CBSE Class–VI Subject Science
NCERT Solutions
(CHAPTER-05)
SEPARATION OF SUBSTANCES

Question 1. Why do we need to separate different components of mixture? Give two examples.

Answer: We need to separate different components of a mixture:

• to separate harmful or nonuseful substances that may be mixed with it.

• to separate even useful components if we need to use them separately.

Two examples are:

• Milk or curd is churned to separate the butter

• Grain is separated from stalks, while harvesting.

Question 2. What is winnowing? Where is it used?

Answer: Winnowing is the process of separating heavier and lighter components of mixture by wind or by blowing air.

This method is commonly used by farmers to separate lighter husk particles from heavier seeds grain.

Question 3. How will you separate husk or dirt particles form a given sample of pulses before cooking?

Answer: Husk or dirt particles form pulses are separated by hand picking method.

Question 4. What is sieving? Where is it used?

Answer: Sieving is a method of separation which allows the fine flour particles to pass through the holes of the sieve while the bigger impurities remain on the sieve. It is used at home to separate pebbles and stones from sand.

Question 5. How will you separate sand and water from their mixture?

Answer: We can separate sand and water from their mixture by:

• Sedimentation and decantation: Being sand insoluble and heavier than water, it settles down at the bottom. Then after we can easily separate water from sand.

• Filtration: The mixture of sand and water is poured on a piece of cloth or filter paper so that water goes down through it and sand remains on the piece of cloth or paper.

Question 6. Is it possible to separate sugar mixed with wheat flour? If yes, how will you do it?

Answer: Yes, it is possible to separate sugar mixed with wheat flour. This can be done through the process of sieving The mixture of sugar and wheat flour is allowed to pass through a sieve. The fine wheat flour passes through the sieve while sugar remains on the sieve.

Question 7. How would you obtain clear water from a sample of muddy water?

Answer: By the method of filtration, we can obtain clear water from a sample of muddy water. The sample of muddy water is passed through a filter paper. Clear water will pass through the filtering medium while mud will remain on filter paper.

Question 8. Fill up the blanks:

(a) The method of separating seeds of paddy from its stalks is called ----------.
(b) When milk cooled after boiling, is poured onto a piece of cloth, the cream (malai) is left behind on it. This process of separating cream from milk is an example of --------.
(c) Salt is obtained from seawater by process of ----------.
(d) Impurities settled at the bottom when muddy water was kept overnight in a bucket. The clear water was then poured off from the top. The process of separation used in this example is called ----------.

Answer: (a) The method of separating seeds of paddy from its stalks is called **threshing**.
(b) When milk cooled after boiling, is poured onto a piece of cloth, the 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 process of **evaporation**.

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

Question 9. True or False?

(a) A mixture of milk and water can be separated by filtration.
(b) A mixture of powdered salt and sugar can be separated by the process of winnowing.
(c) Separation of sugar from tea can be done with filtration.
(d) Grain and husk can be separated with the process of decantation.

Answer: (a) F, (b) F, (c) T, (d) F

Question 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 be possible to dissolve more sugar?

Answer: We should add ice after dissolving sugar because the dissolving power of water decreases with decrease in temperature. So, if we add ice before dissolving sugar, less amount of sugar will get dissolved.