Separating mixtures for Grade 6

Practice worksheet - Science · Grade 6

Name: _____ Date: _____

Show your working. Answers and explanations follow on a separate page.

Try each task before opening its answer. Give an example or reason, not only a label.

Write an answer and your reason before opening the explanation. Check the reasoning as well as the final answer.

1. Which method is practical for a few visible stones mixed with rice?

2. What property does a suitable sieve use?

3. What is retained on a filter called?

4. What is the liquid that passes through a filter called?

5. Does ordinary filter paper retain dissolved salt?

6. Which component is recovered by evaporating a salt solution without collecting vapour?

7. What passes through the filter when sand and dissolved salt are in water?

8. Why add water first to a dry sand-and-salt mixture in the described method?

9. Name the process when suitable suspended particles settle.

10. What is carefully pouring off the upper liquid called?

11. Will an ordinary magnet reliably remove aluminium pieces from sand?

12. Does clear-looking filtered water have to be safe to drink?

13. If both materials pass through a sieve, give one possible reason.

14. What extra stage is needed to collect evaporated water in distillation?

15. Why is "use a filter because it separates" an incomplete explanation?

16. Write a method-choice statement for iron pieces and non-magnetic sand.

Answers and explanations

Answer key - Science · Grade 6

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1. Handpicking.

The pieces are distinguishable and few enough to remove individually.

2. A difference in particle sizes.

Some particles pass through its mesh while larger ones remain.

3. Residue.

It is the material held back by the filter.

4. Filtrate.

It may still contain dissolved substances.

5. No.

The dissolved salt passes through with the liquid.

6. Salt.

Water leaves as vapour rather than being collected.

7. Salt solution.

Sand is retained; dissolved salt remains with the water.

8. To dissolve the salt selectively.

The sand remains undissolved, allowing subsequent filtration.

9. Sedimentation.

Settling is distinct from pouring off the upper liquid.

10. Decantation.

Some fine particles or dissolved substances may remain in it.

11. No.

Aluminium is not strongly attracted in this ordinary classroom test.

12. No.

Dissolved substances and microorganisms may remain; appearance does not establish safety.

13. The openings are too large for the intended separation.

Mesh size must be suitable for the particle-size difference.

14. Condensation and collection in a separate container.

Evaporation alone lets vapour escape.

15. It does not identify the useful property or where each component goes.

Name the undissolved particles retained and the filtrate that passes.

16. Use a magnet to attract the iron while the non-magnetic sand remains.

The useful difference is magnetic attraction, under the supplied conditions.