

St. Mary's School, Dwarka
Holiday Homework
Class: XI
Subject: Chemistry
Week 3
Worksheet 3

Objective:

Ø Revision of concepts

Ø Application of the concepts to real life situations.

Ø Skills to carry out research work and develop scientific aptitude

Instructions:

*Neatly write all the answers in your science notebook.

*Attempt the questions keeping in mind the weightage of each question.

*Assignment 'Summer Holiday Homework' will be created on TEAMS. PDF of handwritten work should be uploaded on it.

- | | | |
|-----|---|---|
| Q1. | Why do we store silver chloride in dark coloured bottles? | 1 |
| Q2. | Zinc liberates hydrogen gas when reacted with dilute hydrochloric acid, whereas copper does not. Explain why? | 1 |
| Q3. | A solution of potassium chloride when mixed with silver nitrate solution, an insoluble white substance is formed. Write the chemical reaction involved and also mention the type of the chemical reaction? | 2 |
| Q4. | (a) Grapes hanging on the plant do not ferment but after being plucked from the plant can be fermented. Under what conditions do these grapes ferment? Is it a chemical or a physical change?
(b) Why do fire flies glow at night? | 2 |
| Q5. | Ferrous sulphate decomposes with the evolution of a gas having a characteristic odour of burning sulphur. Write the chemical reaction involved and identify the type of reaction. | 2 |
| Q6. | Which among the following are physical or chemical changes?
(a) Evaporation of petrol
(b) Burning of Liquefied Petroleum Gas (LPG)
(c) Heating of an iron rod to red hot.
(d) Curdling of milk
(e) Sublimation of solid ammonium chloride | 3 |
| Q7. | During the reaction of some metals with dilute hydrochloric acid, following observations were made.
(a) Silver metal does not show any change
(b) The temperature of the reaction mixture rises when aluminium (Al) is added.
(c) The reaction of sodium metal is found to be highly explosive
(d) Some bubbles of a gas are seen when lead (Pb) is reacted with the acid.
Explain these observations giving suitable reasons. | 3 |

- Q8. 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 reactions involved. 3
- Q9. Write a balanced chemical equation for each of the following reactions and also classify them.
 (a) Lead acetate solution is treated with dilute hydrochloric acid to form lead chloride and acetic acid solution.
 (b) A piece of sodium metal is added to absolute ethanol to form sodium ethoxide and hydrogen gas.
 (c) Iron (III) oxide on heating with carbon monoxide gas reacts to form solid iron and liberates carbon dioxide gas.
 (d) Hydrogen sulphide gas reacts with oxygen gas to form solid sulphur and liquid water. 3
- Q10. Balance the following chemical equations and identify the type of chemical reaction.
 (a) $\text{HgO(s)} \xrightarrow{\text{Heat}} \text{Hg(l)} + \text{O}_2\text{(g)}$
 (b) $\text{Na(s)} + \text{S(s)} \xrightarrow{\text{Fuse}} \text{Na}_2\text{S(s)}$
 (c) $\text{TiCl}_4\text{(l)} + \text{Mg(s)} \rightarrow \text{Ti(s)} + \text{MgCl}_2\text{(s)}$
 (d) $\text{CaO(s)} + \text{SiO}_2\text{(s)} \rightarrow \text{CaSiO}_3\text{(s)}$
 (e) $\text{H}_2\text{O}_2\text{(l)} \xrightarrow{\text{U V}} \text{H}_2\text{O(l)} + \text{O}_2\text{(g)}$ 5