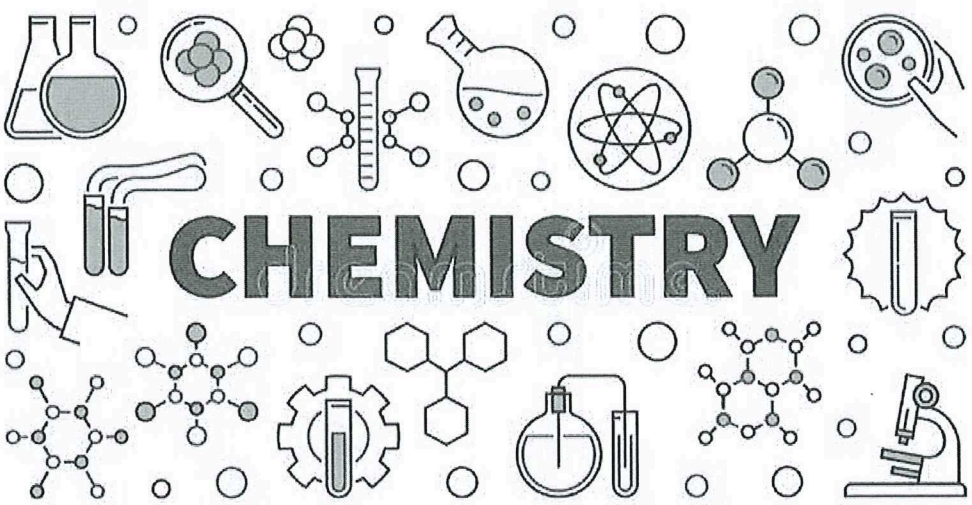
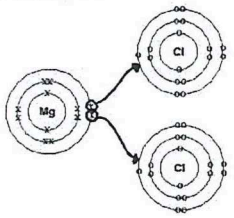
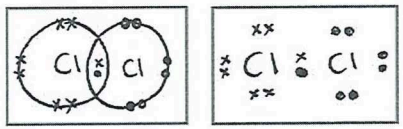


WJEC Chemistry 2

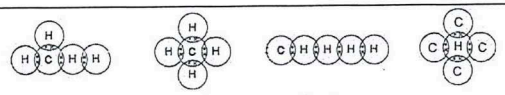
Dual Award – Foundation Tier

2.1 Mark Scheme

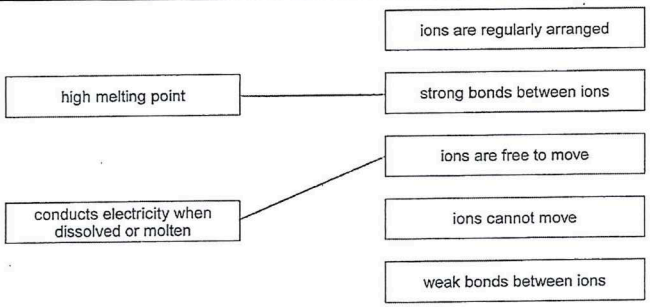
Question				Marking details	Marks available					
					AO1	AO2	AO3	Total	Maths	Prac
3	(a)	(i)		 both electrons must be transferred, both must go to the outer shells		1		1		
		(ii)		$2,8$ / $(2,8)^{2+}$ (1) – / 1– (1) neutral answer –1		2		2		
	(b)	(i)		 must have shared pair and total of 8 electrons around both atoms ignore electrons in any inner shells drawn		1		1		
		(ii)		covalent (bonding) reference to simple molecular / sharing electrons is neutral	1					
				Question 3 total	**1**	**4**	**0**	**5**	**0**	**0**

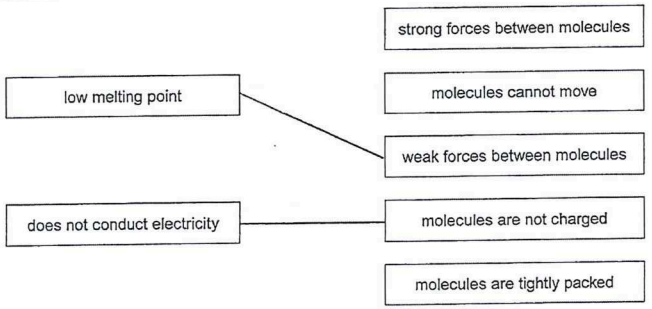
Foundation Tier only questions

Question				Marking details	Marks available					
					AO1	AO2	AO3	Total	Maths	Prac
1	*(a)*			tightly electrons malleable	3			3		
	(b)	(i)		1-100nm accept any correct indication of the answer different	2			2		
		(ii)		anti-bacterial / anti-fungal / kills bacteria / anti-viral	1			1		
				Question 1 total	**6**	**0**	**0**	**6**	**0**	**0**

Question				Marking details	Marks available					
					AO1	AO2	AO3	Total	Maths	Prac
3	*(a)*	(i)	I	 ☐ ☑ ☐ ☐ accept any correct indication of the answer	1			1		
			II	**covalent** **ionic** **giant covalent** **metallic** accept any correct indication of the answer	1			1		
		(ii)	I	<table><tr><th>Substance</th><th>Melting point / °C</th><th>Electrical conductivity</th><th>Type of structure</th></tr><tr><td>A</td><td>2072</td><td>conducts only when molten</td><td>(giant) ionic</td></tr><tr><td>B</td><td>-182</td><td>does not conduct electricity</td><td>(simple) molecular</td></tr><tr><td>C</td><td>1610</td><td>does not conduct electricity</td><td>(giant) covalent</td></tr></table> all **three** correct		1		1		
			II	substance **B**		1		1		
	(b)			14.28 / 14.3 / 14 award (2) for correct answer award (1) for correct molecular mass of 56 if incorrect answer no ECF if incorrect M_r calculated in first step		2		2	2	
				Question 3 total	**2**	**4**	**0**	**6**	**2**	**0**

FOUNDATION TIER ONLY QUESTIONS

Question				Marking details	Marks available					
					AO1	AO2	AO3	Total	Maths	Prac
1	(a)	(i)	I	hydrogel	1			1		
			II	photochromic (pigment)	1			1		
		(ii)		heat it ✓ add water place it in sunlight	1			1		
	(b)	(i)		 award (1) for each correct line do not credit if more than one line drawn from either property	2			2		

Question				Marking details	Marks available					
					AO1	AO2	AO3	Total	Maths	Prac
		(ii)		 award (1) for each correct line do not credit if more than one line drawn from either property	2			2		
	(c)			hard (1) over (1)	2			2		
				Question 1 total	**9**	**0**	**0**	**9**	**0**	**0**