Class:6. Science. By:J.S.Mishra

Ch 5 – Separation of Substances

Q1:Why do we need to separate different components of a mixture? Give two examples.

Ans: Different components of a mixture are separated in order to separate the useful components from a mixture.

Ex-(i)From grains we separate several impurities such as pieces of stone, husk etc to make it edible.

(ii) After preparing tea, we strain it to remove the used tea leaves from tea.

2:What is winnowing? Where is it used?

Ans: Winnowing is the process of separation of the heavier components from the lighter components of a mixture by wind or by blowing air.

It is generally used by farmers to separate the lighter impurities such as husk particles from the heavier grains.

Q3:How will you separate husk or dirt particles from a given sample of pulses before cooking?

Ans : The dirt particles that are present in the pulses are removed by washing with water. Doing this the pulses settle down, while the dirt particles keep floating on water. This process is called sedimentation. The dirty water can be removed by the method of decantation, leaving the pulses at the bottom.

Q 4:What is sieving? Where is it used?

Ans: Sieving is the method of separation of fine particles from bigger particles by allowing the finer particles to pass through the holes of a sieve, leaving the bigger particles in the sieve itself.

It is generally used in homes to separate flour from impurities such as pieces of stone, stalk, and husk.

Q 5:How will you separate sand and water from their mixture?

Ans: Sand is not soluble in water. So the mixture of sand and water can be separated by filtration.

Q6:Is it possible to separate sugar mixed with wheat flour? If yes, how will you do it?

Ans: Yes. It is possible to separate a mixture of sugar and wheat flour.

This can be done by the process of sieving. If the mixture of sugar and wheat flour is allowed to pass through a sieve, then the fine wheat flour particles would pass through the sieve, the sugar particles would be retained by the sieve.

Q 7:How would you obtain clear water from a sample of muddy water?

Ans: Clear water can be obtained from a sample of muddy water by the method of filtration. In this method, the sample of muddy water is poured through a cloth having fine pores or through a filter paper. Water will pass through the filtering medium, leaving behind the mud.

Q 8:Fill in the blanks:

Ans:(a) The method of separating seeds of paddy from its stalk is called __threshing__.

(b) When milk is cooled after boiling and poured on a piece of cloth, cream (malai) is left behind on it. This process of separating cream from milk is an example of __filtration__.

(c) Salt is obtained from seawater by the process of __evaporation__.

(d) Impurities settled at the bottom when muddy water was kept overnight in a bucket. Clear water was then poured from top. The process of separation used in this example is called __decantation__.

Q9:State whether the following statements are 'True' or 'False'?

Ans:(a) A mixture of milk and water can be separated by filtration. (False)

(b) A mixture of powdered salt and sugar can be separated by the process of winnowing. (False)

(c) Separation of sugar from tea can be done through filtration. (False)

(d) Grain and husk can be separated by the process of decantation. (False)

Q 10:Lemonade is prepared by mixing lemon juice and sugar in water. You wish to add ice to cool it. Should you add ice to the lemonade before or after dissolving sugar? In which case would it be possible to dissolve more sugar?

Ans : The solubility of a substance decreases with decreases in temperature. After the addition of ice, the temperature of the lemonade decreases and dissolving sugar in cold water is difficult. Therefore, ice should be added to lemonade after dissolving the sugar.