Class–VI (CHAPTER-05) SEPARATION OF SUBSTANCES

Questions

1. Why do we need to separate different component of mixture? Give two examples.
2. What is winnowing? Where is it used?
3. How will you separate husk or dirt particles form a given sample of pulses before cooking?
4. What is sieving? Where is it used?
5. How will you separate sand and water from their mixture?
6. Is it possible to separate sugar mixed with wheat flour? If yes, how will you do it?
7. How would you obtain clear water from a sample of muddy water?
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 on to a piece of cloth the cream 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 ----------.
9. True/False.
   (a) A mixture of milk and water can be separated by filtration. (T/F)
   (b) A mixture of powdered salt and sugar can be separated by the process of winnowing. (T/F)
   (c) Separation of sugar from tea can be done with filtration. (T/F)
   (d) Grain and husk can be separated with the process of decantation. (T/F)
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?

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Answers

1. When two or more substances are mixed together we call it a mixture. Sometimes, different components of mixture are not useful or may even harmful. So, we need to separate different components of the mixture.
2. Winnowing is used to separate 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.
3. Husk or dirt particles form pulses are separated by handpicking.
   The method of handpicking is normally used for separating slightly larger size impurities like piece of dirt, stone, husk form wheat, rice or pulses.
4. Sieving allows fine particles to pass through the holes of the sieve,
   In flour mills, impurities like husk and stones are removed from wheat by sieving.
5. Steps of separating sand from water:
   (i) Allow mixture to stand in a glass.
   (ii) Sand settles at the bottom.
   (iii) Clear water forms at upper layer.
   (iv) Gently pour this water in another glass.
6. Yes, it is possible to separate sugar with wheat flour.
   (i) Mix sugar and wheat flour in lot of water.
   (ii) Filter it.
   (iii) On the filter paper is wheat flour.
   (iv) Dry it get wheat flour.
   (v) Filtrate is a sugar-water mixture.
   (vi) Evaporate this to get sugar.
7. Method of obtaining clear water from a muddy water:
   (i) Allow muddy water to stand.
   (ii) Mud settles at the bottom.
   (iii) Upper layer is clear water.

(iv) Decant it.

(v) Then filter this water again to remove traces of mud particles.

8. Fill up the blanks:

(a) The method of separating seeds of paddy from its stalks is called **threshing**.

(b) When milk, cooled after boiling, is poured on to a piece of cloth the cream is left behind on it. This process of separating cream from milk is an example of f**iltration**.

(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**.

9. True/false

(a) F

(b) F

(c) T

(d) F

10. We should add ice to the lemonade after dissolving sugar.

It will be possible to add more sugar before adding ice.