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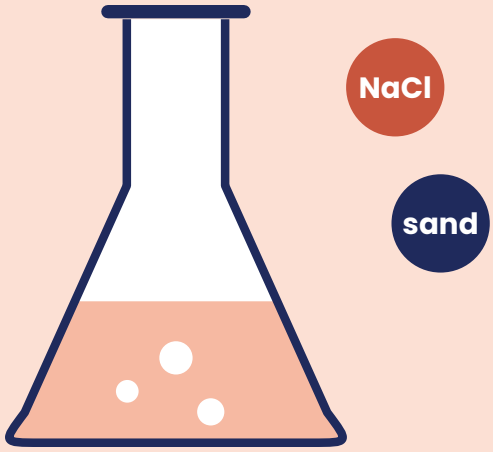
Year 7 • KS3 Chemistry

Separating Mixtures

Mark Scheme – Teacher Copy

Answers, marking points and guidance for the Separating Mixtures worksheet.



Solutions | Filtration | Evaporation | Distillation | Chromatography | Real life

KEY IDEAS IN THIS WORKSHEET

YEAR 7

Name: _____ Class: _____

Date set: _____ Date due: _____

What's inside

Section A	Key words	9 marks
Section B	Choosing a method	15 marks
Section C	Distillation and chromatography	14 marks
Section D	Applying ideas	4 marks

Marking notes

- (1) = one mark for each marking point.
- / separates alternative answers.
- Allow error carried forward in calculations.
- Accept any correct, clearly expressed alternative.

Total marks

42

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Separating Mixtures Worksheet – Mark Scheme

Total: 42 marks. (1) = one mark. Accept any scientifically correct alternative wording.

Section A – Key words

Q	Answer	Mark	Guidance
1(a)	soluble	1	
1(b)	insoluble	1	
1(c)	solution; solute; solvent	3	in this order
1(d)	residue; filtrate	2	
2	a mixture contains two or more substances that are not chemically joined (1); a pure substance contains only one type of substance (1)	2	
	Section A total	**9**	

Section B – Choosing a method

Q	Answer	Mark	Guidance
3	filtration; evaporation; distillation; chromatography; magnet	5	1 mark each
4	pour the mixture through filter paper in a funnel (1); the sand stays on the filter paper as the residue (1); the water passes through as the filtrate (1)	3	
5	heat the solution in an evaporating basin (1); the water evaporates (1); salt crystals are left behind (1)	3	
6	add water and stir to dissolve the salt (1); filter the mixture (1); the sand is the residue and the salt solution is the filtrate (1); evaporate the filtrate to get the salt (1)	4	steps must be in the correct order
	Section B total	**15**	

Section C – Distillation and chromatography

Q	Answer	Mark	Guidance
7	heat the salty water until it boils (1); the water turns to steam and the salt stays behind (1); the steam passes into a condenser and is cooled (1); it condenses to liquid water and is collected (1)	4	
8	water has a much lower boiling point than salt (1); so the water evaporates but the salt does not (1)	2	
9	draw a pencil line near the bottom of the paper (1); put a spot of ink on the line (1); stand the paper in a little solvent (water) with the line above the liquid (1); the solvent rises, carrying the colours different distances (1)	4	
10	pencil is insoluble in the solvent (1); so it does not run up the paper and mix with the ink colours (1)	2	
11	ink B (1); because its 3 spots are at the same heights as the unknown ink (1)	2	
	Section C total	**14**	

Section D – Applying ideas

Q	Answer	Mark	Guidance
12	any sensible example: water treatment / filtering; salt from sea water; separating crude oil; coffee filter; recycling	1	
13	the Sun heats the water (1); so the water evaporates (1); and salt crystals are left in the pool (1)	3	
	Section D total	**4**	

Worksheet total: 42