
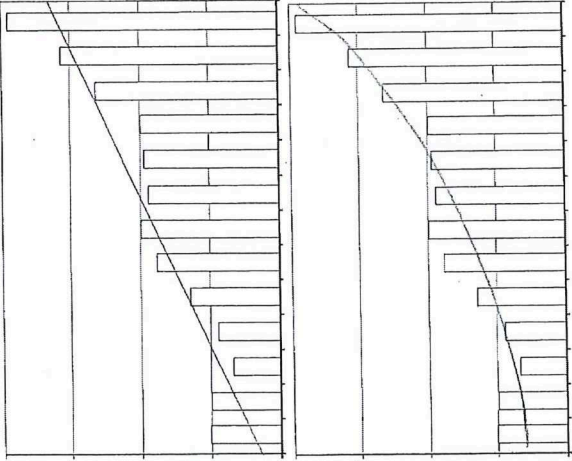


WJEC Chemistry 1
Option – Foundation Tier
1.4 Mark Scheme

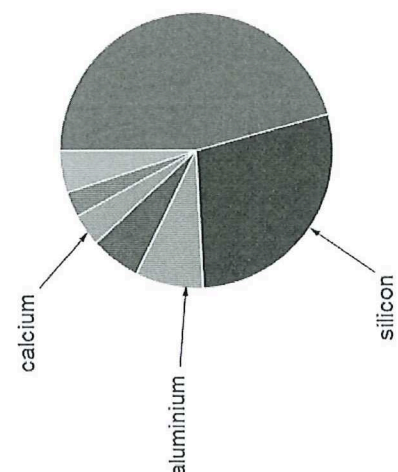
Question	Marking details	Marks available							
		AO1	AO2	AO3	Total	Maths	Prac		
4	(a)	any two of following argon neon helium	accept symbols	1					
	(ii)	any two of following nitrogen oxygen ozone hydrogen	accept formulae	1					
	(iii)	ozone		1			1		
	(b)	(i)	methane (1) carbon dioxide (1)	2			2		
	(ii)				1		1		
	(c)	(i)	2	1			1		
	(ii)	5		1			1		
		Question 4 total		2	5	1	8	3	0

Question	Marking details	Marks available					
		AO1	AO2	AO3	Total	Maths	Prac
7 (a)	 <p>accept straight line or curve similar to examples above</p>			1	1	1	
(b)	<p>burning <u>more</u> fossil fuels (1)</p> <p><u>more</u> cars / lorries / industry / factories (1)</p> <p>award 1 max for reference to deforestation if no other mark awarded</p>	2			2		

Question	Marking details	Marks available					
		AO1	AO2	AO3	Total	Maths	Prac
(c)	<p>any sensible answer e.g.</p> <ul style="list-style-type: none"> • electric / hybrid vehicles • low energy electrical appliances • renewable energy • carbon capture and storage (CCS) 	1			1		
(d)	<p>Most carbon dioxide is produced by electricity generation</p> <p>Between 1900 and 2010 there was a massive increase in industry</p> <p>The mean global temperature remained constant between 1950 and 1980</p> <p>The average number of cars per home has increased steadily since the 1980s.</p> <p>The use of energy efficient appliances has increased since 2000</p>						
	Question 7 total	3	0	2	5	1	0

Question	Marking details	Marks available						
		AO1	AO2	AO3	Total	Maths	Prac	
11/3	(a)	award (1) for any of following <ul style="list-style-type: none"> plates move towards each other more dense plate forced downwards more dense plate subducted mountain ranges form volcanoes form award (2) for any two linked points e.g. more dense plate subducted causing mountain ranges to form	2			2		
	(b)	cross on any of following boundaries for (1) <ul style="list-style-type: none"> South American and African North American and Eurasian Pacific and Nazca North American and African gap forms and magma rises to fill the gap / volcano forms / new igneous rock forms (1)	2			2		
	(c)	earthquake	1			1		
		Question 11/3 total	5	0	0	5	0	0

