DCP FOR CHAPTER-2 : PHYSICAL AND CHEMICAL CHANGES

Number of period	Sub-Topics
1	Introduction to different types of Changes.
2	Concept of Physical changes and characteristics.
3	Concept of Chemical Change and Characteristics. Difference between Physical and Chemical changes.
4	Some examples of dual changes and Reviewing of topic
5	

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ODM Teachers' Note

Class	VIII	**Subject**	CHEMISTRY
Prd	1	**Chapter-2**	**Physical and Chemical Changes**
Sub-Concepts	Introduction: Different types of Changes like Slow/Fast, Natural/Manmade, Periodic/Non-periodic then Physical and Chemical Changes.		
Teaching Aid To be used	Smart Class, PowerPoint presentation, glass of water and some amount of salt, match box, Mg-ribbon, Candle		
Learning Outcome	• Students will be able to know that there are so many types of changes are there which can be categorize in different ways. • They could also able to distinguish between them.		
Sl. No	**Step Wise (What to be done)**		
1. **Introduction**	**For Achievers** ➢ The teacher will explain all sorts of changes depending upon rate, time interval, natural or man-made and reversible and irreversible.	**For Average** ➢ The teacher will explain all sorts of changes depending upon rate, time interval, natural or man-made and reversible and irreversible..	
2.Rate of changes	➢ Fast changes and Slow changes and some are Moderate changes. ➢ Rusting of Iron and Bursting of cracker		
3.Natural and Man-made	➢ Occurrences of day and night, growing of tree (Natural) ➢ Cooking of food, brass from copper and zinc • A video based upon above topic.		
4.periodic and Non-periodic	➢ Occurring at a regular interval of time (periodic) and irregular (non-periodic) ➢ Earthquake (non-periodic),occurrences of day and night (periodic)		
5.Physical and Chemical changes	- An activity is followed (Burning of Candle and Melting of Candle) - No new substance is formed during physical change but completely new Substance is formed.		
7. Home assignment	- Some changes are to be given for categorizing them into different types of changes. - Can Physical change be reversible. If so explain with proper example.		
HOTs	- Mention two such changes where both physical and chemical changes occurs simultaneously.		

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Class	VIII	**Subject**	CHEMISTRY
Prd	2	**Chapter-2**	PHYSICAL AND CHEMICAL CHANGES
Sub-Concepts	-Characteristics of Physical Changes with some examples and videos.		
Teaching Aid To be used	Smart Class, PowerPoint presentation,		
Learning Outcome	• Students will be able to know the basic concept behind physical changes and also their characteristics. • They can also relate this in to their day-to-day examples and compare.		
Sl. No	**Step Wise (What to be done)**		
1. **Introduction**	**For Achievers** ➢ Initially the teacher will put some examples relating to physical change and try to deduce some general characteristics from it. ➢ He/she will compare and contrast with other properties.	**For Average** ➢ Initially the teacher will put some examples relating to physical change and try to deduce some general characteristics from it. ➢ He/she will compare and contrast with other properties.	
2.Characteristics of physical changes	➢ No new substance is formed. ➢ There is no change in chemical composition of original substance. ➢ The change is temporary and cant be reversed. ➢ Only change in physical state occurs. ➢ No gain or loss in mass ➢ No gain or loss of energy.		
3. Examplary explanation	➢ Activity to be conducted with few more examples. • A video will be shown in this regard.		
4. Home assignment.	➢ Mention an activity in which both reversible and manmade changes occur in Physical change with neat labelled diagram.		

5.HOTs	- Weather all physical changes are temporary or permanent. Explain with suitable examples. - If there any change in heat energy occurs or not explain.

