

# Separation — Revision Booklet

Name:

Date:

**INQUIRY**

Use this booklet to revise all separation techniques. Each section has key ideas and practice questions.

Discuss with your partner. Write your initial ideas below:

## Key Vocabulary

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Term	Definition
Mixture	Physically combined. NOT chemically joined. Can be separated.
Solution	Solute dissolves in solvent. Clear. Cannot be filtered.
Filtration	For insoluble solids. Residue = solid. Filtrate = liquid.
Evaporation	Heat solution. Solvent leaves. Solute stays.
Distillation	Heat, condense, collect pure solvent AND solute separately.
Chromatography	Separate by solubility. $R_f = \text{substance distance} / \text{solvent distance}$ .
Pure	One substance only. Sharp melting/boiling point.

## Topic 1: Mixtures & Solutions

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1. Name the solute and solvent in: (a) salt water (b) Korean soju (c) sugar in tea. [3 marks]

## Topic 2: Separation Techniques

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2. Match: (a) sand+water (b) salt+water(want salt) (c) salt+water(want water) (d) ink colours → filtration / evaporation / distillation / chromatography. [4 marks]

### Topic 3: Purity

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3. Dye X travels 5.4 cm. Solvent travels 9.0 cm. Calculate Rf. [1 marks]

Show your working:

4. 'Pure orange juice' — is this pure in the scientific sense? Explain. [2 marks]