

Separation of Substances Class 6 notes - Chapter 5

We all have seen our parents and grandparents separating small stones or pebbles from the rice grains, pulses, filtering tea leaves before serving tea and lot more. The practice of separation of substances is usually required to remove or separate the required substances from their mixtures.

A substance can be classified into: Mixture and the pure substance.

Mixtures

A mixture is a material made up of two or more different substances, which are mixed but are not combined chemically.

Separation

Separation is the process of separating one or more components from a mixture. Example: distillation, sedimentation, filtration etc.

Handpicking

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Handpicking is a method of separation used to separate large sized impurities like pieces of dirt, stone, and husk from wheat, rice or pulses.

Threshing

Threshing

Threshing is the process of beating stalks to separate the grains from the harvested crop.

- It is done manually by farmers, or by threshing machines.

Winnowing

Winnowing

- Method of separation used to separate heavier and lighter components of a mixture by wind or by blowing air.
- Normally, this is used to separate husk from grains.

Sieving

Sieving

Sieving is a method of separation in which the mixture is passed through a filter or a sieve.

- The larger particles, usually the impurities, do not pass through the filter, and hence collect on the sieve.
- The finer particles flow past the sieve and can be collected below.

Filtration, Sedimentation and Decantation

Filtration

Filtration is the process of passing the mixture through a filter to remove the solid particles from the fluid components of the mixture.

- For instance, if we pass muddy water through a fine filter, we can notice that the mud gets filtered and the water passes through.

Sedimentation

When the heavier component in the mixture settles when water is added to it, the process is called sedimentation.

- This method is used in separating grains from dust and soil.

Decantation

Decantation is the process after sedimentation that involves removing the water, along with the impurities.

Evaporation

Condensation

The process of conversion of water vapour into its liquid form due to contact with a cooler surface is called condensation.

- Example: Formation of water droplets on a metallic lid, while boiling water.

Evaporation

The process of conversion of water into its vapour is called evaporation.

- The process of evaporation takes place continuously wherever water is present.

Can Water Dissolve It All

Solution

A solution is a homogeneous mixture composed of two or more substances.

- In such a mixture, a solute is a substance dissolved in another substance, known as a solvent.

Saturated solution

A saturated solution is a chemical solution containing the maximum concentration of a solute dissolved in the solvent.

- For example, a saturated solution of salt in water is that in which no more salt can be dissolved.
- This added salt will just sediment down to the bottom of the vessel.

Churning

Churning is the process of shaking up cream or whole milk to make butter. Learn more about separate a pure substance from the topics given below:

What is 'Threshing'?

Threshing is the process of beating stalks to separate the grains from the harvested crop. It is usually done manually by the farmers.

What is 'Condensation'?

Condensation is the process where water vapor becomes liquid. It is the reverse of evaporation.

How can mixtures be separated?

Mixtures can be physically separated by using methods that use differences in physical properties to separate the components of the mixture (evaporation, distillation, filtration and chromatography).