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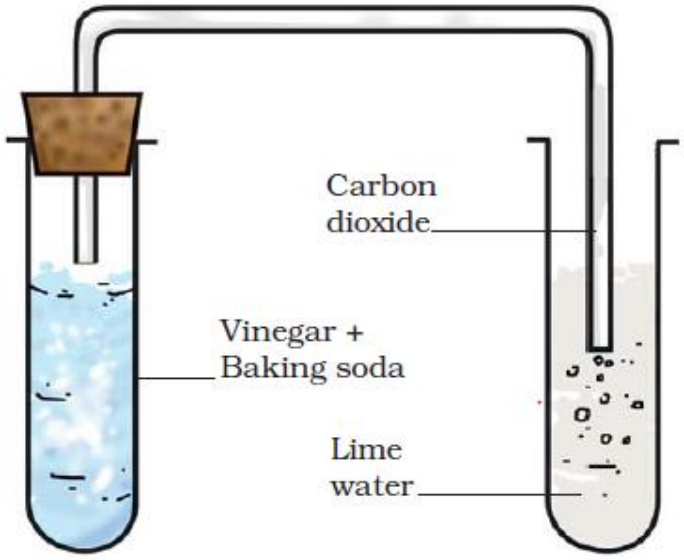
Class	VIII	**Subject**	CHEMISTRY
Prd	3	**Chapter-2**	PHYSICAL AND CHEMICAL CHANGES
Sub-Concepts	Chemical changes and their characteristics. Relating it with physical changes heat changes.		
Teaching Aid To be used	Smart Class, PowerPoint presentation, Demonstration in class, Mg-ribbon, vinegar, quick lime and baking soda.		
Learning Outcome	• Students will be able to interpret the concept of chemical change. • They can able to compare it with physical change and contrast it.		
Sl. No	**Step Wise (What to be done)**		
1. **Introduction**	**For Achievers** ➢ The teacher will do some activities relating to chemical changes like: burning of Mg-ribbon, adding baking soda with vinegar to give knowledge about chemical change and observing the changes that occur during this reactions.		**For Average** ➢ The teacher will do some activities relating to chemical changes like: burning of Mg-ribbon, adding baking soda with vinegar to give knowledge about chemical change and observing the changes that occur during this reactions.
2.Deduction of different properties on Chemical change.	➔ How would a new substance is formed ? ➔ What changes in color, odour, structure, state and compound occurs through observation. ➔ Weather it is reversible or not . ➔ What changes in heat or temperature occurs to observe. ➔ How would represent a chemical reaction in chemical equation form.		

3.Discussion of some day-to-day examples.	➔ Rusting of Iron, heating of baking soda, adding zinc granules with Copper Sulphate solution etc. ➔ Activity to be conducted in class itself. ➔ ➔ A video will be shown based on above activity.  *Set up to pass gas through lime water* Carbon dioxide (CO_2) + Lime water [$Ca(OH)_2$] -> Calcium Carbonate ($CaCO_3$) + Water (H_2O)
4.Some change relating to both	➔ Burning of candle (both melting and reaction of wax with air) Both physical as well as chemical. ➔ Digestion of food (grinding and churning then oxidation of food)
5.Home Assignment	➢ 1. If there occurs change of color and odour in case of physical change then why it is not said as chemical change ? ➢ Mention ten changes that occur all around you out of which five are physical and four are chemical and one is both.

6. HOTs for achievers	➢ Meena was preparing tea in a saucer , so she took water in it first then added some sugar with it then added salt with it and lastly added some tea leaves and heated for sometime and taking out from oven she filtered it with the help of a tea-filter to pour it in a cup to serve her friend in drawing room. On the above cases from each actions you find out which are physical and which are chemical reactions.

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Class	VIII	**Subject**	CHEMISTRY
Prd	4	**Chapter-2**	PHYSICAL AND CHEMICAL CHANGES
Sub-Concepts	Representing every chemical reactions in Chemical Equation form. Recapitulation of whole topic and discussion of Exercise questions.		
Teaching Aid To be used	Smart Class, PowerPoint Presentation,		
Learning Outcome	• Students will be able to : • Memorise the whole topic at a stretch. • They can able to represent chemical reactions in their equation forms.		
Sl. No	**Step Wise (What to be done)**		
1. **Introduction**	**For Achievers** ➢ The teacher will explain whole topic in a zest so that students can able to catch hold of major points. ➢ He/She will explain how to represent every simple chemical reaction in their chemical equation forms. ➢ He/She will make understand the ways of writing chemical equations in precise form and balancing them.	**For Average** ➢ The teacher will explain whole topic in a zest so that students can able to catch hold of major points. ➢ He/She will explain how to represent every simple chemical reaction in their chemical equation forms.	

2.Representing chemical reaction in chemical equation form.	➢ Burning of Mg-ribbon in air Product- burning with white dazzling flame and forming white ash. 2Mg + O2 -> 2MgO ➢ Adding baking soda with vinegar Mild effervescence occurs forming corresponding salt and releasing a colorless and odorless gas CO2 and and forming H2O. ➢ CH3COOH + NaHCO3 -> CH3COONa + CO2 + H2O ➢
3.Balancing simple chemical equations	➢ Nitrogen gas combines with Hydrogen gas to form Ammonia N2 + H2 -> NH3 ➢ 1 3 2 No of atoms in reactant side = No of atoms in product side Reactants ----------> Products m_r = m_p BaCl2 + Na2SO4 -> BaSO4 + 2NaCl (aq) (aq) (s) (aq)
4. **Review of whole topic**	➢ Distinguishing physical and chemical change and some dual changes to observe. ➢ Studying their characteristics.

5.Some HOTs for achievers	➢ Mention all the following reactions in balanced chemical equation forms : ➢ Putting some iron nails in Copper sulphate solution and shaking for some time. ➢ Burning of Sulphur inside a bell-jar with the help of a deflagrating spoon and then dissolving in water. ➢ Why a chemical equation needs to get balanced ?
6.Home Assignment	**->** Complete all the Exercise questions.

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