



GCSE Science A Biology 1

Foundation Tier

Biology 1F

SPECIMEN MARK SCHEME

Version 1.0

Quality of Written Communication and levels marking

In Question 13 candidates are required to produce extended written material in English, and will be assessed on the quality of their written communication as well as the standard of the scientific response.

Candidates will be required to:

- use good English
- organise information clearly
- use specialist vocabulary where appropriate.

The following general criteria should be used to assign marks to a level:

Level 1: basic

- Knowledge of basic information
- Simple understanding
- The answer is poorly organised, with almost no specialist terms and their use demonstrating a general lack of understanding of their meaning, little or no detail
- The spelling, punctuation and grammar are very weak.

Level 2: clear

- Knowledge of accurate information
- Clear understanding
- The answer has some structure and organisation, use of specialist terms has been attempted but not always accurately, some detail is given
- There is reasonable accuracy in spelling, punctuation and grammar, although there may still be some errors.

Level 3: detailed

- Knowledge of accurate information appropriately contextualised
- Detailed understanding, supported by relevant evidence and examples
- Answer is coherent and in an organised, logical sequence, containing a wide range of appropriate or relevant specialist terms used accurately.
- The answer shows almost faultless spelling, punctuation and grammar.

In order to attain a mark within a certain level, **both** the science **and** the QWC must be of a standard appropriate to that level.

COMPONENT NUMBER: BL1FP

COMPONENT NAME: GCSE Science A Biology 1F

STATUS: Specimen V1.0

question	answers	extra information	mark
1(a)(i)	D		1
1(a)(ii)	C		1
1(a)(iii)	B		1
1(b)	parent		1
	gamete		1
	clone		1
Total			6

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STATUS: Specimen V1.0

question	answers	extra information	mark
2(a)	amphibians		1
2(b)	reptiles		1
2(c)	evolution	accept natural selection	1
Total			3

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STATUS: Specimen V1.0

question	answers	extra information	mark
3(a)	microorganisms / bacteria / fungi / microbes	allow named example or mould ignore decomposers unqualified / germs / maggots / worms	1
3(b)	it is warm(er) / hot / increased heat / increased temperature	ignore sun is hot unqualified	1
3(c)	oxygen		1
Total			3

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STATUS: Specimen V1.0

question	answers	extra information	mark
4(a)	to kill microorganisms	extra boxes ticked cancels the mark	1
4(b)	25 °C	extra boxes ticked cancels the mark	1
4(c)	S		1
	widest clear area		1
Total			4

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STATUS: Specimen V1.0

question	answers	extra information	mark
5(a)	actual number of korhaans is likely to be higher than estimate		1
	because the birds are not all visible from the road		1
5(b)	the number of korhaans went up and down, but there was an overall fall in numbers	extra boxes ticked cancels the mark	1
5(c)	the habitat of the korhaans is disappearing	extra boxes ticked cancels the mark	1
Total			4

COMPONENT NUMBER: BL1FP

COMPONENT NAME: GCSE Science A Biology 1F

STATUS: Specimen V1.0

question	answers	extra information	mark
6(a)	sulfur dioxide		1
6(b)(i)	from the factory towards the east	extra boxes ticked cancels the mark	1
6(b)(ii)	tick in bottom row	extra boxes ticked cancels the mark	1
Total			3

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STATUS: Specimen V1.0

question	answers	extra information	mark
7	(the layer of fat under the skin) insulates the penguin		1
	(the streamlined body) reduces resistance from water, enabling the penguin to swim faster to catch fish		1
	(the oily feathers) prevent cold water reaching skin		1
Total			3

COMPONENT NUMBER: BL1FP

COMPONENT NAME: GCSE Science A Biology 1F

STATUS: Specimen V1.0

question	answers	extra information	mark
8(a)(i)	600		1
8(a)(ii)	more sweat produced on warm day / for cooling on warm day		1
8(b)	the volume of water in the urine decreases	each extra box ticked cancels a mark	1
	the volume of water taken as food or drink increases.		1
Total			4

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STATUS: Specimen V1.0

question	answers	extra information	mark
9(a)(i)	38.84	correct answer with or without working gains 2 marks (691 x 1000) / 17 791 gains 1 mark	2
9(a)(ii)	women in Ward 1 infected by pathogens / bacteria / viruses passed on by doctors (who have been in contact with dead bodies)		1 1
9(b)	medicine / drug that kills bacteria		1 1
9(c)	resistant to / not killed by antibiotics		1
9(d)	Semmelweiss showed that infection could be passed on via touch and so hand washing by doctors / nurses / patients / visitors reduces the risk of infection		1
Total			8

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COMPONENT NAME: GCSE Science A Biology 1F

STATUS: Specimen V1.0

question	answers	extra information	mark
10	gravity	accept gravitropism / geotropism	1
	caused redistribution of auxin / hormone to <u>lower side</u> of stem		1
	these hormones stimulate growth of cells on the <u>lower side</u> of the stem only		1
	so the stem grows upwards		1
Total			4

COMPONENT NUMBER: BL1FP

COMPONENT NAME: GCSE Science A Biology 1F

STATUS: Specimen V1.0

question	answers	extra information	mark
11(a)	live inside cells		1
	inactive		1
	antibodies		1
11(b)	the percentage of children vaccinated fell to zero in 1995		1
	but the number of children developing autism rose and fell during the period when % vaccinations was falling		1
	number of children developing autism peaked after MMR vaccination had ceased		1
	which suggests that something other than MMR vaccination was causing autism		1
Total			7

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COMPONENT NAME: GCSE Science A Biology 1F

STATUS: Specimen V1.0

question	answers	extra information	mark
12(a)	because there is insufficient data for line graph		1
12(b)	injection with no testosterone		1
12(c)	the performance of testosterone group improved more than that of placebo group		1
	quantitative figure given eg about 4 times greater		1
12(d)	(no)		
	there was a significant improvement after 6 weeks	allow significant improvement after 3 weeks	1
Total			5

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STATUS: Specimen V1.0

13			
Marks awarded for this answer will be determined by the Quality of Written Communication (QWC) as well as the standard of the scientific response. Examiners should also refer to the information on page 2.			
0 marks	Level 1 (1-2 marks)	Level 2 (3-4 marks)	Level 3 (5-6 marks)
No relevant content.	There is a brief explanation of at least two ways in which the energy captured by the heather is transferred, which has little clarity and detail. Credit may be awarded either for references to general ways in which organisms transfer energy or to ways in which specific organisms in the food web transfer energy.	There is some explanation of a range of the ways in which the energy captured by the heather is transferred. Credit may be awarded either for references to general ways in which organisms transfer energy or to ways in which specific organisms in the food web transfer energy.	There is a clear, balanced and detailed explanation of a large variety of ways in which energy captured by the heather is transferred. Credit may be awarded either for references to general ways in which organisms transfer energy or to ways in which specific organisms in the food web transfer energy.
<p>examples of biology points made in the response</p> <ul style="list-style-type: none"> • respiration releases energy (allow this point even if given for named organism) NB: to gain full marks, candidates must gain this mark. • some energy lost in animals / named animal's waste materials • some energy used in maintenance / repair (allow this point if given for named organism) • some energy used for movement (allow this point if given for named animal) • energy lost as heat to surroundings (allow this point if given for named organism) • some organisms die (rather than being eaten) (allow this point if given for named organism) • reference to detritivores / microbes 			
Total			6