

SALWAN PUBLIC SCHOOL, RAJENDRA NAGAR
CLASS – X
LESSON PLAN
CHAPTER-1: CHEMICAL REACTIONS AND EQUATIONS

CHAPTER-1:	Science :(CHEMICAL REACTIONS AND EQUATIONS)
Class Transaction	PART-I
(9-10 days)	Total: 4 periods (approx. 35 min each) Sub-Topic: Introduction regarding situations of daily life-Physical and chemical changes Sub-Topic: Chemical equations(writing equations) Sub-Topic: Chemical equations(writing balancing equations) Sub-Topic: Type of chemical reactions (combination and decomposition)
Pre-requisite for the course (KNOWLEDGE)	This lesson requires: • Basic knowledge of the situations of daily life and think what happens when physical and chemical changes take place • The nature and the identity of the initial substance have somewhat changed. • What is actually meant by a chemical reaction? How do we come to know that a chemical reaction has taken place?
Learning Objectives	Students will be able to: • recognize the Physical and chemical processes associated with biological and industrial processes affecting life and the environment. • understand chemical reaction they encounter every day. • represent equations to represent the reactions. • apply the principles of conservation of mass to balance chemical reactions • identify the different types of chemical reaction and explain.
Teachers' activity	Introduction: Teacher will introduce the topic by asking various questions from previous knowledge: • Analytical skills (scrutinizing an observation): To identify physical and chemical changes. Example-Paper is torn or Paper is burnt, ice is melting or iron nail is kept exposed to moist air. Evidence-based active-learning instructional strategies: • Problem solving (investigating and applying established principles to justify an observation)

	Example- Activity:-Burning of a magnesium ribbon in air and collection of magnesium oxide in a watch-glass. Concept insight: Always remember that magnesium being a reactive metal will react with oxygen if kept in open. So, it has to be cleaned before it is burned in air. Activity:-Formation of hydrogen gas by the action of dilute hydrochloric acid on zinc. Concept insight: The key to this answer is to remember that metals react with hydrochloric acid to form respective metal chlorides and liberate hydrogen gas. • Critical thinking and collaboration (Competitive evaluation of given information) Example- To make a chemical equation more informative, the physical states of the reactants and products are mentioned along with their chemical formulae from given information of different activities. Concept insight: First convert the word equation into skeletal equation with state and then balance the different atoms on both sides of the equation. • The ability to understand complex concepts (Inspecting and analyzing reasons for variation in established principles);Types of chemical reactions: Example- Combination and decomposition reactions: Chemical reactions involve the breaking and making of bonds between atoms to produce new substances and balancing equations with the help of law of conservation of mass Concept insight: Remember that a chemical equation should be balanced to follow the Law of conservation of mass. Recapitulation (working effectively with others): Example-Discuss brain storming questions in class in group.
Learning Outcomes	Students will be able to know: • A complete chemical equation which represents the reactants, products and their physical states symbolically. • How to write the balanced chemical equation. • A combination and decomposition reactions. • Reactions in which heat is given out along with the products are called exothermic reactions. • Reactions in which energy is absorbed are known as endothermic reactions.
Assessment	• Continuously monitor student progress by asking oral questions. • Providing active involvement of students in their own learning by giving daily Practice Problems in the class. • Peer assessment in Lab Activities • Written test
Self-Study,	• Self-Study (Independent Practice)-The teacher would ensure that

Assignments, Homework	each student should bring NCERT Book and tries to be independent at the work as well as be under the teacher's guidance. • Guided practice followed by Independent Practice (Question Bank): On completion of the chapter, students will be answer the following revision questions: Q.1.Why should a magnesium ribbon be cleaned before burning in air? Q.2. Write a balanced chemical equation with state symbols for the reactions: Sodium hydroxide solution (in water) reacts with hydrochloric acid solution (in water) to produce sodium chloride solution and water. Q.3.Take a few zinc granules in a conical flask or a test tube and add dilute hydrochloric acid or sulphuric acid to this. (a)Do you observe anything happening around the zinc granules? (b)Touch the conical flask or test tube. Is there any change in its temperature? Q.4.Take a small amount of calcium oxide or quick lime in a beaker, slowly add water to this and touch the beaker. (a)Do you feel any change in temperature? (b) Write the balanced chemical equation with physical state. Q.5.Take about 2 g silver chloride in a china dish and Place this china dish in sunlight for some time. (a)Observe the colour of the silver chloride after some time (b).Name type of the reaction. Q.6.Take about 2 g barium hydroxide in a test tube. Add 1 g of ammonium chloride and mix with the help of a glass rod. Touch the bottom of the test tube with your palm. (a)What do you feel? (b)Is this an exothermic or endothermic reaction? Homework: The students, with the help of the teacher, will solve the questions from NCERT back exercise in their notebook.
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