ODM ODM Teachers' Note

Class	VIII	Subject	Chemistry	Plan For	Toppers & Average
Pd	1	Chapter	Elements, compounds and mixture		
Sub Concepts		Elements : Its characteristics			
Teaching Aid to be used		Periodic chart			

Sl. No	Step Wise (What to be done)
Major sub-points to be discussed	Toppers Identifying Elements Their composition Properties Examples Distinguishing Metals, N-metals and Metalloids Average Identifying elements Their composition Properties Examples
identification	Elements are composed of very tiny indivisble particles of one type of atoms only. There are aroound 118 elements found,
Properties	They are : - free atomic or molecular form - made up of one type of atoms - having definite MP or BP - found in three different states - metals non-metals and metalloids - Definite symbol
4	Examples : Ca, Zn, P, C……..
Studying all metallic and non-metallic properties	Density, heaviness, malleability, ductility, conductivity, lustre etc…

HW	**1. What is the most reactive Non-metal ?** **2. Which metal is found in liquid state ?** **3. Write the symbol of following elements : silver, mercury and tongsten.**

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Class	**VIII**	**Subject**	**Chemistry**	**Plan For**	**Toppers & Average**

Pd	**2**	**Chapter**	**Elements, compounds and Mixture**

Sub-Concepts	**Compounds and Mixture**
Teaching Aid To be used	**Household samples and smart class**

Sl. No	**Step Wise (What to be done)**	
Defining Compounds and Mixtures	**Average** **- Identifying compounds and Mixture** **- Distinguishing them** **Giving one example from each**	**Toppers** **- Identifying compounds and Mixture** **- Distinguishing them** **Giving one example from each**

<table>
<tr><td>Definatio n</td><td>Compounds : When two elements chemically combine in a definite ratio by mass to form compounds
Mixture : When elements or compounds mix together in any ratios without chemically reacting with eachother.</td></tr>
<tr><td>Examples</td><td>Compounds : CaO, NaCl and sugar
Mixture : sugar solution, alloys, milk and air</td></tr>
<tr><td>Types of Mixture</td><td>Homogeneous and Heterogeneous Mixture : salt solution and sand and water</td></tr>
<tr><td>Characte ristics</td><td>Compounds :
Composed of two or more elements
Chemically combine
Definite MF
Definite MP/BP
Constituents loose their chemical properties
Either heat lost or gained
Components can’t get separated by any physical or chemical means except few</td></tr>
<tr><td>Comparis on</td><td>Elements , compounds and Mixtures :
Comparing Elements, Compounds and Mixtures<table><tr><th></th><th>Elements</th><th>Compounds</th><th>Mixtures</th></tr><tr><td>% composition by mass</td><td>Fixed/constant</td><td>Fixed/constant</td><td>Variable</td></tr><tr><td>Atoms</td><td>One type</td><td>Two or more different types</td><td>Two or more different types</td></tr><tr><td>Heating / combustion</td><td>Only one product formed or oxidises to one other substance</td><td>May have two or more products formed / decomposes</td><td>May have two or more products formed</td></tr><tr><td>Can be separated by physical means?</td><td>No</td><td>No</td><td>Yes</td></tr><tr><td>Appearance</td><td>Only one colour</td><td>Only one colour</td><td>Can be two or more colours</td></tr></table></td></tr>
<tr><td>Specific explanati on</td><td>1. Why H2O is a compound where as H2 or O2 is an element ?
2. Why mixture of Iron and Sulphur is called mixture where as Ferrous Sulphide is a compound ?</td></tr>
<tr><td>Electroly</td><td>How can we separate H2 and O2 from water :</td></tr>
</table>

sis of Water	
HW	1. Give five different features of Elements and Mixture ? 2. Why CO2 is called a compound where as C is called an element ? 3. Mention one example of exothermic and endothermic reaction to form compound.

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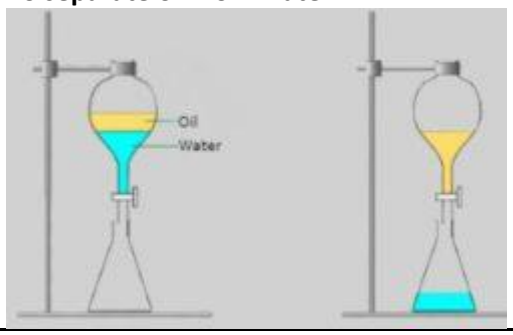
Class	VIII	Subject	Chemistry	Plan For	Toppers & Average

Pd	3	Chapter	Elements, Compounds and Mixtures

Sub-Concepts	General methods of separating different components of a mixture.
Teaching AidTo be used	Some household samples and lab chemicals to be taken off. Sand and Magnet, sugar and charcoal, kerosene and oil.

