

CLASS 9

SCIENCE

REVISION NOTES

Class 9 Science Chapter 5 Exploring Mixtures and their Separation – Revision Notes

Pure substances and mixtures split further into solutions, suspensions, and colloids depending on how they behave, and Chapter 5 explains the techniques, such as crystallisation and distillation, used to pull them apart.

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Pure substances and mixtures split further into solutions, suspensions, and colloids depending on how they behave, and Chapter 5 explains the techniques, such as crystallisation and distillation, used to pull them apart.

Pure Substances vs Mixtures

Pure substance: fixed composition.

Mixture: variable proportions of 2+ substances.

Types of Mixtures

Homogeneous: uniform, e.g. salt water.

Heterogeneous: visibly distinct parts, e.g. sand + water.

Solution vs Suspension vs Colloid

Solution: fully dissolved, no settling, no light scattering.

Suspension: visible particles, settle over time.

Colloid: intermediate size, doesn't settle, shows Tyndall effect (scatters light).

Separation Techniques

Crystallisation — pure solid crystals from solution.

Distillation — separates liquids by boiling point.

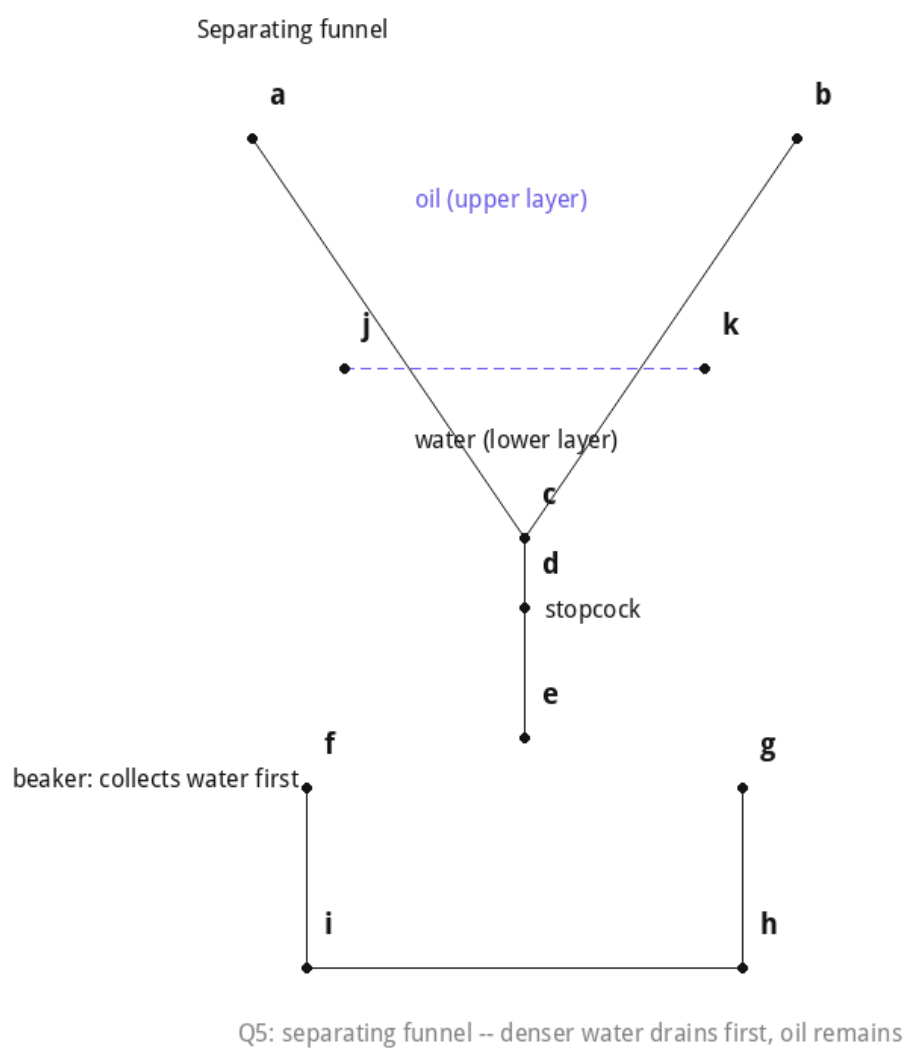
Paper chromatography — separates by differing solubility/movement.

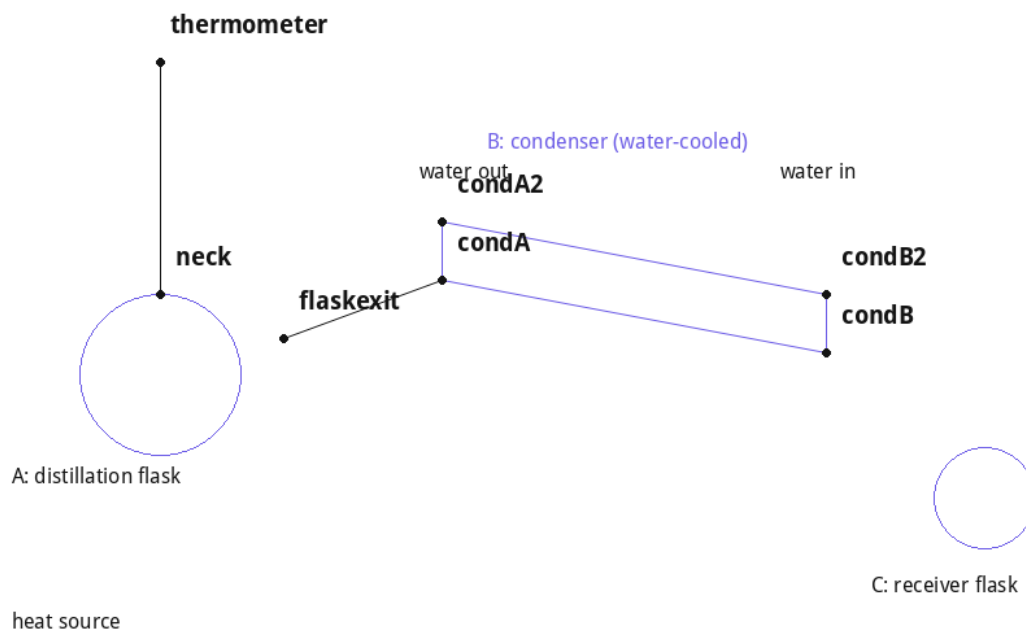
Sublimation — separates sublimable solids (camphor, NH_4Cl).

Centrifugation — separates by density using high-speed spin.

Coagulation — clumps and settles colloidal particles.

Quick visual: a worked diagram from the full [Solutions](#) page, for reference.





Q8/Q15: simple distillation -- lower-boiling liquid vaporises, condenses in B

One-Line Summary

Mixtures range from homogeneous solutions to heterogeneous suspensions, with colloids in between, and specific techniques — crystallisation, distillation, chromatography, sublimation, centrifugation, and coagulation — are chosen based on the properties of the components to be separated.

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