with an aqueous solution of barium chloride? Write the balanced chemical reaction for the reaction and name the type of reaction.

13. When the powder of a common metal is heated in an open china dish, its color turns black. However, when hydrogen is passed over the hot black substance so formed, it regains its original color. Based on the above information, answer the following questions :
- (a) What type of chemical reaction takes place in each of the two given steps?
- (b) Name the metal initially taken in the powder form. Write balanced chemical equation for both reactions.
14. When magnesium ribbon burns in air or oxygen,
15. a product is formed. State the type of chemical reaction and name the product formed in the reaction. Write balanced chemical equation of this reaction.
16. Give two examples from everyday life situations, where redox reactions are taking place.
17. Write the essential condition for the following reaction to take place:  
 $2\text{AgBr} + 2\text{Ag} + \text{Br}_2$   
Write one application of the reaction.
17. Write chemical equation for the reaction taking place when:
- (a) Iron react with steam
- (b) Magnesium reacts with dilute HCl
- (c) Copper is heated in air.
18. Write balanced chemical equation for the reaction that take place during respiration. Identify the type of combination reaction that takes place during this process and justify the name. Give one more example of this type of reaction.
19. A metal nitrate "A" on heating gives yellowish brown colored metal oxide along with brown gas "B" and a colorless gas "C". Aqueous solution of "A" on reaction with potassium iodide forms a yellowish precipitate of compound "D". Identify A, B, C & D. Also identify the types of both the reaction. Metal present in "A" is used in alloy which is used for soldering purposes.
20. Write the balanced chemical equations for the following reaction and identify the type of reaction:
- (a) Thermite reaction, Iron (III) oxide reacts with aluminum and gives molten iron and aluminum oxide
- (b) Chlorine gas is passed in an aqueous potassium iodide solution to form potassium chloride solution and solid iodine.
21. A substance X which is an oxide of a group 2 element is used intensively in the cement industry. This element is present in bones also. On treatment with water, it forms a solution which turns red litmus blue. Identify X and also write the chemical reaction involved.
22. Explain corrosion. Why do we apply paint on iron articles?