Rewarding Learning

General Certificate of Secondary Education
2010–2011

Science: Double Award (Modular)

Using Materials and Understanding Reactions End of Module Test

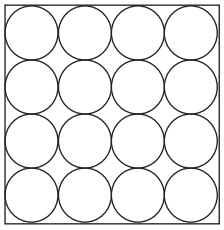
Foundation Tier

[GDB01]

WEDNESDAY 10 NOVEMBER 2010, AFTERNOON

MARK SCHEME

				AVAILABLE MARKS
1	**(a)**	Idea that symbols are internationally understood Idea that symbols are eye-catching idea of not easy to read **not** idea of warning	[2]	
	(b)	**(i)** 	[1]	
		(ii) 	[1]	4
2	**(a)**	(Hot) milk	[1]	
	(b)	Any **two** from: Used cocoa **powder** **stirred** the mixture hot **not** melting	[2]	
	(c)	Idea of a **solution** which cannot hold any more (solute)	[1]	4
3	**(a)**	Any **two** from: Idea that aluminium is malleable is a (good) conductor of **heat** is light or other suitable e.g. unreactive or high melting point	[2]	
	(b)	Any **two** from: Copper is malleable will not react (with water) idea of long lasting or durable or rigid or other suitable **not** high mp, **not** strong, **not** good conductor	[2]	
	(c)	Any **two** from: Plastic will melt when heated will not hold its shape will burn will not conduct heat or other suitable **not** idea of not being strong	[2]	6

				AVAILABLE MARKS
4	**(a)**	carbon (graphite)	[1]	
	(b)	aluminium/tin/lead	[1]	
	(c)	sodium chloride	[1]	
	(d)	potassium iodide (must be **name**)	[1]	4
5	**(a)**			
		(i.e. a regular close packed)	[1]	
	(b)	The particles of iron gain energy/move faster and move further apart	[1] [1]	
	(c)	carbon dioxide water (any order)	[1] [1]	5
6	**(a)**	**(i)** idea of forming scum/difficult to form a lather	[1]	
		(ii) No effect/will always form a permanent lather	[1]	
	(b)	Boiling/adding washing soda/using an ion exchange resin accept distillation	[1]	3
7	**(a)**	K	[1]	
	(b)	24	[1]	
	(c)	3	[1]	
	(d)	Calcium hydrogen carbonate	[1]	4
8	**(a)**	Diffusion	[1]	
	(b)	Takes longer to form the white ring	[1]	
	(c)	Idea that ammonia (particles) diffuses/moves faster/hydrochloric acid particles diffuse/move more slowly accept idea that ammonia is less dense/hydrochloric acid is more dense	[1]	
	(d)	NH_4Cl	[1]	4

				AVAILABLE MARKS
9 **(a)**				

Particle	Atomic Number	Mass Number	Electronic arrangement
A	6	(12)	2,4
B	1	2	1
C	(5)	(11)	2,3
D	1	3	(1)

[4]

(b) **(i)** B and D [1]

(ii) the particles have the same atomic number but different mass numbers [1] 6

10 **(a)** cathode [1]

(b) carbon/graphite [1]

(c) high cost/idea of needing a lot of energy/anodes need to be replaced [1] 3

11 **(a)** Acid – sulphuric acid [1]
base – copper oxide/copper hydroxide [1]
product – water [1]

If copper carbonate is used as the base it gains the mark for base but must state water and carbon dioxide for one mark for the product.

(b) carbon dioxide [1] 4

12 idea of Mg atom losing 2 electrons [1]
idea of F atom gaining 1 electron [1]
idea of 2 F atoms needed to allow Mg to lose 2 electrons [1]
(third mark dependent on first two) 3

Total **50**