



Rewarding Learning

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

Science: Single Award (Modular)

Human Activity and Health
Module 2

Higher Tier

[GSC22]

THURSDAY 24 FEBRUARY 2011, MORNING

**MARK
SCHEME**

			AVAILABLE MARKS	
5	(a) (i)	if not surrendering licence could buy another boat/stops them fishing	[1]	7
	(ii)	small fish not caught; allowed to mature and reproduce	[2]	
	(b) (i)	filters; less sulphur dioxide/gases causing acid rain produced or alternative fuels; less sulphur dioxide/gases causing acid rain produced	[2]	
	(ii)	not spraying fertiliser in winter when wet/near lakes; better storage for slurry/silage; less run off into rivers Any two	[2]	
6	(a) (i)	natural selection – drug resistant variety survives; non resistant variety killed; evolution – change in virus over time/mutates	[3]	11
	(ii)	easily spread/number of methods of spread/no cure (rapid)/mutate rapidly	[1]	
	(b) (i)	due to drug resistance/chance that not resistant to one of the drugs	[1]	
	(ii)	as no cure/no other chance of prolonging life	[1]	
	(iii)	laboratory testing/working on cells	[1]	
	(c) (i)	culturing microbes without contamination	[1]	
	(ii)	heating loop – to kill any microbes already present/sterilise; allowing loop to cool – to avoid killing the transferring bacteria; incubate at 30 °C – to avoid culturing pathogenic microbes/ microbes that can survive at body temperature	[3]	11
			Total	45