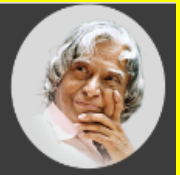
Srini Science Mind

Abdul Kalam Physical Science Group



NEW

10th class

PHYSICAL SCIENCE

LESSON PLAN

Visit: srini science mind

M.SRINIVASA RAO, SA(PS) SPSMHS GUDIVADA PH: 9848143855

LESSON PLAN

CLASS: 10 **SUBJECT:** PS **Name of the Teacher:** M.SRINIVASA RAO **Name of the School:** S.P.S.M.H.School,Gudivada

Name of the Lesson/Unit	Topic	No.of Periods Required	Timeline for teaching		Any specific information
			From	To	
Acids, Bases and Salts (Chapter-2)	Chemical properties of Acids and Bases	3			
	What do you observe when water is mixed with acid or base?	1			
	Strength of acid or base - pH scale	2			
	Importance of p^H in everyday life	2			
	More about salts	1			
	Common salt-A raw material for chemicals	1			
	Bleaching powder-Baking soda	1			
	Washing soda-Plaster of Paris	1			

Prior Concept/Skills:

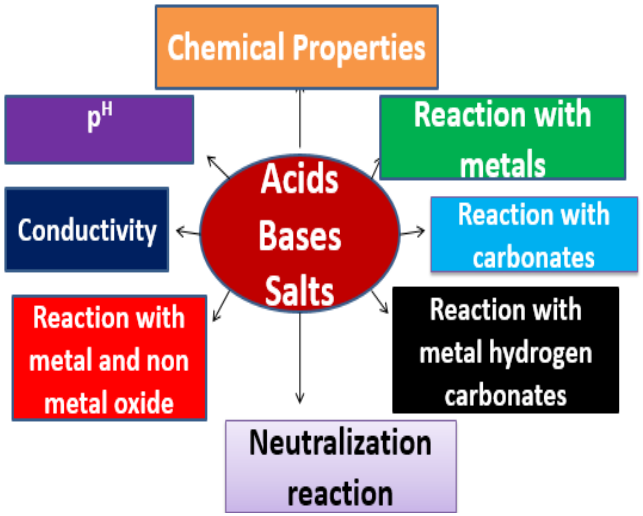
1. Name the acid present in lemon juice?
2. Write any one characteristic of acid?
3. What is the test of the base?
4. What is the nature of soap solution?

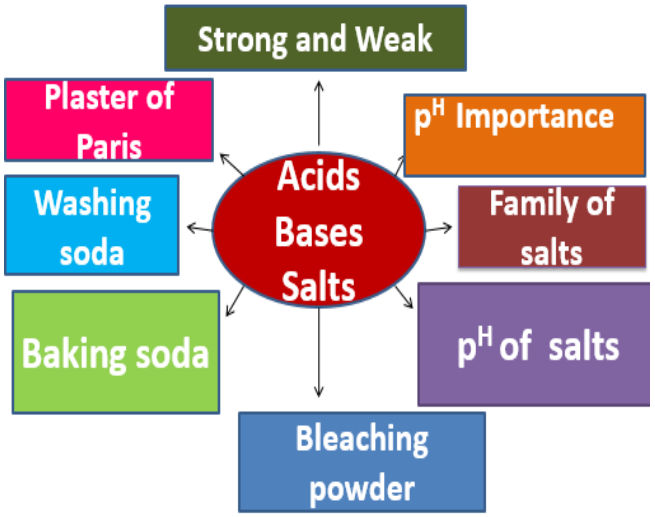
Learning Outcomes:	No. of Periods
1. Classifies materials, acids and bases on the basis of their physical and chemical properties.	1
2. Appies learning to hypothetical situations “Why pickles and sour substances are not stored in brass and copper vessels?”	1
3. Uses scientific conventions to symbols, formulae and equations.	1
4. Plans and conducts investigations and experiments to arrive at and very the facts of tests the conductivity of various solutions	1
5. Draws conclusion of acid solution in water conducts electricity.	1
6. Differentiates materials based on properties and characteristics of strong and weak acids and bases, salts using different indicators.	1
7. Takes initiative to know about scientific discoveries and inventions of p^H scale.	1
8. Handles tools and laboratory apparatus properly, measures $p^H$of substances using p^H paper	
9. Analyses and interprets data of p^H solutions to predict the nature of substances	1
10. Relates processes and phenomena with causes and effects of tooth decay with p^H of saliva,	1
11. Relates processes and phenomena with causes and effects of growth of plants with p^H of the soil, survival of aquatic life with p^H of water.	1

12. Communicates the findings and conclusions effectively of p^H values in our day to day life situations.	1
13. Applies scientific concepts in daily life and solving problems of Baking soda, Washing soda, Bleaching powder and plaster of Paris.	1

TEACHING LEARNING PROCESS

Induction/Introduction:





Experience and Reflection:

1. Students making of natural indicators
2. Students apply the scientific concept involved in storing food items in everyday life.
3. Students will be able to identify substances used in everyday life as acids, bases and salts.

