



Rewarding Learning

**General Certificate of Secondary Education
2011–2012**

Science: Single Award (Modular)

Materials and their Management

Module 4

Foundation Tier

[GSC41]

WEDNESDAY 9 NOVEMBER 2011

10.15 am–11.00 am

**MARK
SCHEME**

			AVAILABLE MARKS	
1	(a)	attractive [1], strong [1], comfortable [1]		
	(b)	Any two from: lower cost, low maintenance, do not rot lightweight	[2]	5
2	(a)	microscope/appearance of cotton [1], chromatography/dyes in ink [1], breathalyser/driver over limit of alcohol [1], flame test/metals in car paint [1]		
	(b)	Any two from: quality of paper/watermarks/metal strip/bar coding/holograms/serial number	[2]	6
3	(a) (i)	lather		
	(ii)	magnesium		
	(iii)	washing soda		
	(iv)	limestone 4 × [1]	[4]	
(b)	good for teeth [1], tastes good [1]	[2]		
(c)	tourism	[1]	7	
4	(a)	an increase in the amount of glass recycled	[1]	
	(b)	1980 = 0.5, 2010 = 3.5 [1] $3.5 - 0.5 = 3$ [1] for correct values (3.5, 0.5) [1]	[2]	
	(c)	Any two from: saves money/energy/saves resources/reduces greenhouse gases/ saves landfill	[2]	
	(d) (i)	aluminium	[1]	
(ii)	Any two from: recycling bank for (plastic) fines for not recycling councils provide households with different coloured recycling bins, adverts/rewards	[2]	8	
5	(a)	Any two from: affects people's judgement, causes accidents, slows down reaction times	[2]	
	(b) (i)	(if driving) you cannot have any alcohol in the blood [1]		
(ii)	advantage – cut down on number of accidents/ no confusion about limit [1] disadvantage – common products have alcohol e.g. mouthwash [1]	[3]	5	

		AVAILABLE MARKS
6	(a) it is lightweight	[1]
	(b) iron is stronger [1] cheaper [1]	[2]
	(c) it is lighter than copper [1] and it is less likely to break [1] it is cheaper [1] not as good conductor but sufficient [1] not as strong but sufficient [1] very good conductor [1] [2] properties + [1] explained	[3]
7	(a) (i) fractional [1], distillation [1] (ii) bitumen [1] (iii) roofing/roads/tar [1] (iv) carbon dioxide [1], water [1]	[6]
	(b) Any two from: • extract as much as possible • crude oil running out/make last longer/lower cost • avoid water pollution	[2]
Total		45