Rewarding Learning

General Certificate of Secondary Education
2011–2012

Science: Double Award (Modular)

Using Materials and Understanding Reactions End of Module Test

Foundation Tier

[GDB01]

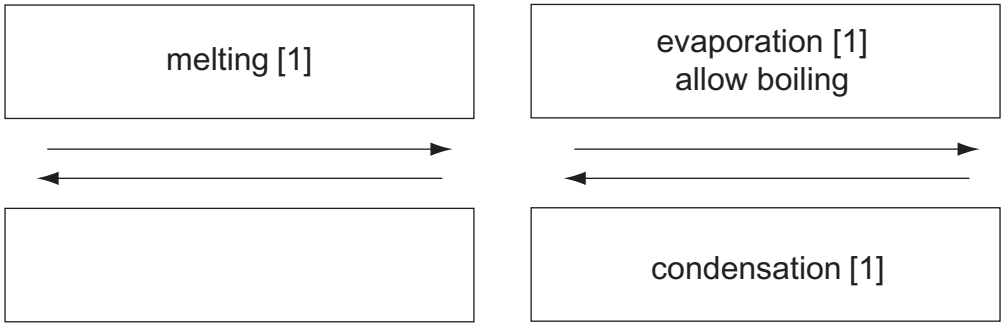
THURSDAY 19 MAY 2011, MORNING

MARK SCHEME

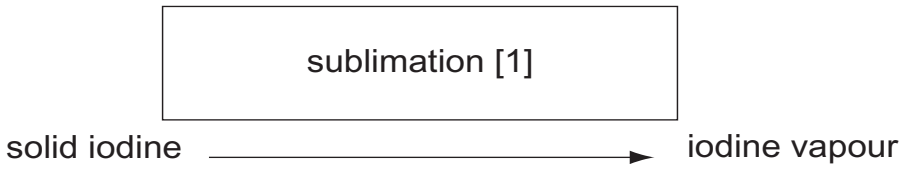
			AVAILABLE MARKS
1	**(a)**	Hazard symbols are used to warn of the dangers of the chemical/are eye-catching/can be understood by people who cannot read/or those who speak different languages (any 2 × [1]) [2]	
	(b)	Harmful or irritant [1]	
	(c)	Poisonous  [1]	4
2	**(a)**	Idea of the plate retaining shape (when heated)/plate does not melt when heated **NOT** heat resistant [1]	
	(b)	The plastic covering does not conduct electricity/idea of protection against electric shock [1]	
	(c)	Copper is ductile/can be drawn into wires/unreactive/flexible **NOT** malleable [1]	3
3	**(a)**	Use hot/warm water/crush the cube/stir/use a large volume of water (any 3 × [1]) [3]	
	(b)	Continue to add cubes to the water [1] until there is solid left in the bottom of the solution [1] [2]	5
4	**(a)**	K [1]	
	(b)	SO_4^{-2} [1]	
	(c)	Copper [1]	
	(d)	All ammonium salts are soluble [1]	4
5	**(a)**	Idea that the particles are far apart as a gas. (The particles can be pressed closer together.) [1]	
	(b)	The volume does not change but allow idea that volume of the gas will increase (when the temperature is increased) allow idea of exploding [1]	
	(c)	Candidates must shade in all of the space [1]	3

				AVAILABLE MARKS
6	**(a)**	The number of protons and electrons are equal	[1]	
	(b)	a compound	[1]	
	(c)	In the nucleus	[1]	
	(d)	ion	[1]	4

7 **(a)**



(b)



[1] 4

8 **(a)** Diffusion [1]

(b) Idea that particles have energy from the heat [1]
Idea of fast particle movement [1] [2] 3

9 **(a)** 3 [1]

(b) potassium hydrogen carbonate [1]

(c) 5 [1]

(d) $Mg(NO_3)_2$ [1] 4

10 **(a)** sodium oxide, calcium oxide YES
nitrogen dioxide, carbon dioxide NO
4 correct = [2]; 2 or 3 correct = [1] [2]

(b) water [1]

(c) neutralisation [1] 4

				AVAILABLE MARKS
11	**(a)**	C	[1]	
	(b)	E	[1]	
	(c)	Any 2 of A, B and D	[1]	
	(d)	sodium	[1]	4
12	**(a)**	magnesium 2, 8, 2 [1] chlorine 2, 8, 7 [1]	[2]	
	(b)	Mg loses 2 electrons [1] chlorine gains 1 electron [1] Idea that 2 chlorine atoms are needed [1] Idea of sharing loses first two marking points	[3]	5
13	**(a)**	copper sulphate	[1]	
	(b)	**pure** copper	[1]	
	(c)	goes down	[1]	3
			Total	**50**