



Rewarding Learning

**General Certificate of Secondary Education
2025–2026**

**Single Award Science:
Biology**

Unit 1

Higher Tier

[GSA12]

MONDAY 10 NOVEMBER 2025, MORNING

**MARK
SCHEME**

General Marking Instructions

Introduction

Mark schemes are intended to ensure that the GCSE examinations are marked consistently and fairly. The mark schemes provide markers with an indication of the nature and range of candidates' responses likely to be worthy of credit. They also set out the criteria which they should apply in allocating marks to candidates' responses.

Assessment objectives

Below are the assessment objectives for GCSE Single Award Science

Candidates must:

- AO1** Demonstrate knowledge and understanding of scientific ideas, scientific techniques and procedures;
- AO2** Apply knowledge, skills and understanding of scientific ideas, scientific enquiry, techniques and procedures; and
- AO3** Analyse information and ideas to interpret and evaluate; make judgements and draw conclusions; develop and improve experimental procedures.

Quality of candidates' responses

In marking the examination papers, examiners should be looking for a quality of response reflecting the level of maturity which may reasonably be expected of a 16-year-old which is the age at which the majority of candidates sit their GCSE examinations.

Flexibility in marking

Mark schemes are not intended to be totally prescriptive. No mark scheme can cover all the responses which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner.

Positive marking

Examiners are encouraged to be positive in their marking, giving appropriate credit for what candidates know, understand and can do rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected of a 16-year-old GCSE candidate.

Awarding zero marks

Marks should only be awarded for valid responses and no marks should be awarded for an answer which is completely incorrect or inappropriate.

Marking Calculations

In marking answers involving calculations, examiners should apply the 'own figure rule' so that candidates are not penalised more than once for a computational error.

Types of mark schemes

Mark schemes for tasks or questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication.

Listing

Where one response is required to gain a mark, candidates will not gain credit if a correct response is given alongside one or more incorrect responses. This is referred to as listing.

1	(a) (i)	Lymphocyte	[1]	AVAILABLE MARKS
	(ii)	Stage 1: antibodies are produced [1] Stage 2: antibodies attach to antigens/red blood cells clump together [1]	[2]	
	(b) (i)	$53 - 34 = 19$	[1]	
	(ii)	Tongue rolling/hand dominance	[1]	
	(iii)	Bar chart	[1]	
	(iv)	Genetic/environmental	[1]	
2	(a)	Introduced by man [1] reproduces rapidly [1]	[2]	7
	(b)	Decrease (the biodiversity)	[1]	
	(c) (i)	They will continue to reproduce/kills more voles	[1]	
	(ii)	Other animals are not killed by the poison	[1]	
				5

- 3 (a) (i) Liver [1]
- (ii) Binge (drinking) [1]

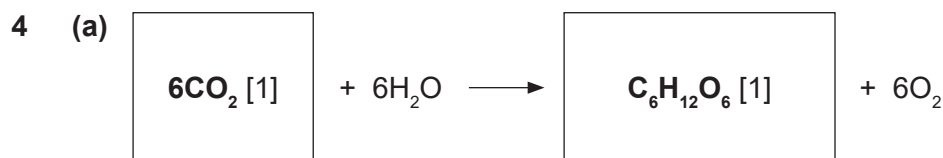
(b) Indicative content

- tar
- causes bronchitis
- emphysema
- lung cancer
- nicotine
- addictive
- affects heart rate
- carbon monoxide
- combines with red blood cells to reduce the oxygen – carrying capacity of the blood

Band	Response	Mark
A	Candidates must use appropriate specialist terms throughout to describe the chemicals in tobacco smoke and their effects on the body using six or more of the points above, in a logical sequence. They use good spelling, punctuation and grammar and the form and style are of a high standard.	[5]–[6]
B	Candidates use some appropriate specialist terms throughout to describe the chemicals in tobacco smoke and their effects on the body using four or five of the points above, in a logical sequence. They use satisfactory spelling, punctuation and grammar and the form and style are of a satisfactory standard.	[3]–[4]
C	Candidates describe the chemicals in tobacco smoke and their effects on the body using one, two or three of the above points. However, these are not presented in a logical sequence. They use limited spelling, punctuation and grammar and the form and style are of a limited standard.	[1]–[2]
D	Response not worthy of credit.	[0]

[6]

8



[2]

- (b) (i) Stopwatch/timer [1]
- (ii) Increase (in the number of bubbles of oxygen produced) [1]
(more light for) more photosynthesis [1] [2]

5

			AVAILABLE MARKS
5	(a) Muscle	[1]	5
	(b) Sensory (neurone) association (neurone) motor (neurone) Three correctly named neurones [2] (One or two correctly named neurones) [1] Two or three neurones in the correct order [1]	[3]	
	(c) Central nervous (system)	[1]	
6	(a) Natural [1] adapted [1] gene [1]	[3]	5
	(b) Change in a species over time	[1]	
	(c) When a species does not adapt to environmental change	[1]	
7	(a) The percentage of deaths from cancer is (always) higher than the percentage of deaths from circulatory diseases (comparison required)	[1]	10
	(b) Uncontrolled cell division	[1]	
	(c) (i) 5 points correct [2] (4 points correct [1]) straight line joining the points [1]	[3]	
	(ii) 22.9/23.0	[1]	
	(d) $1237 \div 15922 \times 100$ [1] = 7.8 [2]	[2]	
	(e) Any two from - strengthens the heart muscle - increases cardiac output (at rest) - reduces the risk of heart disease	[2]	

			AVAILABLE MARKS									
8	(a) (i)	Circle for female child and square for male child [1] square shaded in [1]	[2]									
	(ii)	<table border="1"><tr><td></td><td>A</td><td>a</td></tr><tr><td>A</td><td>AA</td><td>Aa</td></tr><tr><td>a</td><td>Aa</td><td>aa</td></tr></table> Both parents correct [1] correct cross [1]		A	a	A	AA	Aa	a	Aa	aa	[2]
	A	a										
A	AA	Aa										
a	Aa	aa										
	(iii)	Homozygous recessive	[1]									
	(b) (i)	Less respiration [1] less oxygen (getting through the airways) [1] (either way round)	[2]									
	(ii)	Antibiotic	[1]									
9	(a) (i)	Days 1 to 5 shaded	[1]									
	(ii)	(Uterus lining is) built up again [1] oestrogen [1]	[2]									
	(iii)	Sperm and egg are both present in the oviduct [1] so fertilisation can take place [1]	[2]									
	(b) (i)	Condom	[1]									
	(ii)	(If left untreated) it can lead to infertility	[1]									
Total			60									