Sl. No	Step Wise (What to be done)	
Points to be discussed	Average Some traditional methods of separations like filtration, evaporation, magnetic separation, separating funnel.	Toppers Some traditional methods of separations like filtration, evaporation, magnetic separation, separating funnel.
Description of different methods of preparations	Magnetic separation : Magnetic substances from non-magnetic substances Filtration :Insoluble from soluble one Separating funnel :Immiscible liquids	
Crystallisation preferred to Evapoartion	Separating Crystals Copper Sulphate from impure sample : https://youtu.be/SAU-gptAFe0	

Demonstration	**To separate oil from water :** 
HW	**1. How would you separate the following mixture : salt, sand and charcoal, And Iron filings and sulphur (Describe with neat la-belled diagram)**

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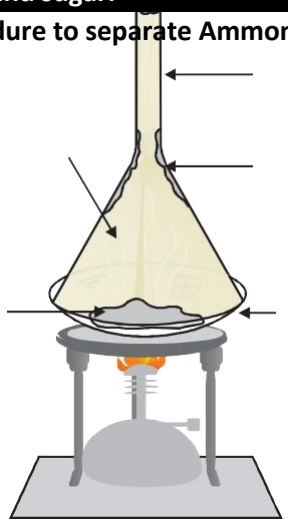
Class	**VIII**	**Subject**	**Chemistry**	**Plan For**	**Toppers & Average**

Pd	**4**	**Chapter**	**Elements, Compounds and Mixtures**

Sub-Concepts	**Some specific methods of separation :** **Distillation and Fractional Distillation, Centrifugation and Sublimation**
Teaching AidTo be used	**Virtual Lab**

Sl. No	**Step Wise (What to be done)**	
Points of Discussion	**Average** **1.Simple Distillation** **2.Fractional Distillation** **3.Centrifugation** **4.Sublimation**	**Average** **1.Simple Distillation** **2.Fractional Distillation** **3.Centrifugation** **4.Sublimation**
Simple Distillation	○ **When two or more liquids or liquids and solids get dissolved they can get separated by heating and further cooling by a Distillating funnel.** ○ **Ex- sugar and water , alcohol and water.**	

Fractional Distillation	**When two or more liquids get dissolved having very less difference in their BP's they can get separated by more convenient method taking help of a fractionating column in between.** **Ex. Acetone and alcohol.**
Centrifugation	**It is applied for separating colloidal solution by the help of a churner or mixture.** **Ex separating butter from milk**
Sublimation	**When one of the components of mixture is a sublimable substance it can be separated by this method. (camphor, naphthalene, iodine, ammonium chloride and dry ice…)** **Ex. Separating Iodine and sugar.**
Demonstration	**Describing the procedure to separate Ammonium Chloride, Common salt and saw dust.** 
HW	**1. What is advantages of Fractional Distillation method than Simple Distillation method ? In method you will apply for separating kerosene and diesel.** **2. Write two applications of Centrifugation.**

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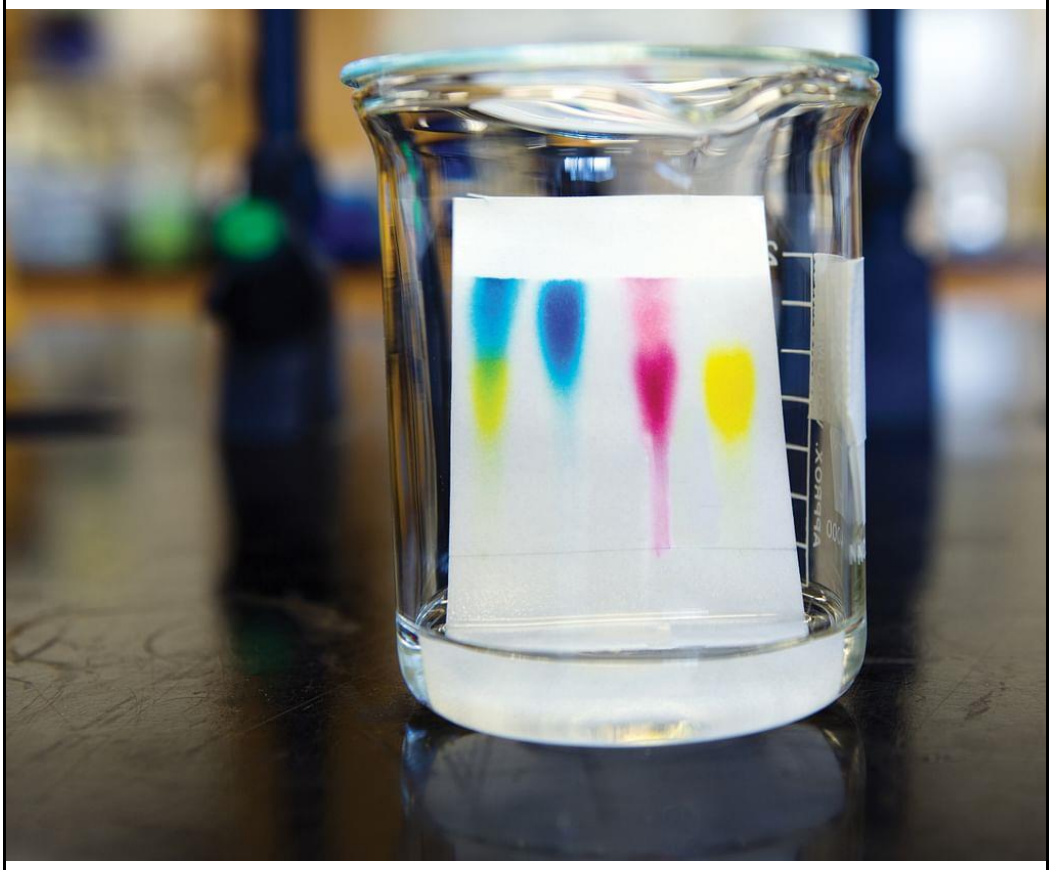
Class	**VIII**	**Subject**	**Chemistry**	**Plan For**	**Toppers & Average**