Question	Marking details	Marks available					
		AO1	AO2	AO3	Total	Maths	Prac
4	<p>(a)</p> <p>A constructive</p> <p>B destructive</p> <p>C conservative</p> <p>award (2) for all three correct award (1) for any one correct</p>	2			2		
	<p>(b)</p> <p>magma rises / comes through gap (1)</p> <p>(magma / lava) <u>cools</u> to form new (igneous) rock / islands (1)</p> <p>award (1) for any reference to volcanoes if no other mark credited</p>	2			2		
	<p>(c)</p> <p>earthquakes occur (1)</p> <p>due to plates <u>rubbing</u> together / (build-up of) <u>friction</u> (1)</p>	2			2		
	Question 4 total	6	0	0	6	0	0

Question	Marking details	Marks available					
		AO1	AO2	AO3	Total	Maths	Prac
4 (a) (i)	 <p>award (2) for all correct award (1) for 1 or 2 correct</p>			2	2		
(ii)	$\frac{1}{4}$			1	1	1	
(iii)	<p>most metals have higher melting points than gold <input type="checkbox"/></p> <p>most metals are magnetic <input type="checkbox"/></p> <p>most metals are more reactive than gold <input checked="" type="checkbox"/></p> <p>most metals are radioactive <input type="checkbox"/></p>				1		

Question	Marking details	Marks available					
		AO1	AO2	AO3	Total	Maths	Prac
(b)	(i) plates move apart / separate (1) magma / molten rock moves upwards (1) cools / solidifies / crystallises / hardens (1) references to new land / igneous rock / volcanoes are neutral	3			3		
	(ii) constructive	1			1		
	Question 4 total	5	0	3	8	1	0

Question	Marking details	Marks available				
		AO1	AO2	AO3	Total	Maths Prac
8	<p>Indicative content</p> <ul style="list-style-type: none"> carbon dioxide level in the atmosphere increases this traps more heat in the atmosphere the Earth's temperature is rising melting polar ice / glaciers leads to increased sea levels and flooding extreme weather such as hotter summers / colder winters / more hurricanes habitat changes are caused by changes in climate <p>5-6 marks Global warming clearly explained including the idea of increase in carbon dioxide trapping more heat; two consequences described <i>There is a sustained line of reasoning which is coherent, relevant, substantiated and logically structured. The candidate uses appropriate scientific terminology and accurate spelling, punctuation and grammar.</i></p> <p>3-4 marks Global warming explained with link between carbon dioxide and increase in temperature; reference to two consequences <i>There is a line of reasoning which is partially coherent, largely relevant, supported by some evidence and with some structure. The candidate uses mainly appropriate scientific terminology and some accurate spelling, punctuation and grammar.</i></p> <p>1-2 marks Reference to increasing temperature; reference to one consequence <i>There is a basic line of reasoning which is not coherent, largely irrelevant, supported by limited evidence and with very little structure. The candidate uses limited scientific terminology and inaccuracies in spelling, punctuation and grammar.</i></p> <p>0 marks <i>No attempt made or no response worthy of credit.</i></p>	6			6	
Question 8 total		6	0	0	6	0

Question	Marking details	Marks available					
		AO1	AO2	AO3	Total	Maths	Prac
11/3 (a)	(surface of the) Earth cooled / temperature decreased (1) (water vapour) condensed to form rivers/lakes/oceans (1) award (1) each for any two of following (carbon dioxide used in) photosynthesis / plants evolved (carbon dioxide) locked in fossil fuels / rocks / shells dissolved/absorbed in oceans	4			4		
(b)	nitrogen ⇒ 78% (1) accept 79 / 80 oxygen ⇒ 21% (1) accept 20	2			2		
	Question 11/3 total	6	0	0	6	0	0

Question		Marking details		Marks available					
				AO1	AO2	AO3	Total	Maths	Prac
3	(a)					1	1		
	(i)	B							
	(ii)	20			1		1	1	
	(iii)	Z			1		1		
	(b)			1			1		
	(ii)		magma (1) convection currents (1)				2		
	(c)		4			1	1		
			Question 3 total	3	2	2	7	1	0