



INDIAN SCHOOL AL WADI AL KABIR



CLASS: VI	DEPARTMENT: SCIENCE 2022 - 2023	DATE: 04/08/22
TEXTBOOK Q & A	TOPIC: SEPARATION OF SUBSTANCES	NOTE: A4 FILE FORMAT
NAME OF THE STUDENT:	CLASS & SEC:	ROLL NO.

Answer the following questions:

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

Components of a mixture should be separated because

i) To remove impurities or harmful components

Example: remove stones from rice before cooking.

ii) To remove non-useful components

Example: tea leaves from the cup of tea

iii) To separate two different, but useful components

Example: butter can be obtained from curd by churning it.

2. What is winnowing? Where is it used?

Winnowing is used to separate lighter components from the heavier component of a mixture by using wind or by blowing air. This method is commonly used by farmers to separate lighter husk particles from heavier seeds of grain.

3. How will you separate husk or dirt particles from a given sample of pulses before Cooking?

Husk or dirt particles can be separated by winnowing, being lighter they will fly away from pulses.

4. What is sieving? Where is it used?

Sieving is a method in which fine particles are sieved through holes of the sieve while the bigger impurities remain on the sieve. Sieving is used in a flour mill to separate impurities like husk and stones from wheat before grinding it. It is also used at construction sites to separate pebbles and stones from sand.

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

Mix sand in water and leave the mixture, undisturbed for some time. After some time, it is observed that the heavier particles (sand) settle at the bottom of the container, this is called

sedimentation. The clear water (supernatant) above the sediment is poured out into another container without disturbing the sediment, which is called decantation. Thus, by sedimentation and decantation methods we can 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?

Sugar can be separated from wheat flour by sieving. The mixture is passed through the sieve. Due to the difference in the size of particles, sugar will stay in a sieve and wheat flour will pass through it.

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

Clear water can be obtained from muddy water by the process of filtration. In this process, the sample is passed through the filter paper placed on the funnel. Fine pores in the filter paper allow only the liquid to pass through and retain the solid particles. Clearwater gets collected in the beaker and kept below the funnel.

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 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 the 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 or false

- (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 with filtration. [false]
- (d) Grain and husk can be separated with the process of decantation. [false]

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?

Hint: Sugar should be added before adding ice. The solubility of a substance (sugar) decreases with a decrease in temperature

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