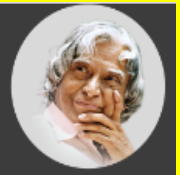
Srini Science Mind

Abdul Kalam Physical Science Group



NEW

9th class

PHYSICAL SCIENCE

MODEL LESSON PLAN

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MODEL LESSON PLAN

CLASS: 09 **SUBJECT: PS** **Name of the Teacher: M.Srinivasa Rao** **Name of the School: A.G.K.M.H.School, Gudivada**

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
Chemical Reactions & Equations (Chapter-6)	Chemical changes – Activities	1	xx/xx/xxxx	xx/xx/xxxx	
	Chemical Equations - Writing a Chemical Equation-	2	xx/xx/xxxx	xx/xx/xxxx	
	Balancing Chemical Equations	2	xx/xx/xxxx	xx/xx/xxxx	
	Making Chemical Equations more informative	2	xx/xx/xxxx	xx/xx/xxxx	
	Types of chemical reactions	4	xx/xx/xxxx	xx/xx/xxxx	
	Oxidation and Reduction	2	xx/xx/xxxx	xx/xx/xxxx	
	Corrosion	1	xx/xx/xxxx	xx/xx/xxxx	
	Rancidity	1	xx/xx/xxxx	xx/xx/xxxx	

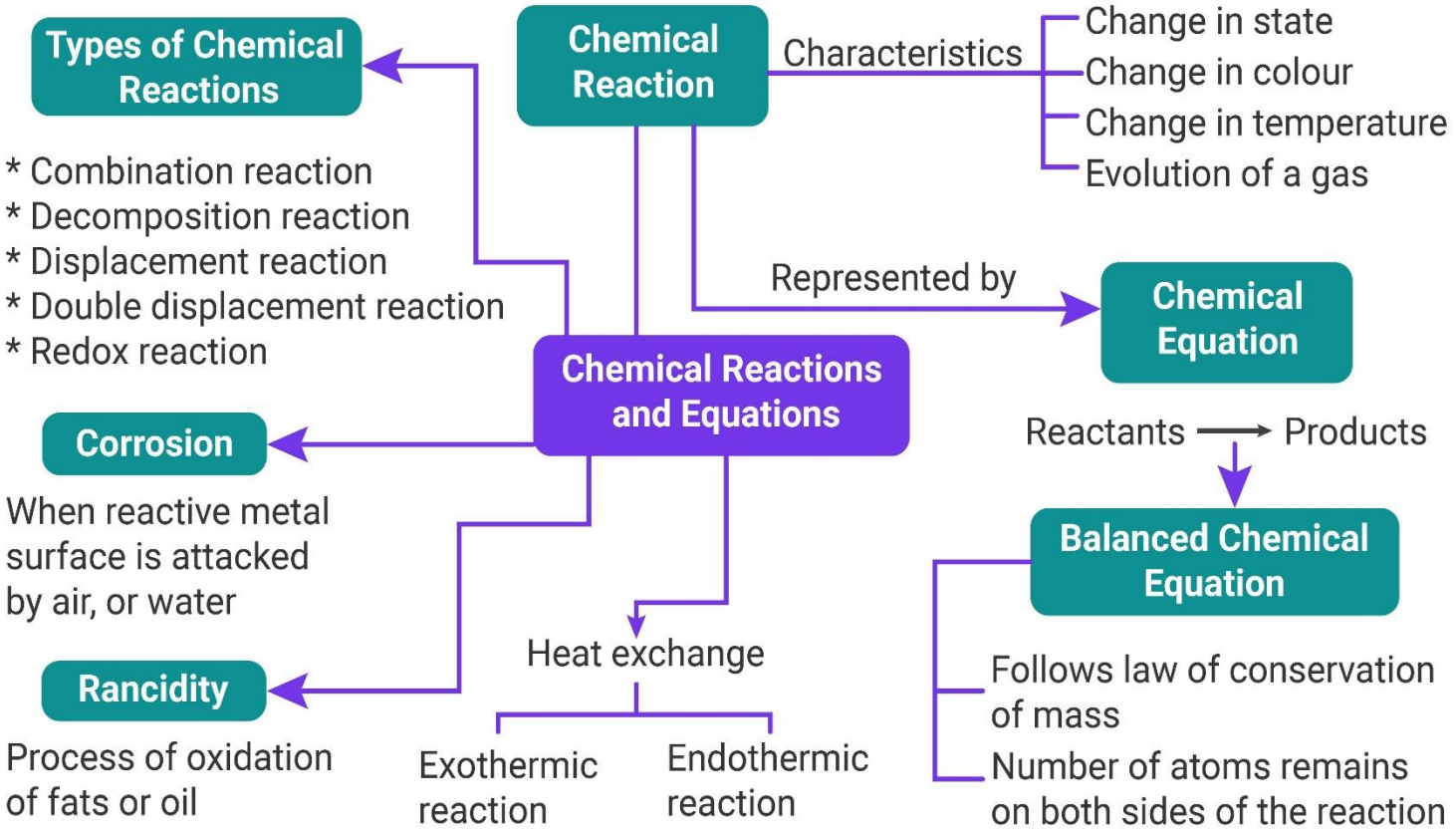
Prior Concept/Skills:

1. Write the symbols of first 20 elements.
2. What are the reactants and products in a chemical reaction?
3. Which metal is used in making of jewellery?

Learning Outcomes:	**No. of Periods**
1. Uses scientific conventions, symbols, and equations to represent various quantities, elements of chemical equations.	2
2. Communicates the findings and conclusions effectively of mass-mass, mass-volume and volume-volume relationships.	1
3. Calculates using the data given of mass - mass relations and mass - volume relationship.	1
4. Classifies chemical reactions based on their properties.	2
5. Draws flow chart of types of chemical reactions.	1
6. Draws labelled diagram of electrolysis of water.	1
7. Explains processes of electrolysis of water.	1
8. Explains processes of chemical double displacement reactions.	1
9. Plans and conducts investigations of “Is there any change in mass when chemical reaction takes place”?	1
10. Applies scientific concepts in daily life and solving problems of corrosion and rancidity.	1
11. Conducts experiments on corrosion of metals.	1
12. Draws conclusion effects of oxidation on everyday life.	1
13. Relates processes and phenomena with causes and effects of rancidity.	1

TEACHING LEARNING PROCESS

Induction/Introduction:



Experience and Reflection:

1. Students learn about the chemical reactions that take place in the human body.
2. Students will learn the appropriate methods for storing food items for longer periods without spoilage.
3. Students will explore the scientific methods appropriate for prevention from corrosion in everyday life.

Explicit Teaching/Teacher Modelling (I Do)	**Group Work (We Do)**	**Independent Work (You Do)**	**Notes for:**
1. Explain and conduct an activities on the different chemical changes.	1. Students observe the activities	1. Students identity the chemical change as temporary or permanent	1.How the chemical reaction takes place?

