

MODEL LESSON PLAN FOR ALL TYPES OF HIGH SCHOOLS

CLASS: VII EM.

SUBJECT: GENERAL SCIENCE.

Name of the Teacher:

Name of the School:

Name of the Lesson/Unit	Topic	No. of Periods Required	Time line for teaching		Any specific Information
			From	To	
NATURE OF SUBSTANCES	Introduction, Acids, bases and neutral substances (Activity - 1&2)	2			
	Acid, Base indicators (Activity-3 and Lab activity – 1) PH of substances (Activity – 4)	2			Uses of acid and bases in daily life
	Reaction of acids with metals. (Lab activity -2.) Reaction of bases with metal. (Activity -5)	1			Agriculture fields - soil test
	Reaction of acid with egg shell. (Activity -6.) Neutralization reaction. (Activity -7.)	1			
	Uses of acids and bases in our daily life. (Table -6&7) Prevention and management of substances misuse.	2			Acidity problems home remedy
	Revision of key concepts and improve your learning	1			
	Digital content	1			
	Assignment / slip test	1			

Prior Concept/ Skills: *(Essential concepts and skills to be checked/bridged before teaching the current concept.)*

Types of materials, names of the fruits and substances that taste sour and bitter, Turmeric, colorful flower names, vinegar used in kitchen, Acid, antacids, acid rains. Soaps and detergents names.

Learning Outcomes: *(Select from SCERT Academic Calendar and Textbook)*

1. Differentiates acids, bases and neutral substances. And natural indicators, synthetic indicators, olfactory indicator and universal indicator.
2. Conduct simple investigations to find out natural indicators and to know PH of different substances and acid base reactions.
3. Writes word equations for chemical reactions.
4. Suggests the concept of neutralization in daily life experiences.
5. Appreciates the role of neutralization in daily life problems solving.
6. Applies the management and misuse of substances concepts in daily life
7. Explains processes of acid rains and effects.
8. Exhibits creativity in by making own natural indicators.
9. Discusses and appreciates the scientist Arrhenius for his contribution in chemistry.

No. of Periods:

12

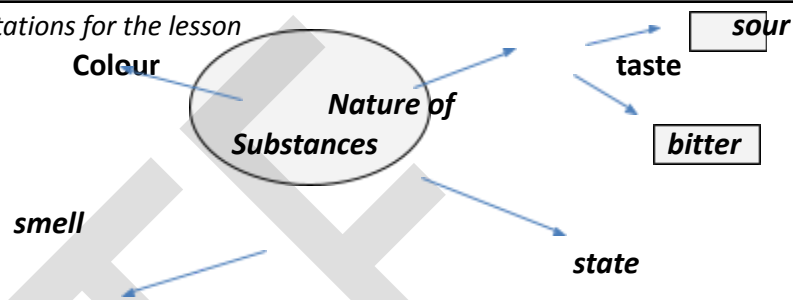
TEACHING LEARNING PROCESS	
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Induction/Introduction (*Generating interest, informing students about the outcomes and expectations for the lesson*)

Nature of Substances

- Colour
- taste
 - sour
 - bitter
- smell
- state

a. What is the taste of pickle/lemon juice?
b. Name the substances which tastes sour?
c. What are the substances used to wash hands/clothes/teeth/to take bath ?
d. What is the nature of that substance when we are touch ?(slippery/Not)



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Experience and Reflection *(Task/question that helps students explore the concept and connect with their life)*

- Identify the acids and bases by using natural indicators.
- How is acidity caused? What is the home remedy for it?
- How can you help the farmers in finding out whether their agriculture fields are acidic or basic?

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Explicit Teaching/Teacher Modelling (<i>I Do</i>)

- Discussion and presentation on acids bases and neutral substances.
- Explain about different types of acid base indicators.
- Synthetic indicators-(lab activity -1)
 - Identify the nature of substances by using synthetic indicators like red litmus, blue litmus, methyl orange, phenolphthalein.
- Concept of PH of substances.
- Reaction of acids with metals (lab activity -2)
- Reaction of bases with metals.
- Reaction of acid with Egg shell. (Activity - 6)
- Neutralization reactions (activity- 7)
- Discussion and presentation on uses of acids and bases in our daily life.

Group Work (We Do)

- Form a group to collect some substances and identify their nature through taste.
- Fill the findings in the Table -1.
- Testing with hibiscus indicators.
- Fill the findings in Table -3.

Independent Work (You Do)	
1. Write a paragraph describing the process of photosynthesis.	
2. Draw a diagram of a chloroplast showing the light-dependent reactions and the Calvin cycle.	
3. Research the role of chlorophyll in photosynthesis and write a short report.	
4. Calculate the rate of photosynthesis for a given plant under different light intensities.	
5. Design an experiment to test the effect of temperature on the rate of photosynthesis.	

- Activity-2: To identify the nature of substances like soap and toothpaste.
- Testing with turmeric indicator activity -3.
- Prevention and management of substances misuse. While handling chemicals.

APBSTF

Check For Understanding Questions 1. Factual: - What is the taste of an acid? - Give examples to different types of acid and base indicators? - What are alkalis? Give some examples? 2. Open Ended / Critical Thinking: - Can we use any flower as an indicator? - Is it possible to test all the acids and bases simply by touching or tasting them? - What happen when a metal piece is dropped in an acid? - Why do neem or miswak sticks are used to chew sticks from olden days? Student Practice Questions & Activities (<i>Exercises from workbook / textbooks/ blackboard</i>) - Give examples to different types of acid and base indicators. - What measures do we follow to prevent acid rains? - What are the uses of acids and bases in our daily life? - Prepare different greeting cards by using indicators. - Anita's mother was filled mango pickle in a ceramic jar and stored.so many doubts were arisen her mind. What would be those doubts? - Draw a neat diagram of arrangement of apparatus to conduct an activity that acid reacts with metal and liberates hydrogen gas.	TLMs (Digital + Print) DIKSHA Resource link: https://diksha.gov.in/resources/play/content/do_313098532608491520180 https://diksha.gov.in/play/content/do_31310503569727488012669 https://diksha.gov.in/resources/play/content/do_313098541936844800168 Use the language lab pen drive resource. Some of the other digital resources are: Reaction of acid with metals Neutralization reaction Reaction of acids with egg shell TLMs Blue Litmus Paper, Red litmus paper, conical flask, hydrochloric acid zinc pieces, Test tubes paper, Indicators. Flowers, turmeric, different fruits.
Assessment (<i>Think of what children SAY, DO and MAKE while learning that can form the evidence of learning to be used for assessment</i>). - Write differences between acids and bases. - How can you demonstrate neutralization process? - Zink + Hydrochloric acid $\longrightarrow$ _____ + _____ - How can you use the knowledge of neutralization in your daily life? - What precautions will you take while handling chemicals in the lab? - What are acid rains? How will they effect human life?	

SIGNATURE OF THE TEACHER

SIGNATURE OF THE HEAD MASTER

VISITING OFFICER WITH REMARKS