DCP FOR CHAPTER-1 : MATTER

Number of period	Sub-Topics
1	**Introduction,Concept of Matter,Nature of Matter,Characteristics properties of Matter**
2	**States of Matter,Kinetic Theory of Matter,Explanation of states of matter based on the kinetic theory.**
3	**Inter-conversion of the States of Matter,Terms Related to the Inter-conversion of Matter.**
4	**Law of Conservation of Mass, Experimental Verification and Numericals based on it.**
5	**Recapitulation and Class Test**

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ODM Teachers' Note

Class	VIII	**Subject**	CHEMISTRY
Prd	1	**Chapter-1**	**MATTER**
Sub-Concepts	Introduction : What is matter ? Major composition of matter (tiny particles) Properties of particles of matter.		
Teaching Aid To be used	Smart Class, PowerPoint presentation, glass of water and some amount of salt		
Learning Outcome	• Students will be able to know that every matter is composed of very tiny particles. • They could also able to know how small are the particles of matter are ? • They can be confirmed themselves how these particles remain in any state of matter.		
Sl. No	**Step Wise (What to be done)**		
1. **Introduction**	**For Achievers** ➢ The following points will be discussed to give an idea about matter. ➢ Demonstration about the composition of particles of matter.(Act-1) ➢ Force of attraction among the particles of matter.How are we able to see any object?(Act-2) ➢ Tininess of the particles of matter.(Act-3) [All above points will be discussed on the basis of Kinetic Theory of Matter]	**For Average** ➢ Matter is composed of very tiny particles. ➢ Nature of particles of matter : Force of attraction ➢ Inter-molecular space ➢ Particles of matter always remain in a ceaseless motion.	
2.Composition, Tininess of particles	➢ Showing different examples for composition ➢ An activity followed for showing the tininess of particles of matter. ➢ Explaining why the color of crystals of Potassium permanganate solution still showing its color after excess dilution.		
3.Properties of particles :Intermolecular spaces	➢ An activity is followed.Show a video on .(Dissolving sugar in water taken in a beaker. ➢ No level of water is rising in water showing gap in between particles		

4.Forces of attraction in between particles of matter.	➢ An activity is followed (breaking chalk, swimming through water and breaking iron nail) ➢ Different states of particles have different modes of forces of attraction ➢ Solid> liquid> gas
5.Particles of matter are in a constant or random motion	- An activity is followed (Pollen grains dropped in water found to move randomly) - Motion of particles vary with respect to different states - gas > liquid > solid - which gives an idea of Kinetic energy content of particles.
7.Home Assignment	➢ Explain an activity to show that particles of matter have forces of attraction among them with neat and labelled diagram. ➢ How can you able to show that particle in solid are also in motion although it is not observable. ➢ Explain the following : Air is a matter but light is not a matter.
8. Practice Important diagrams	➢ All the above mentioned activities.

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Class	VIII	**Subject**	CHEMISTRY
Prd	2	**Chapter-1**	MATTER
Sub-Concepts	-Last Activity : Particles of matter can diffuse among each other. - States of matter (solid, liquid, gas and two other states like Plasma and BEC) - Comparison between different states of matter - Description of Properties based on Kinetic Theory of Matter		
Teaching Aid To be used	Smart Class, PowerPoint presentation, Demonstrations		
Learning Outcome	• Students will be able to distinguish between different states of matter. • They could able to explain the kinetic reason behind every property of matter. • They also would be able to know two new states of matter and their behavior.		
Sl. No	**Step Wise (What to be done)**		
1. **Introduction**	**For Achievers** ➢ The teacher will demonstrate an activity showing diffusion of particles of matter ➢ The teacher will describe the factors on which diffusion of particles depend. ➢ The teacher will distinguish the states of matter based upon their kinetic property. ➢ The teacher will also explain about the two new states of matter I.e. plasma and BEC	**For Average** ➢ The teacher will demonstrate an activity showing diffusion of particles of matter ➢ The teacher will describe the factors on which diffusion of particles depend. ➢ The teacher will distinguish the states of matter based upon their kinetic property. ➢ The teacher will also explain about the two new states of matter I.e. plasma and BEC	
2.Showing property of diffusion of particles of matter	➢ An Activity should be followed (burning an in-scent stick, pouring few amount of salts of Copper Sulphate in water or ink in water) ➢ Drawing the conclusion from above activity. ➢ Factors affecting the rate of diffusion.		
3. States of matter	➢ Solid, liquid and gas. ➢ Studying their properties like forces of attraction, inter-molecular spaces, kinetic energy content, diffusibility, density, compressibility… ➢ Explaining all with respect to Kinetic Theory of Matter.		

4.Comparision of different States	1. Properties solid liquid gas Shape Volume Forces of attraction Inter particular spaces Density Fluidity Rigidity Compressibility * Explanation of every property based upon kinetic theory of matter.
5. Two other states of matter	- 4th state- Plasma and 5th state- Bose Einstein Condensate [BEC] - Plasma-Extreme hot and Ionized state of particles BEC- super cooling gaseous particles - Mentioning few examples of respective states
6.Home Assignment	1. Why should we be able to smell the aroma of hot sizzling food from much distant apart rather than freezed one ? 2. Why do liquid flow but not solid ? 3. Do you agree with the statement that liquid are in-compressible or not. Answer with proper reason. 4. Distinguish the following : A) Gas and Vapor B) Solid and Rigid C) Fluid and Liquid

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Class	VIII	**Subject**	CHEMISTRY
Prd	3	**Chapter-1**	MATTER
Sub-Concepts	Inter Conversion of States of matter. Some related Terms. Factors affecting the states of Inter-conversion.		

