Rewarding Learning

General Certificate of Secondary Education
2011–2012

Science: Single Award (Modular)

Staying Alive
Module 1
Higher Tier

[GSC12]

MONDAY 27 FEBRUARY 2012
9.30 am–10.15 am

MARK SCHEME

			AVAILABLE MARKS
1	**(a)**	number of people tested, any info to ensure representative of whole population e.g. ages, who conducted the tests [3]	
	(b)	ascending line labelled CCEA, steady/descending line labelled TASTY [2]	
	(c)	lubricant/solvent/transport [1]	6
2	**(a)**	1. overall numbers reduced, [1] 2. reduction very small/no reduction last year [2] [3]	
	(b)	compare figures, secondary sources – medical/internet, pro rata [3]	6
3	**(a)**	Increases in all cases [1] Demand for more energy/food and oxygen [1] Sprinting uses most/walking uses least/biggest increase data quoted/smallest data quoted. [1]	
	(b)	resting increases 'after' increases, heart muscle weaker, output decreases when not exercising (any three) [3]	6
4	**(a)**	**(i)** oviduct, ovary, uterus, cervix $\frac{1}{2}$ mark each [2]	
		(ii) 1. triggers secondary sexual characteristics, any example [2] 2. highest level causes ovulation, lowest causes menstruation [2] [4]	
	(b)	leaves testes, travels along sperm duct, passes prostate, down urethra/through penis (any three) [3]	9

				AVAILABLE MARKS
5	**(a)**	correct location, association/connector neurone	[2]	
	(b)	arm muscle	[1]	
	(c)	upward arrow	[1]	
	(d)	speed, pathway/coordinator	[2]	
	(e)	examples/improvements of technology	[1]	7
6	**(a)**	**(i)**		

	T	†
T	TT	T†
†	T†	(††)

1 mark both parents [1]
1 mark F1 [1]
†† circled 1 mark [1]

[3]

(ii) Outward appearance caused by genes [1]

(iii) 270, base triplet hypothesis/explained [2]

(b) double helix [1] 7

7 Inserting genes/DNA, into patients cells, Any 2

relieves symptoms, prolongs life, Any 1

harm to normal cells, short term effect Any 1 [4] 4

Total **45**