



WJEC Chemistry 1
Option – Foundation Tier
1.6 Mark Scheme

Question	Marking details	Marks available				
		AO1	AO2	AO3	Total	Prac
7 (a)	thermal decomposition	1			1	1
	3	1				1
	I (chip) expands / puffs-up / breaks-up (1) steam formed / spits / fizzes / bubbles (1) neutral answer: hisses	2			2	2
	II CaO + H ₂ O (1) Ca(OH) ₂ (1) ignore attempts at balancing		2		2	
(b)	turns milky / turns white / goes cloudy (1) carbon dioxide present / this is the test for carbon dioxide / we breathe out carbon dioxide / calcium carbonate formed (1) neutral answer: limewater is calcium hydroxide	2			2	2
(c)	91 / 91.07 (2) award (1) for 5.1/5.6 if answer is incorrect no credit possible if 10 used in calculation		2		2	
	Question 7 total	6	4	0	10	6

Question	Marking details	Marks available								
		AO1	AO2	AO3	Total	Prac				
10/2	(a)	1			1	1				
	(b)	1			1	1				
	(i)									
	(ii)		2		2					
	(c)	1			1	1				
	(i)									
	(ii)		2		2					
	Question 10/2 total					3	4	0	7	3

Common questions

Question	Marking details		Marks available							
			AO1	AO2	AO3	Total	Maths	Prac		
9/1	(a)	(i)	I (thermal) decomposition	1			1			1
			II $\text{CaCO}_3 \rightarrow \text{CaO} + \text{CO}_2$ award (1) for reactant award (1) for products ignore any attempt at balancing		2		2			1
		(ii)	water	1			1			
	(b)		award (1) for any of following making cement / concrete / plaster making iron / steel road building in statues neutral answers – building / building houses / buildings	1			1			
			Question 9/1 total	3	2	0	5	0	0	2

Question	Marking details	Marks available							
		AO1	AO2	AO3	Total	Maths	Prac		
5	(a)	(i)	award (1) for each correct product CaO CO ₂ ignore any attempt at balancing	2		2			
		(ii)	Ca(OH) ₂	1		1			
	(b)		<p>Indicative content</p> <p>Economic benefits</p> <ul style="list-style-type: none"> • employment / local jobs • building material e.g. roads / houses • raw material e.g. blast furnace / glass / concrete / cement • improved road system <p>Environmental drawbacks</p> <ul style="list-style-type: none"> • noise e.g. blasting / traffic • dust from blasts / dust from lorries • landscape destruction • habitat destruction 	6		6			

Question	Marking details	Marks available				
		AO1	AO2	AO3	Total	Maths Prac
	<p>5-6 marks Good description of benefits and drawbacks <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 Description including reference to some benefits and drawbacks <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 Simple benefit / drawback identified <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 No attempt made or no response worthy of credit</p>					
	Question 5 total	6	3	0	9	0 0

Question	Marking details	Marks available					
		AO1	AO2	AO3	Total	Maths	Prac
6	<p>(a) award (1) for correct order</p> <p>zinc carbonate accept zinc / Zn copper(II) carbonate accept copper / Cu lead carbonate accept lead / Pb</p>			1	1		1
	<p>(ii)</p> <p>Sodium carbonate only decomposes a small amount on heating <input type="checkbox"/></p> <p>Sodium carbonate is very unstable <input type="checkbox"/></p> <p>Sodium carbonate does not decompose on heating <input checked="" type="checkbox"/></p> <p>Sodium carbonate decomposes too quickly <input type="checkbox"/></p>			1	1		1
	<p>(iii) 70 (2)</p> <p>if incorrect award (1) for $\frac{3.5}{5.0} / 0.7$</p>		2		2		2
	(iv) Cu^{2+}		1		1		
	(b) yellow / orange / yellow-orange	1			1		1
	Question 6 total	1	3	2	6	2	3