CLASS-10

PHYSICAL SCIENCE PERIOD PLANS

CHAPTER: 02 – CHEMICAL REACTIONS AND EQUATIONS

PERIOD PLAN-01:

Chemical reactions - Permanent, temporary change

Chemical reactions – Natural, manmade changes

Changes in chemical reactions

| Content Analysis | Class Room Environment Conversation: about the changes around us and what | | | | Teaching Learning Material |
|--|---|--------------|--------------|---------------|----------------------------------|
| Changes around us: | | | | | |
| There are many changes around us. | type of processes they are. | | | | |
| Some are | | Nat/Man | Tem/per | Phy/Che | |
| natural and some are manmade reactions. | Coal is burnt | | Per | | |
| Some are | Food gets digested | Nat | | | |
| temporary and some are permanent reactions. | Rusting of iron | | | Che | |
| Some are | Respiration | | | | |
| physical and some are chemical changes. | Milk changes to curd | | | | |
| * Some more examples. | Crackers are burnt | Man | | | |
| Chemical reaction: Calcium oxide reacts with | Activity-1: Take abou | | ick lime (C | 'aO) in a | |
| water and produces calcium hydroxide (lime | | | | | |
| water). | beaker. Add 10ml of water. Touch the beaker. What do you observe? What is the colour of solution? Test the | | | | Beaker |
| CaO + H_2O \rightarrow $Ca(OH)_2$ | solution with red litmus paper? Is it a base or acid? | | | | CaO |
| White colour less colour less | Observation: We feel hot to touch the beaker. It is a | | | | Water |
| Base neutral base | colourless solution. It converts red litmus into blue. It is | | | | Red litmus |
| Base converts red litmus into blue colour. | a base. | | | | Red Hillas |
| * No need to write equations for students. | a suse. | | | | |
| Chemical reaction: Sodium sulphate reacts with | Activity-2: Take abo | ut 50ml of | water in a h | neaker | |
| barium chloride and produce barium sulphate and | Dissolve 2gm of sodium sulphate. What is the colour of | | | | |
| sodium chloride. | solution? Take about 50ml of water in a beaker. | | | | |
| $Na_2SO_4 + BaCl_2 \rightarrow BaSO_4 + 2NaCl$ | Dissolve 2gm of barium chloride. What is the colour of | | | | Beakers-3 |
| colour less colour less white colourless | solution? Add both solutions in another beaker. What | | | | Na ₂ SO ₄ |
| Odorless Odorless | happened? Observation : Sodium sulphate solution is colourless. Barium chloride solution is colourless. The combination | | | | BaCl ₂ |
| $ZnSO_4 + BaCl_2 \rightarrow BaSO_4 + ZnCl_2$ | | | | | water |
| $__SO_4 + BaCl_2 \rightarrow BaSO_4 + 2_Cl$ | | | | | |
| $_SO_4 + BaCl_2 \rightarrow BaSO_4 + 2_Cl$ | of two solutions gives | | | | |
| * No need to write equations for students. | | | 1 1 | | |
| Chemical reaction: Zinc granules reacts with | Activity-3: Take a fe | w zinc gran | ules in a te | st tube. Add | |
| dilute hydrochloric acid and produce Hydrogen | 5ml of dilute hydrochloric acid to zinc granules. What | | | | |
| gas. If we put a burning stick near hydrogen gas, | happened? Put a burning match stick near the mouth of | | | | |
| Hydrogen puts off the burning match stick with | the test tube. What do you observe? | | | | Took turbo |
| pop sound. | Observation : A gas released with bubools and it can | | | | Test tube |
| $Zn + 2HCl \rightarrow ZnCl_2 + H_2(\uparrow)$ | puts off the match stick. The test tube become hot at | | | | Zinc pieces Dil. HCl |
| White colourless white | bottom to touch. | | | | |
| Similarly | | | | | Match box |
| $Zn + H_2SO_4 \rightarrow ZnSO_4 + H_2(\uparrow)$ | | | | | |
| Hydrogen burns with blue flame. | | | | | |
| * No need to write equations for students. | | | | | |
| Changes in chemical reactions: | Conversation: about | the change | s in chemic | cal reactions | |
| * Changes in state, colour and odor | after observing the ab | ove reaction | ns/processe | s. | |
| * Change in energy or in temperature | | | | | |
| * Change in chemical composition | | | | | |
| * Gases may be liberated | | | | | Chart |
| | I . | | | | l . |
| * Precipitates may be formed | | | | | |
| | | | | | |

NAGA MURTHY- 9441786635

Contact at: nagamurthysir@gmail.com Visit at: nagamurthy.weebly.com