

You will find that water dissolves different substances in different amounts.

Let us now separate a mixture using more than one method of separation.

Activity 13

To separate a mixture of sand and sugar

Take a china dish and mix some sand and sugar in it. Place the mixture in a beaker and pour some water into it. Stir well. What do you observe? Does the sugar dissolve in water? Now, filter the mixture with the help of filter paper. Sand remains on the filter paper as residue while the water containing sugar flows down and collects in the beaker as filtrate.

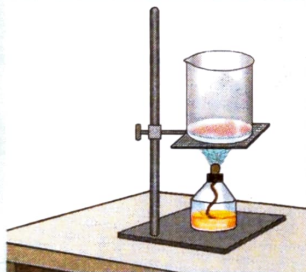
How can you now get the sugar back from water?

Heat the beaker containing sugar and water. The water starts evaporating. Now, take a metal plate and hold it just above the beaker. You will find that the water vapour gets cooled after coming in contact with cold metal plate and changes back into liquid water. This is called **condensation**.

Condensation is the process of changing of water vapour back into liquid water.

After all the water has boiled, sugar will be left in the beaker.

So, we used two methods to separate a mixture of sand and sugar in water – filtration and evaporation.



APPLICATIONS OF SEPARATION OF MIXTURES

Separation of mixtures is very useful in our daily life.

- ❖ Separating tea leaves from tea using a strainer is an example of filtration.
- ❖ Separating salt from sea water by keeping in the sun is an example of evaporation.
- ❖ To wash pulses and vegetables by keeping them in water and then drain out water is an example of sedimentation and decantation.
- ❖ Removing small stones and from pulses and rice is an example of handpicking.
- ❖ Keeping water in a pitcher to settle down impurities is an example of sedimentation.

Check POINT 2

Fill in the blanks.

1. The substance that remains in filter paper is called residue.
2. Evaporation is the process of converting water into water vapour.
3. The mixture of solute and solvent is called a Solution.

KNOW THESE TERMS

- **Sediment** – a substance that settles down at the bottom of a liquid
- **Residue** – substance that remains in the filter
- **Filtrate** – substance that flows through the filter
- **Solute** – a substance that dissolves in a liquid
- **Solvent** – a liquid in which a solute dissolves