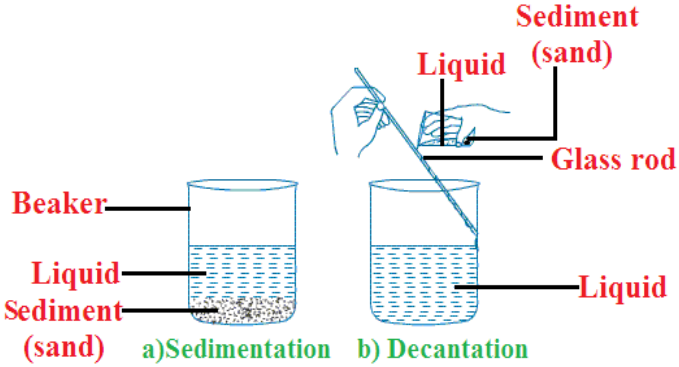


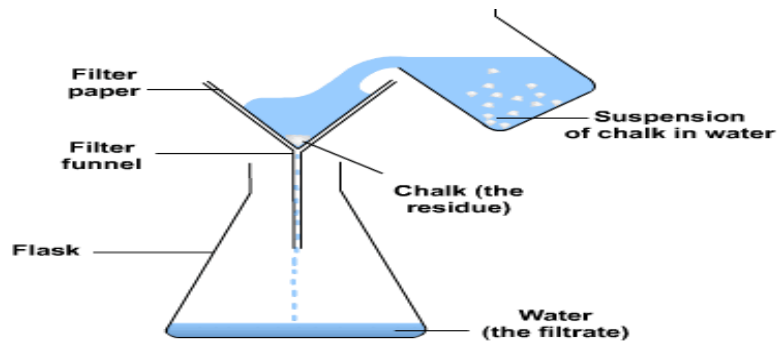
Class	VII	Subject	CHEMISTRY
PD	6	Chapter-3	ELEMENTS, COMPOUNDS AND MIXTURES
Recapitulation of the previous taught.	<ul style="list-style-type: none"> • Need for the separation of the components of mixtures. • Separation of solid – solid mixtures. 		
Sub-Concepts	<ul style="list-style-type: none"> ❖ Separation of Solid-Liquid Mixtures ❖ Sedimentation and Decantation ❖ Filtration ❖ Evaporation ❖ Crystallisation ❖ Distillation ❖ Centrifugation 		
Teaching Aid To be used	Smart Class, PowerPoint presentation, classroom objects, charts.		
Learning Outcome	<ul style="list-style-type: none"> ✓ They would know of the various process involved in the separation of Solid- Liquid mixtures. ✓ They would know of the various methods of separation of solid-Liquid mixtures like Sedimentation and Decantation, Filtration, Evaporation, Crystallisation, Distillation, and Centrifugation. 		
Sl. No	Step Wise (What to be done)		
1 Introduction	<p>For Achievers</p> <p>Teacher should initiate the discussion on following topics, which will revolve around the core topic of the chapter like, What's your view on the separation of Solid-Liquid mixtures?</p> <ul style="list-style-type: none"> ➤ Vision to acquire knowledge 	<p>For Average</p> <ul style="list-style-type: none"> ➤ They would made familiar with the on the separation of Solid-Liquid mixtures? ➤ They would know of 	

	<p>of the need for the separation of by the process of Sedimentation and Decantation, Filtration, Evaporation, Crystallisation, Distillation, and Centrifugation.</p>	<p>the process of Sedimentation and Decantation, Filtration, Evaporation, Crystallisation, Distillation, and Centrifugation.</p>
<p>2.Sedimentation and Decantation</p>	<p>SEDIMENTATION AND DECANTATION: -The settling down of suspended insoluble, heavy solid particles in a solid-liquid mixture when left undisturbed is called Sedimentation. The solid that settles down is sediment while the clear liquid above is called supernatant liquid.</p> <p>The process of pouring out the clear liquid, without disturbing the sediment is called Decantation.</p> <p>Example: - A mixture of sand and water, rice and water</p> 	
<p>3- Filtration</p>	<p>FILTRATION: - Filtration is a process by which insoluble solids can be removed from a liquid by using a filter paper. A filter paper is a special type of paper which has pores that are tiny enough to let only liquids pass through it. If you pass a solution through filter paper, any undissolved solid</p>	

particles will get left behind on the paper whereas the liquid will filter through.

The liquid that passes through is called the filtrate and the undissolved solid particles are called residue.

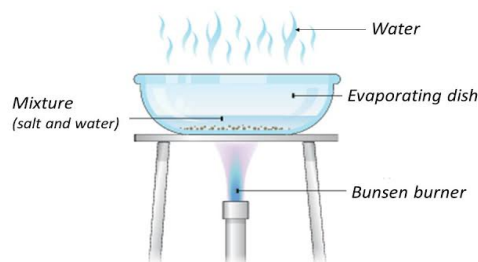
Example: A mixture of chalk powder and water can be separated by this method.



4. Evaporation

- **EVAPORATION:** - Evaporation is the process of vaporizing the solvent to obtain the solute. Evaporation is used to separate a mixture containing a non-volatile, soluble solid from its volatile, liquid solvent. We can separate salt from a solution by evaporating the water from the solution.

Separating Mixtures: Evaporation



5. Crystallisation



	<p>CRYSTALLISATION: - Crystallisation is a separation and purification method which involves the precipitating of solid crystals from its saturated solution on cooling.</p> <p>In this process the impure sample is dissolved in minimum amount of suitable solvent. The formed solution is heated to get a saturated solution. On cooling, this saturated solution produces pure crystals of the sample.</p>
6. Distillation	<p>DISTILLATION: - This method is used for the separation of a mixture containing two miscible liquids that boil without decomposing and have a large difference between their boiling points.</p> <p>Process of conversion of a liquid into vapour by boiling, and then recondensing the vapour into liquid is called distillation.</p>
7. Centrifugation	<p>CENTRIFUGATION: - If the solid particles are very small and pass through a filter paper, then centrifugation process is used for the separation of insoluble solid particles from a solid-liquid mixture.</p> <p>Principle involved in centrifugation:</p> <p>The principle is that when the liquid is spun rapidly, the denser particles are forced to the bottom and the lighter particles stay at the top.</p> <p>Example: Centrifugation is used for blood and urine testing in diagnostic laboratories, in dairies to separate butter from cream, and in washing machines to squeeze out water from clothes.</p>
5.Home Assignment	Exercise -II Q4 a, b, c, d, e & f





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