CLASS-10
PHYSICAL SCIENCE
LESSON PLAN
CHAPTER: 04 – ACIDS , BASES AND SALTS

PERIOD NUMBER	CONCEPTS / TEACHING POINTS	PAGES IN TEXT BOOK		TEACHING PROCEDURE	TEACHING LEARNING MATERIAL	EVALUATION
		FROM	TO			
1.	Acids and Bases	69	70	Conversation	HCl, H_2SO_4, HNO_3, CH_3COOH, $NaOH$, KOH, $Mg(OH)_2$, NH_4OH, $Ca(OH)_2$, Blue litmus paper, Red litmus paper, Methyl orange solution, Phenopthalene solution, Test tubes-10, water, spatulas-5, watch glasses-10 (as per need)	What is called an indicator?
	Chemical properties of acids and bases			Activity / Lab Experiemnt		What is result for the test between blue litmus with acid? How can we use methyl orange indicator? Name some acid base indicators?
2.	Olfactory indicators	70	71	Activity	Cloth pieces, Onion pieces, ice box/fridge, HCl, $NaOH$, H_2SO_4, KOH, Clove oil, Venilla essence, Test tubes-4, Test tube holder	What are olfactory indicators? How can you use clove oil to identify acid or base?

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3.	Reactions of acids and bases with metals	71	72	Lab Experiment	Zinc granules, Dil. HCl, Test tube, Match box, Single holed rubber cork, Celine pipe with needle	How can we determine hydrogen?
4.	Reactions of acids with carbonates	73	73	Lab Experiment	Test tubes-2, Sodium Carbonate, Sodium bi carbonate, Dil. HCl, Rubber cork with one hole, Delivery tube, Lime solution	Which gas will liberate when carbonates reacts with acids?
	Reactions of acids with bicarbonates			Lab Experiment		What is the determination test for Carbon dioxide?
5.	Neutralisation reactions	74	74	Activity	HCl, NaOH, Phenopthalene solution, Conical flask, droppers-2, Antacid tablets, Litmus papers	What is neutralization reaction?
	Antacid tablet			Activity		Why do we use antacid tablets?
6.	Reactions of metal oxides with acids	74	75	Activity	CuO, HCl, HNO_3, CaO, $Ca(OH)_2$, Beaker-2, Test tubes-2, Test tube holder, Water	Name any two metal oxides?
	Reactions of non metal oxides with bases			Activity		Is non metal oxide an acid or a base?

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7.	Common properties of acids	75	77	Activity	Beaker, Water, HCl, H_2SO_4, NaOH, KOH, Glucose, Alcohol, Connecting wires, 5V LED bulb, 9V battery, Graphite rods-2	What are the properties of acids?
	Common properties of bases			Activity		
8.	Reaction with water (acids and bases)	79	82	Activity	Water, beakers-2, HCl, NaOH, P^H papers, P^H scale, different substances to test P^H values	What is the use of P^H ?
	Strength of Acids and bases			Conversation		Are salts are neutral?
	P^H values of substances			Conversation Activity		Is identifying P^H values of substances useful?
9.	Importance of P^H in daily life	82	84	Conversation Activity	Chart, Substances like soil, P^H paper, water, beaker	How can our tooth start decay?
10.	Salts and types	84	86	Conversation	P^H paper, litmus papers, NaCl, KCl, NH_4Cl, Na_2CO_3, $NaHCO_3$, $CuSO_4$ and other available salts, beakers-2, water	Are all salts neutral?
						What is a salt?
	P^H Values of salts			Conversation Activity		How can salts formed?

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11.	Preparation of bleaching powder- uses	86	88	Conversation	Chart, videos of preparation of bleaching powder, washing soda and baking soda	What are the uses of bleaching powder?
	Preparation of Baking soda- uses			Conversation		Chemical name of washing soda?
	Preparation of washing soda- uses			Conversation		Which is used in cakes while preparing them?
12.	Removing of water – Crystallisation	88	09	Activity	Test tube, Test tube holder, Copper sulphate, Spirit lamp, water, spatula, POP, Chart	Name some substances having crystallization of water?
	Plaster of paris – manufacturing process			Conversation		What is the colour of anhydrous copper sulphate?

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