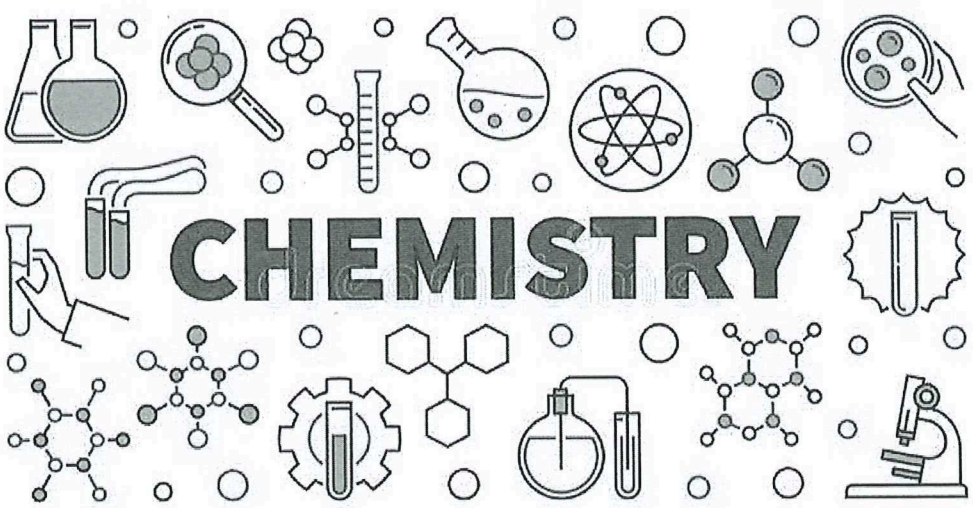
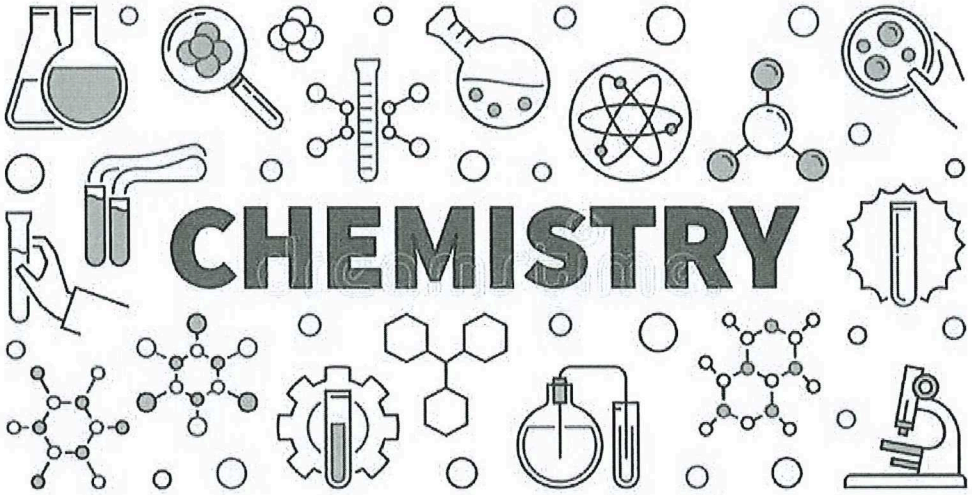


WJEC Chemistry 1

Dual Award - Higher Tier

Mark Scheme



WJEC Chemistry 1

Dual Award – Higher Tier

1.1 Mark Scheme

Question				Marking details	Marks Available					
					AO1	AO2	AO3	Total	Maths	Prac
6	(a)			0.992g / 0.99g (3) if answer incorrect allow credit for correct working 4 (23) Na / 92g Na (1) $\Rightarrow$ 2 (62) Na_2O / 124g Na_2O (1) allow ecf alternative method 0.032 mol Na (1) 0.016 mol Na_2O (1) allow ecf		3		3	3	3
	(b)	(i)		34.07% / 34.1% / 34% allow ecf from part (a)		1		1	1	1
		(ii)		award (1) for any of following • sodium was tarnished / oxidised already / some of the sodium had already reacted • insufficient burning time / not all reacted • not enough oxygen used • other reactions (or named) had taken place neutral • some product was spilled • incorrect measurements			1	1		1
				Question 6 total	**0**	**4**	**1**	**5**	**4**	**5**

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Question				Marking details	Marks available					
					AO1	AO2	AO3	Total	Maths	Prac
5	*(a)*			mixture is heated until one liquid boils / evaporates then condenses and is collected in a different container (1) liquids must have different boiling points (1) liquid **E** has the lower boiling point so is the one removed / liquid **F** has the higher boiling point so is the one left in the flask (1)	3			3		3
	(b)			74 / 74.1 (2) if answer incorrect award (1) for $\frac{32}{43.2} \times 100$		2		2	2	
				Question 5 total	**3**	**2**	**0**	**5**	**2**	**3**

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HIGHER TIER ONLY QUESTIONS

Question				Marking details	Marks available					
					AO1	AO2	AO3	Total	Maths	Prac
3	(a)			award (1) for any of following • yellow and green have similar R_f values • yellow and green travel similar distances • yellow and green have similar solubilities neutral answers • spots will overlap on chromatogram • colours won't separate			1	1		1
	(b)			award (1) for any of following • one spot stays on the start line (and another one travels around half way up the chromatogram) • yellow doesn't move • only the green would move neutral answer – one travels further than the other			1	1		1
	(c)			(yellow) spot at 3.5 cm (1) tolerance ±1 square (green) spot at 8.1 cm (1) tolerance ±1 square			2	2		2
				Question 3 total	**0**	**0**	**4**	**4**	**0**	**4**

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