



Rewarding Learning

General Certificate of Secondary Education
2012

Science: Single Award (Modular)

Human Activity and Health

Module 2

Foundation Tier

[GSC21]

MONDAY 12 NOVEMBER 2012

2.30 pm–3.15 pm

**MARK
SCHEME**

			AVAILABLE MARKS	
1 (a)	Type of pollution	Example	Method to reduce effect	
			Filters on chimneys	
	Land			
			Better storage on farms	[3]
(b)	tar – carbon monoxide (either order) – addiction			[3] 6
2 (a)	UV – genes			[2]
	(b) uncontrolled cell division			[1]
	(c) (i) 17			[1]
	(ii) more continental/foreign holidays/sunbed use			[1]
	(d) easier to see/on skin surface/lungs deep in body			[1] 6
3 (a)	placed in same light/temperature/left for same length of time			[1]
	(b) (i) all points accurately plotted [2]; one mistake = [1]			[2]
	(ii) the average mass decreased			[1]
	(iii) competition/for water/light/nutrients/space (any two 1 mark each)			[2]
	(iv) the plant's may not have grown/plants died			[1] 7
4 (a)	(i) fungus stopped growth/killed bacteria [not eating bacteria or made it decrease]			[1]
	(ii) penicillin			[1]
	(b) strict hygiene/isolate patients/restrict use of antibiotics [not stronger antibiotics]			[1]
	(c) (i) 1 – harms liver/brain/affects judgement/depressant 2 – violence/relationship problems/affects work/school/cost of treatment [any appropriate response accepted]			[2]
	(ii) drinking a lot of alcohol on any occasion			[1]
	(iii) any two from: drink alcohol on fewer occasions/drink less on each occasion/ education/seek support [not just drink less]			[2] 8

			AVAILABLE MARKS	
5	(a) (i)	As the total length of hedgerow increases per farm there are more different types of birds	[1]	
	(ii)	hedgerows provide food/shelter/nest sites	[1]	
	(b)	any two from: hunting/habitat loss/spreading disease/ introducing non-native species/pollution/overfishing	[2]	4
6	(a)	mumps, measles and rubella are caused by a virus; antibiotics only effective against bacterial diseases [not just not effective]	[2]	
	(b)	fewer children get vaccinated; therefore more catch the measles	[2]	
	(c) (i)	any two from: antibody level starting to fall before booster/booster need to raise level above level required to produce immunity/after booster level of antibody remains above the level required for immunity/high [not just increase level of antibodies]	[2]	
	(ii)	antibodies produced by the body	[1]	
	(iii)	slow to act/long lasting	[1]	
7	(a) (i)	plants all same age/height/evenly spaced	[1]	
	(ii)	when growing carbon dioxide taken in; during photosynthesis; (approximately equal to) carbon dioxide produced when burnt	[3]	
	(b) (i)	use less fossil fuels/reduce increase in global warming [not just carbon neutral/little effect on atmosphere]	[1]	
	(ii)	education/grants	[1]	6
			Total	45