<table>
<tr><td>Teaching Aid
To be used</td><td colspan="2">Smart Class, PowerPoint presentation, Demonstration in Practical Lab.</td></tr>
<tr><td>Learning Outcome</td><td colspan="2">• Students will be able to interpret the conversion of states of matter
• They could analyse the factors responsible for conversion of states of matter.
• They should know the exact meaning of different terms related to this context.</td></tr>
<tr><td>Sl. No</td><td colspan="2">Step Wise (What to be done)</td></tr>
<tr><td>1.
Introduction</td><td>For Achievers
➢ The teacher will ask questions regarding different terms of such relevance.
➢ The teacher will discuss about the factors responsible for such change of matter like temperature and pressure.
➢ The teacher will distinguish between terms like liquification and condensation, solidification and freezing.</td><td>For Average
➢ The teacher will ask questions regarding different terms of such relevance.
➢ The teacher will discuss about the factors responsible for such change of matter like temperature and pressure.</td></tr>
<tr><td>2.Inter-conversion of States.</td><td colspan="2">Melting -> boiling -> sublimation ->
* solid ----------liquid---------- gas ---------- solid
<- Freezing <- condensation <- deposition/ Sublimation
* Different terms related to above processes.</td></tr>
<tr><td>3.Factors affecting different states</td><td colspan="2">* Temperature
* Pressure
* Impurities
-> Purity of a substance can be known from its definite melting or boiling point.</td></tr>
<tr><td>4.Specific temperature range for different processes</td><td colspan="2">➢ Melting point, Boiling Point, Freezing point, Condensation point, Sublimation point.
➢ Explaining few examples for above conversions :
Liquid Ammonia, Dry Ice and LPG.</td></tr>
<tr><td>5.Home Assignment</td><td colspan="2">1.What is difference between condensation point and freezing ?
2.Which one having low melting point salty ice or normal ice ? Why?
➢ How can we obtain liquid air ? Can we able to separate different major components of air, if so how ?
➢ Why is it difficult to cook food at hill top ?</td></tr>
</table>

6.Some HOTs for achievers	➢ How would we obtain dry ice ? Write one application of it. ➢ Why powdered salts are sprinkled over the snow covered pavements in western cities ? ➢ If we can able to cut an ice piece with the help of a linen wire, how ?

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Class	VIII	**Subject**	CHEMISTRY
Prd	4	**Chapter-1**	MATTER
Sub-Concepts	Law of Conservation of Mass (Experimental Verification) Solving some relevant Numerical Problems.		
Teaching Aid To be used	Smart Class, PowerPoint presentation,Lab Demonstration.		
Learning Outcome	• Students will be able to : • Aware about the Law of Conservation of Mass during a Chemical Reaction its Experimental verification. • They can use it in any sorts of physical and chemical reactions. • Which they can relate to that matter can neither be created nor destroyed.		
Sl. No	**Step Wise (What to be done)**		
1. **Introduction**	**For Achievers** ➢ Through Lab Experimental verification The teacher will explain how Law of Conservation of Mass remain valid for chemical reactions. ➢ He/She will practise some Numericals for practice.	**For Average** ➢ Through Lab Experimental verification The teacher will explain how Law of Conservation of Mass remain valid for chemical reactions. He/She will practise some Numericals for practice.	
2.Experimen -tal observation	➢ Following Law of Conservation of Mass. ➢ Experimental Verification. ➢ Calculation of data. ➢ Conclusion.		

3.Practicing some Numerical problems.	➢ Relevant to context some problems should be practiced. ➢ Reactants ----------> Products Mr = Mp BaCl2 + Na2SO4 -> BaSO4 + 2NaCl (aq) (aq) (s) (aq)
4. **Numerical problems based on**	➢ How much silver nitrate is required to get dissolved in 25.3g of sodium chloride to form 27.4g of white inslolube mass of silver chloride and 21.7g of sodium nitrate ?

5.Some HOTs for achievers	➢ If 40g of Mg burns in presence of 32g of Oxygen then how much white ash of MgO will be produced and how much reactant will remain unreacted ? ➢ Why a chemical equation needs to get balanced ?
6.Home Assignment	➢ With a neat labelled diagram describe the verification of Law of Conservation of Mass during a chemical reaction . Explain another expt to verify the same.

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Class	VIII	**Subject**	CHEMISTRY
Prd	5	**Chapter-1**	MATTER
Sub-Concepts	* Recapitulation of whole topic and * Discussing some important questions.		
Teaching Aid To be used	Smart Class, PowerPoint presentation.		

Learning Outcome	• Students will be able to • Recapitulate the whole topic at a stretch. • By revision their memory will be enhanced.	
Sl. No	**Step Wise (What to be done)**	
1. **Introduction**	**For Achievers** ➢ The teacher will recapitulate the major concepts again thoroughly. ➢ Important Problem based questions will be thoroughly revised.	**For Average** ➢ The teacher will recapitulate the major concepts again thoroughly. Important Problem based questions will be thoroughly revised.
Sub topics to be re-discussed	➢ Matter is anything that has mass and occupies space and can be perceived by our five senses. ➢ 'All the properties of matter should be explained again.	
3. Kinetic Theory on states of matter	➢ Factors affecting conversion of states to be discussed. ➢ Different contrasting properties should be discussed.	
4. More Numericals to be practiced.	➢ Students will be given more problem based questions to practice..	
5.Home Assignments	➢ Whole Exercise questions to be given for HW.	

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