



*Rewarding Learning*

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

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**Science: Single Award (Modular)**

Human Activity and Health  
Module 2

Higher Tier

**[GSC22]**

**FRIDAY 20 MAY 2011, MORNING**

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**MARK  
SCHEME**

		AVAILABLE MARKS	
1	(a) (i) graph showing fall after 1998; to 50%; then rise to 90% by 2005 (all 3 points correct = 2; 1 or 2 points correct = 1)	[2]	
	(ii) link with autism proved false/there is no link	[1]	
	(b) mucous membranes —————→ <i>traps</i> microbes	[1]	
	blood clotting —————→ prevents entry of microbes	[1]	
(c) antibodies produced when having been infected/vaccinated/by lymphocytes/white blood cells complementary shape to microbe/antigen/can fit together; antibody antigen link/attach/latch on; microbes immobilised/clump; memory cells (any <b>three</b> )	[3]	8	
2	(a) (i) grass grows rapidly/tall; outcompetes/covers primrose/stops light	[2]	
	(ii) laws to prevent them being picked/do not pick; create new habitats/conservate current habitats (any <b>two</b> )	[2]	
	(b) any example, e.g. panda with reason, e.g. habitat destruction (second mark only if first mark correct)	[2]	6
3	(a) living	[1]	
	(b) (i) more lichens with distance from centre; pollution decreases with distance/Coalville polluted/industrialised	[2]	
	(ii) no change in lichens with distance; no or little pollution	[2]	
	(iii) more distances used/more of each tree used/more trees (at each distance) (any <b>two</b> )	[2]	7
4	(a) (i) more pollution/pollution named; resources used up; habitat damage (any <b>two</b> )	[2]	
	(ii) lack of education/personal choice/Governments not willing to legislate/people living longer/advances in medical care	[1]	
	(b) larger heads of grain; no variation/less wastage/easier to harvest or same height; less wastage/easier to harvest or short stalk; less wastage/easier to harvest	[2]	5

			AVAILABLE MARKS	
5	(a) (i)	more growth/more profit/animals never ill	[1]	8
	(ii)	mutation; provides resistance to antibiotic; other bacteria eliminated; resistant bacteria increase in number as non-resistant eliminated (any <b>three</b> )	[3]	
	(b)	no resistance in population/people remain infected for longer/antibiotics do not work	[1]	
	(c) (i)	invitro testing – animal testing – clinical testing – licensing	[1]	
	(ii)	For – whole body/similar to humans/check for side effects/test on animals before humans	[1]	
		Against – different species to humans/may react differently	[1]	
6	(a) (i)	<i>more</i> combustion/(more) deforestation/increased industrialisation	[1]	11
	(ii)	summer and winter/or seasons described; – more/less combustion/more/less photosynthesis	[2]	
	(b) (i)	rays from Sun reach Earth and reflect back and (some) trapped by atmosphere	[1]	
	(ii)	some countries did not sign up; some dropped out; targets too low; not as successful as hoped (any <b>two</b> )	[2]	
	(c) (i)	range of species/types of plants of animals	[1]	
	(ii)	flooding; species drown; loss of habitat; land drying out; species become extinct or any suitable answer	[2]	
	(d)	<i>more trees/more</i> photosynthesis; reduces global warming; (more) habitats; (more) biodiversity/conservation of (endangered) species	[2]	
		<b>Total</b>		