

SC2 Methods of separating and purifying substances



Personal learning checklist | 1 of 2

GCSE Edexcel Separate Sciences | Chemistry Paper 1

Name _____ Class _____ Date _____

Tick one box for each statement. Red: need help. Amber: partly confident.
Green: can do independently.

I can	Red	Amber	Green
Purity and solutions			
Distinguish elements, compounds and mixtures using particle identity, bonding and composition.	☐	☐	☐
Assess chemical purity using melting and boiling evidence rather than everyday labels.	☐	☐	☐
Explain solute, solvent, solution and solubility and select suitable separation methods.	☐	☐	☐
Plan a sequence to separate a mixture of soluble and insoluble solids.	☐	☐	☐
Filtration and crystallisation			
Explain filtration using residue and filtrate and why dissolved substances pass through.	☐	☐	☐
Describe crystallisation, washing and drying while avoiding loss or damage to crystals.	☐	☐	☐

My next revision priority _____

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Personal learning checklist | 2 of 2

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I can	Red	Amber	Green
Distillation			
Explain simple distillation and the roles of the thermometer and cooled condenser.	☐	☐	☐
Describe safe distillation setup, including condenser water flow and suitable heating.	☐	☐	☐
Explain fractional distillation as repeated evaporation and condensation separating miscible liquids.	☐	☐	☐
Chromatography			
Describe paper chromatography using a pencil baseline, controlled solvent level and marked solvent front.	☐	☐	☐
Explain separation through different interactions with the mobile and stationary phases.	☐	☐	☐
Calculate R_f from baseline measurements and use appropriate unit-free values.	☐	☐	☐
Interpret chromatograms to compare dyes and assess mixtures and purity with appropriate caution.	☐	☐	☐
Water treatment			
Explain sedimentation, filtration and chlorination when producing potable freshwater.	☐	☐	☐
Explain desalination by distillation and the need for salt-free water in chemical analysis.	☐	☐	☐

My next revision priority _____