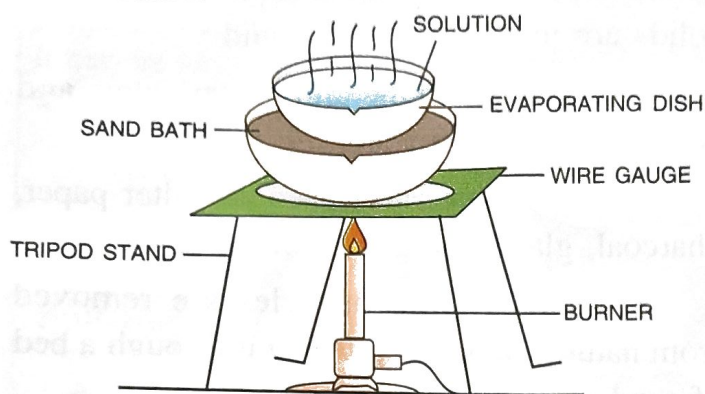


This method is used to separate the components of a homogeneous solid-liquid mixture, in which only the solid is recovered while the liquid escapes in the form of vapour.

*Example :* From a mixture of common salt and water, salt is obtained easily by evaporating the solution.

Salt from sea water is separated out by this method.



**Fig. 3.7 Evaporation**

**4. Crystallisation :** It is a process in which slow evaporation of a solution containing more of the solid component is done.

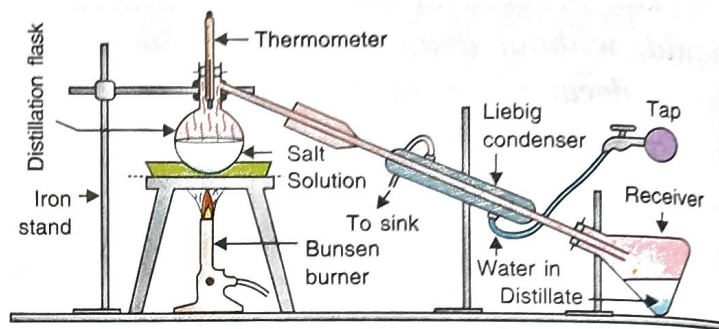
Pure sugar is obtained from its solution in water by the process of crystallisation.

At first, the sugar solution is heated to evaporate water at a faster speed. When very less water is left, the solution is cooled. On cooling, sugar dissolved in it starts separating out in the form of **crystals**.

**Note :** Crystals are the solid particles with definite shape and size. They are lustrous too. *Example :* Sugar crystals are cubical and they shine.

**5. Distillation :** Distillation is the process of converting a liquid into vapour by heating and the subsequent condensation of the vapour back into liquid.

This method is used to separate the components of a solid-liquid mixture in which both solid and liquid are recovered. When the solution is heated, the liquid evaporates in the form of vapours, which pass through the condenser, and get condensed into pure liquid again which is called as **distillate** while the solid is left behind in the distilling flask.



**Fig. 3.8 Distillation**

Tap water, a mixture containing dissolved salt is purified by this method. The pure water so obtained is called **distilled water**.

Separation of a mixture of iodine and alcohol is also done by distillation.

**6. Centrifugation :** *Centrifugation is the method of separating solids from liquids where the mixture is homogeneous. This is also called churning.*

**An apparatus called centrifuge is used for this purpose.** The mixture is placed in the centrifuge tube and rotated at a high speed, due to which the heavier solid particles (high density particles) move towards the bottom and the light solid particles (low density particles) float on the liquid. This results in the separation of substances of different densities.

*Cream is separated from milk by this method. At home, we use mixers or traditional churners to separate cream from milk. This*

process is used even now *in dairies*. In washing machines, this principle is used to squeeze out water from wet clothes.

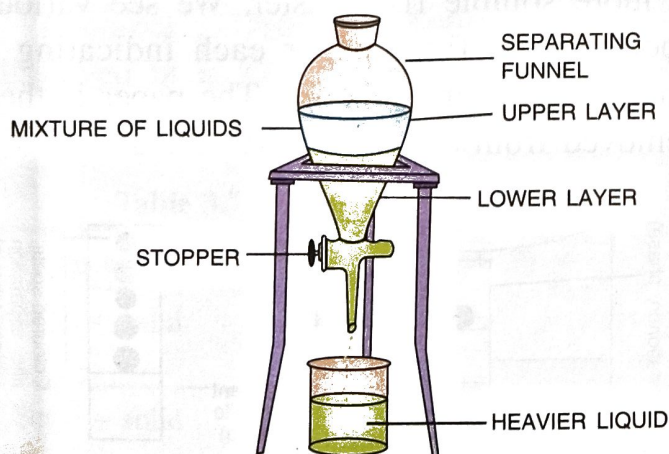
This method is also used in diagnostic laboratories for testing blood and urine.

### (C) Separation of liquid-liquid mixtures

**1. By separating funnel :** It is a simple device used to separate the components of a liquid-liquid immiscible mixture, in which liquids have different densities.

*Example :* The mixture of kerosene oil and water is placed in a separating funnel and allowed to stand for sometime. The components form two clear layers. Water being heavier forms the lower layer and kerosene oil being lighter forms the upper layer. When the stopper of the funnel is opened, the heavier liquid trickles out slowly and is collected in a vessel. The stopper is closed when the lower layer is entirely removed from the funnel. In this way, the two liquids kerosene and water are separated.

Mixture of carbon tetrachloride and water can also be separated by this method in which water forms the upper layer.



**Fig. 3.9 Separation of immiscible liquids using separating funnel**

08	August 2020						
WK	M	T	W	T	F	S	S
31/36	31					1	2
32	3	4	5	6	7	8	9
33	10	11	12	13	14	15	16
34	17	18	19	20	21	22	23
35	24	25	26	27	28	29	30

JULY 2020

DAY 202-164 WEEK 30

MONDAY



APPOINTMENT / MEETING

Class VIII

Chapter - 3 Element, Compound, mixture  
Part - 3

Date - 9.6.20 Subject - Chemistry

- 1) What is Crystallisation? Give an eg.
- 2) What are crystals? Give eg.
- 3) What is Distillation? Give one eg.
- 4) What is Distilled water?
- 5) What is Centrifugation?
- 6) Explain the method of Centrifugation.
- 7) How can you separate Cream from milk?
- 8) What is separating funnel?
- 9) How can you use separating funnel to separate mixture?
- 10) What type of mixture can you separate by separating funnel?

P. Sankar  
9.6.20