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STUDY MATERIAL SCIENCE
CLASS-VI

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Separation of substances :

Saturated solution: A solution in which no more soluble substance can be dissolved at room temperature is called saturated solution.

Solution: When a soluble substance is dissolved completely in a liquid (say sugar in water), a homogeneous mixture is formed. It is known as a solution.

Methods Of Separation:

Different methods are used for separating different substances that are mixed together. Let us learn about some common methods that are used.

Threshing:

Grains or seeds of plants like rice and wheat serve as sources of food. The flour (atta) that is used for making chapattis is made from wheat grains. After these crops have been harvested or cut, the grains need to be separated from the stalks (the dried stems). This is done by threshing. The process of beating harvested crops to separate the grains from the stalks is called **threshing**.

It is done manually (by hand) or with the help of machines. Manual threshing is done by holding a pile of crop and beating it on a rock or a hard surface (Fig. 3.1). This loosens and separates the grain from the stalk. Sometimes, threshing is also done by crushing the harvested stalks using bullocks.
Threshing is also done with the help of machines like the combine harvester. Threshed grains may still contain seed coverings and tiny pieces of leaves or stem (called chaff). These are separated by winnowing.

Winnowing:
The method used to separate chaff from the grain by wind or blowing air is called winnowing.
The mixture of chaff and grain is taken in a winnowing basket (Fig. 3.3). The farmer stands at a higher level and lets the mixture fall to the ground.

The grain, being heavier, falls almost vertically whereas the lighter chaff is carried away by the wind and forms a separate heap away from the grain.
The separated chaff is used as fodder for cattle. The direction of the wind plays an important role in the process of winnowing.

Fig. 3.3 Winnowing