Explicit Teaching/Teacher Modelling (I Do)	Group Work (We Do)	Independent Work (You Do)	Notes for:
1. Discussion and conduct an activity of identifying the sample as an acidic or basic solution.	1. Students collect information of the physical properties of acids and bases.		1. Write the names of acids?
2. Explain the making of olfactory indicator	2. Students make the olfactory indicator in their own way.	1. Write the colors give the acids and base with litmus papers	2. Who am I? I give different smells in acid and base solution.
3. Conduct and discuss an experiment of reaction of acids and base with metals	3. Discussion on precautions of conducting an experiment.		3. What gas is produced when magnesium is

			made to react with hydrochloric acid?
4. Explain and conduct an experiment of the reaction of acids with carbonates and metal hydrogen carbonates.	4. Describe the procedure of the experiment step by step.	2. Students complete the Homework.	4.Is neutralization reaction a double displacement reaction?
5. Explain the concept of 'Neutralization reaction'	5. Students complete the task on Neutralization.	3. Write the neutralization reaction and give examples?	5. What is the nature of metal oxide?
6. Discussion and demonstration of reactions of acids with metal oxides and base with non-metal oxide.		4. Write the chemical Equation reaction of an acid with metal oxide?	6. What do acids have in common?
7. Explain and conduct an activity of acid solution in water that conducts electricity.	6. Does the bulb glow in all cases? Group discussion		7. What is dilution?
8. Explain the concept "water is mixed acid or base and strength of acids/base	7. Collect the information of the strength of acids and bases,	5. Students have done the dilution process.	8. What is p^H scale?
9. Discussion and explain p^H scale and introduces p^H values of some substances	8. Discussion of given p^H table	6. Analysis of numerical data and answer the table-based questions?	9. Write the importance of pH of the soil?
10. Collect the information of importance of p^H in day to day day-to-day life	9. Draw the flow chart about importance of p^H	7. Students complete the homework.	10. What is chemical name of common salt and write their formula?
11. Explain Salts, Family of salts and p^H of salts	10. Prepare slide show on uses of Bleaching powder.	8. Students give use Washing soda and Baking soda.	11. Write the formula of Washing soda?
12. Discussion and explain the Bleaching powder, Baking soda and Washing soda, their uses.	11. Discussion of conducting experiment.	9. Plaster of Paris can be expressed in its own way.	12. What is the colour of copper sulphate crystals?
13. Conduct an activity of 'Removing water of crystallisation'			13.What is the chemical name of POP?
14. Discussion and Explain Plaster of Paris and their uses			

Check For Understanding Questions

1. Factual:

1. What is the strongest natural acid?
2. What is the test of acid, base and salt?
3. Who invented p^{H} ?
4. What acid is in your stomach?

2. Open Ended/Critical Thinking:

1. Is a negative p^{H} possible?
2. Why is calcium hydroxide added to soil?
3. While diluting an acid, why is it recommended that the acid should be added to water and not water to the acid?
4. What effects can a lower p^{H} have on the environment?

3. Student Practice Questions & Activities:

a) Why does tooth decay start when the p^{H} of mouth is lower than 5.5?
b) Plaster of Paris should be stored in moisture – proof container. Explain why?
c) Compounds such as alcohols and glucose contain hydrogen but are not categorized as acids. Describe an activity to prove it.
d) Give two important uses of washing soda and baking soda.

TLM's (Digital+Print)

1. Used prepared Quiz paper.
2. Utilized digital classroom.
3. Provide video links QR codes, DIKSHA App
4. YouTube video links
5. IFP

Assessment:

1. What is meant by "water of crystallization" of a substance? Describe an activity to show the water of crystallization.
2. Draw a neat diagram shows the reaction between zinc granules and dilute hydrochloric acid. Write a balanced chemical equation for this reaction.
3. Observe the table and answer the following questions

Solution	A	B	C	D	E	F	G	H
p^{H} value	4	1	12	7	8	9	2	13

i) Which solution is Neutral? ii) Which solutions are strong Alkali?
iii) Which solutions are strong Acids? iv) Which solutions are week Alkali?

4. Collect the information for calling calcium sulphate hemihydrates as Plaster of Paris.

SIGNATURE OF THE TEACHER SIGNATURE OF THE HEADMASTER

VISITING OFFICER WITH REMARKS