

CLASS 9

SCIENCE

EXTRA QUESTIONS

Class 9 Science Chapter 5 Exploring Mixtures and their Separation – Extra Questions with Answers

Extra practice questions for Class 9 Science Chapter 5 (Exploring Mixtures and their Separation), beyond the textbook. These Class 9 Science Chapter 5 important questions are handy for last-minute exam practice.

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Very Short Answer Questions (1 mark)

Short Answer Questions (2–3 marks)

Higher-Order Thinking / Application Questions

Extra practice questions for Class 9 Science Chapter 5 (Exploring Mixtures and their Separation), beyond the textbook. These Class 9 Science Chapter 5 important questions are handy for last-minute exam practice.

Very Short Answer Questions (1 mark)

Q1. Give one example of a homogeneous mixture.

Ans: Salt dissolved in water (sugar solution, or any true solution is also acceptable).

Q2. Which separation technique is used to separate cream from milk?

Ans: Centrifugation.

Q3. Name the effect by which colloidal particles scatter light.

Ans: Tyndall effect.

Q4. What technique separates a mixture of camphor and sand?

Ans: Sublimation.

Q5. Do suspension particles settle over time?

Ans: Yes.

Short Answer Questions (2–3 marks)

Q6. Differentiate between a homogeneous and a heterogeneous mixture with an example of each.

Ans: A homogeneous mixture has uniform composition throughout with no visibly distinct parts, e.g. salt water. A heterogeneous mixture has visibly distinct components or regions, e.g. sand mixed with water.

Q7. Explain why crystallisation is often preferred over simple evaporation to obtain a pure solid from its solution.

Ans: Simple evaporation can decompose heat-sensitive substances and doesn't remove soluble impurities well, while crystallisation uses controlled cooling/evaporation to grow pure crystals, leaving many impurities behind in the remaining solution, giving a purer product.

Q8. How does paper chromatography separate the components of a mixture, such as ink dyes?

Ans: Different dye components have different solubilities and different degrees of attraction to the paper, so as the solvent moves up the paper, each component travels at a different speed, gradually separating into distinct spots or bands.

Higher-Order Thinking / Application Questions

Q9. A student has a mixture of water, common salt, and sand, and needs to recover all three components separately. Suggest a sequence of separation techniques and explain why each step is chosen.

Ans: First, filtration separates the insoluble sand from the salt-water mixture (sand doesn't dissolve). Then, the filtrate (salt water) undergoes evaporation or crystallisation to recover the dissolved salt as the water evaporates, leaving pure salt crystals behind, while the water itself can be recovered separately if condensed via distillation instead of simple evaporation.

Q10. Two clear liquids look identical, but shining a laser through one shows a visible beam (Tyndall effect), while the other shows no visible beam. Identify which liquid is a colloid and

which is a true solution, and explain your reasoning.

Ans: The liquid showing a visible beam (Tyndall effect) is the colloid, since colloidal particles are large enough to scatter light, making the beam's path visible. The liquid with no visible beam is a true solution, since solution particles are too small to scatter light noticeably, so the beam passes through without becoming visible.

See also: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#) | [Chapter 5](#)

Practice more: [Chapter 1](#) | [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#)

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