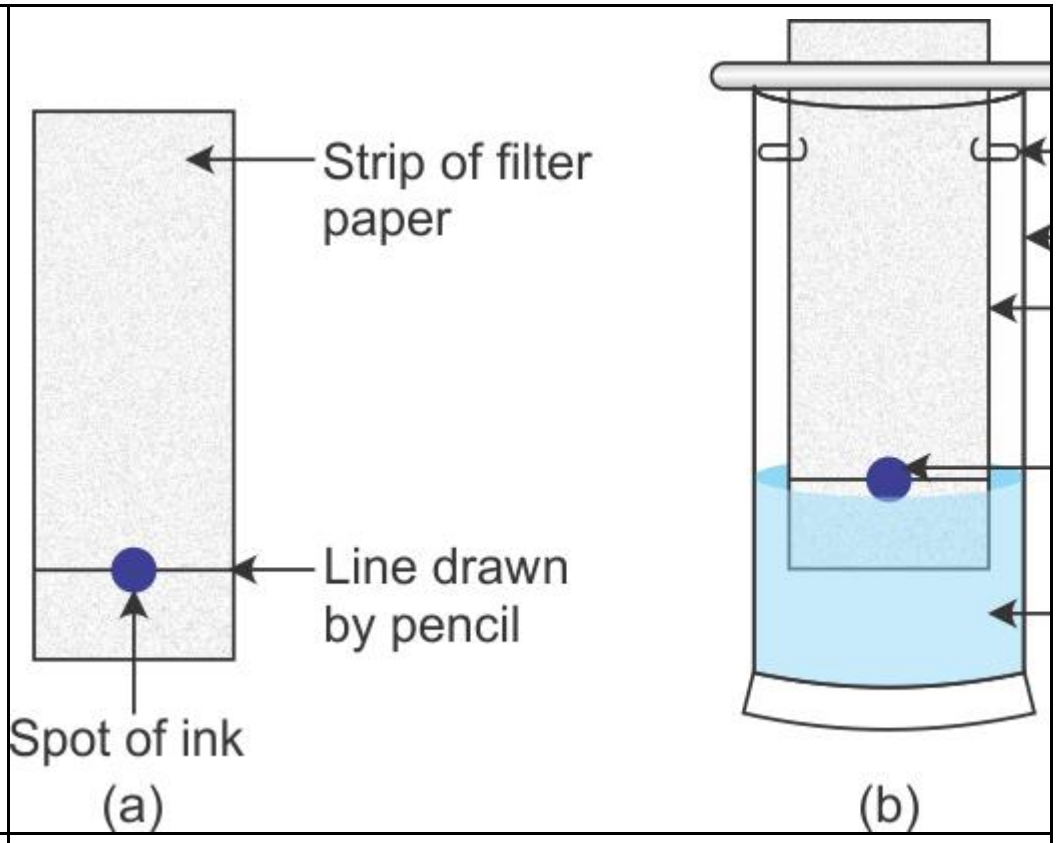
Pd	**5**	**Chapter**	**Elements, Compounds and Mixtures.**

Sub-Concepts	**Some more specific methods of separation :** **Chromatography, Drinking Water Treatment Plant**

Teaching AidTo be used	**Smart board and some sample of mixture**

Sl. No	**Step Wise (What to be done)**	
Points of Discussion	**Average** **Chromatography** **Application**	**Toppers** **Chromatography** **Application**
Description	**Paper Chromatography : A method to separate the components of a colored mixture dye.** 	

Demonstration	**Taking help of a blotting paper and ink in a glass beaker we will do the experiment.**

	
Water Treatment Plant	**Description with diagram :**
HW	**1. What is chromatography ? Describe how you will separate different components of an ink drop.** **2. Make a flow chart how you obtain pure water from dirty water in plant.**

		A)
		1.How ca