



Rewarding Learning

**General Certificate of Secondary Education
2010–2011**

Science: Single Award (Modular)
Chemical Patterns and our Environment
Module 3

Foundation Tier

[GSC31]

WEDNESDAY 23 FEBRUARY 2011, MORNING

**MARK
SCHEME**

			AVAILABLE MARKS
1	(a) fish fingers – freezing tea leaves – drying baby onions – pickling any three	[3]	5
	(b) bacteria, fungi	[2]	
2	(a) (i) ammonium dichromate	[1]	5
	(ii) ammonia solution	[1]	
	(b) toxic/poisonous	[1]	
	(c) radioactivity symbol	[1]	
	(d) internationally understood	[1]	
3	(a) core, mantle	[2]	5
	(b) igneous	[1]	
	(c) sedimentary	[1]	
	(d) remains of living organisms	[1]	
4	(a) oxygen, hydrogen, fluorine	[3]	6
	(b) two or more elements [1] chemically joined together [1] cannot be broken down [1]	[2]	
	(c) H ₂ O	[1]	
5	(a) pH probe/sensor	[1]	7
	(b) alkaline	[1]	
	(c) acids (if acid given for (b) accept alkaline)	[1]	
	(d) indicators	[1]	
	(e) cut up leaves [1] grind/crush [1] mix with water/solvent [1] heat, [1] filter, [1] collect solution [1] any three	[3]	

		AVAILABLE MARKS
6	(a) sodium/potassium or other appropriate answer	[1]
	(b) R or sulphur	[1]
	(c) S – xenon	[1]
	(d) periods	[1]
7	(a) A: solution – colourless/pale blue [1] metal – reddish brown [1]	
	B: solution – colourless [1] metal – grey [1]	[4]
	(b) Displacement	[1]
8	(a) all points plotted correctly [2] 5, 6 correct [1] line joining points [1]	[3]
	(b) to get more reliable results	[1]
	(c) safety glasses/using tongs – test tube holder	[1]
	(d) (i) thermal [1] decomposition [1]	[2]
	(ii) 4.4g	[1]
	Total	45