2. Explain and conduct activities on formation of barium sulphate precipitate.	2. Students conduct activity.	2. Students write the chemical formulae of substance.	2. What is the chemical formula of Barium sulphate.
3. Explain and conduct activity on formation of hydrogen gas by action of dilute HC*l* on zinc and testing of H_2 gas.	3.Discussion on action of dilute HC*l* on zinc granules.	3. Students describe the activity in their own way.	3. How to testing H_2 gas?
4. Discussion and explain how to write a chemical equations.	4. Students write the chemical equations of the chemical reactions.	4. Students complete the homework.	4. What is a skeleton equation?
5. Discussion and explain the balancing chemical equations.	5. Discussion on how to balancing chemical equations.	5. Students will be able to tell what rules should be followed when balancing chemical equations.	5. Balance the following chemical reaction. $H_2 + O_2 \rightarrow H_2O$
6. Explain making chemical equations are informative.	6. Group discussion on what information can give chemical equations.	6. Students write with appropriate information when writing a chemical equation.	6. What is an exothermic reaction?
7. Explain interpreting a balanced chemical equation.	7. Students will solve the problems.	7. Students will solve the problems.	7. On what basis is a chemical equation balanced?
8. Explain and conduct an activities on types of chemical reactions (Chemical combination)	8. Students conduct activities on chemical combination.	8. Students complete the homework.	8. Give two examples of chemical combination.
9. Explain and conduct an activities on types of chemical reactions (Decomposition reaction)	9. Students describe the process of electrolysis of water.	9. Students draw a diagram of electrolysis of water.	9. Is photosynthesis reaction is a chemical decomposition reaction?
10. Explain and conduct an activities on types of chemical reactions (Displacement reaction)	10. Students collect information on displacement reactions.	10. Students give examples of displacement reactions.	10. Why is displacement reaction exothermic?
11. Explain and conduct an activities on types of chemical reactions (Double displacement reaction)	11. Group discussion on Differences between displacement and double displacement reactions.	11. Students complete the Homework.	11. What are the conditions for a double displacement reaction?

12. Discussion and conduct an activity on oxidation. (Copper powder, china dish, spirit lamp)	12. Students conduct activity on oxidation reaction.	12. Students write the oxidation reactions. .	12.What are the effects of oxidation on everyday life?
13. Discussion and explain reduction.	13. Students explain reduction redox reactions.	13. Students give a reason, Why oxidation and reduction occurs in the same reaction?	13. Define redox reaction.
14. Discussion and explain the concept of corrosion.	14. Students collect information on preventions of corrosion.	14. Students complete the Homework.	14 What are the factors affecting corrosion process?.
15. Explain some more effects of oxidation on everyday life and rancidity.	15. How can we prevent the spoiling of food? – Group discussion.	15. Students write the meaning of rancidity.	15. What type of chemical reaction is responsible for causing rancidity?

Check For Understanding Questions	**TLM's (Digital + Print)**
1. Factual: 1. Why do all chemical equations must be balanced? 2. Why the apples, pears, bananas etc, change their colour when they cut and exposed to air? 3. Iron gets rust but Gold doesn't. Why? **2. Open Ended/Critical Thinking:** 1. Where do you observe oxidation process in your daily life? 2. Which pipes are suitable/ suggestible for water supply? Justify your answer. 3. Why the smell and taste of food items change? **3. Student Practice Questions & Activities:** 1. Balance the following chemical equations. a) $NaOH + H_2SO_4 \rightarrow Na_2SO_4 + H_2O$ b) $Hg(NO_3)_2 + KI \rightarrow HgI_2 + KNO_3$ c) $H2 + O_2 \rightarrow H_2O$ d) $KClO_3 \rightarrow KCl + O_2$ e) $C_3H_8 + O_2 \rightarrow CO_2 + H_2O$ 2. What is the difference between displacement and double displacement reactions? Write equations for these reactions. 3. What do you mean by corrosion? How can you prevent it? 4. Why do we apply paint on iron articles? 5. What is the use of keeping food in air tight containers?	1. Used prepared Quiz paper. 2. Utilized digital classroom. 3. Provide video links QR codes, DIKSHA App 4. YouTube video links

Assessment:

1. Write the balanced chemical equations for the following reactions.
   a) Zinc + Silver nitrate → Zinc nitrate + Silver.
   b) Aluminium + copper chloride → Aluminum chloride + Copper.
   c) Hydrogen + Chlorine → Hydrogen chloride.
   d) Ammonium nitrate → Nitrous Oxide + water.
2. $MnO_2 + 4HCl \rightarrow MnCl_2 + 2H_2O + Cl_2$
   In the above equation, name the compound which is oxidized and which is reduced?
3. Draw the diagram of the electrolysis of water in the lab and label it.
4. Differentiate exothermic and endothermic reactions.
5. Is the Photosynthesis reaction is a chemical decomposition reaction? Explain.

SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEADMASTER

VISITING OFFICER WITH REMARKS