



**General Certificate of Secondary Education
2018–2019**

Double Award Science: Biology

Unit B1

Foundation Tier

[GSD11]

WEDNESDAY 7 NOVEMBER 2018, MORNING

**MARK
SCHEME**

General Marking Instructions

Introduction

Mark schemes are published to assist teachers and students in their preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of students in schools and colleges.

The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and the mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes, therefore, are regarded as part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all the markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

		AVAILABLE MARKS
1	(a) Any two from: roots/stems/seed production/fruit production/vascular tissue	[2]
	(b) 3; 2; 3;	[3]
	(c) Presence of backbone/vertebrae	[1]
2	Quadrat – plants growing on ground Pitfall trap – small animals crawling along the ground Pooter – very small insects on a leaf Net – small fish in a pond (3/4 correct = [3] marks, 2 correct = [2] marks, 1 correct = [1] mark)	[3]
3	(a) Chlorophyll	[1]
	(b) (i) Yellow-brown	[1]
	(ii) Any three from: Blue/black; starch present; chlorophyll; to trap light/photosynthesis occurs	[3]
4	(a) Glucose/sugar; insulin	[2]
	(b) Eye damage; kidney failure; heart disease	[3]
	(c) Carbon dioxide; water	[2]
5	(a) (Purple) – Biuret (Brick red) – Benedict's (White emulsion) – ethanol (Pink then colourless) – DCPIP	[4]
	(b) Benedict's	[1]
		6
		3
		5
		7
		5

		AVAILABLE MARKS
6	<p>(a) A – feeding/eating/consumption; B – fossilisation; C – combustion</p> <p>(b) Extension/described</p> <p>(c) (Ca) – cell walls; (Mg) – chlorophyll</p> <p>(d) (i) Readily available/use of waste products/cheaper</p> <p>(ii) Less run off/improves soil texture/slower release/lasts longer</p>	<p>[3]</p> <p>[1]</p> <p>[2]</p> <p>[1]</p> <p>[1]</p> <p>8</p>
7	<p>(a) Line to stomach; line to small intestine</p> <p>(b) (i) Protease</p> <p>(ii) Bond(s) broken: five molecules drawn</p> <div style="text-align: center; margin: 10px 0;">  </div> <p>(iii) Amino acids</p> <p>(iv) Absorbed; into the blood</p>	<p>[2]</p> <p>[1]</p> <p>[2]</p> <p>[1]</p> <p>[2]</p> <p>8</p>

8 Indicative content:

Any **six** from:

trend mark: less steps more body weight;

data mark:

8000 steps normal weight/6000 steps overweight/4000 steps obese

or differences 2000 less overweight than normal/or 4000 less normal than obese

or differences 2000 less steps overweight than obese;

advice mark: exercise more/do more steps;

advice mark: eat less;

explain mark: more steps more energy used;

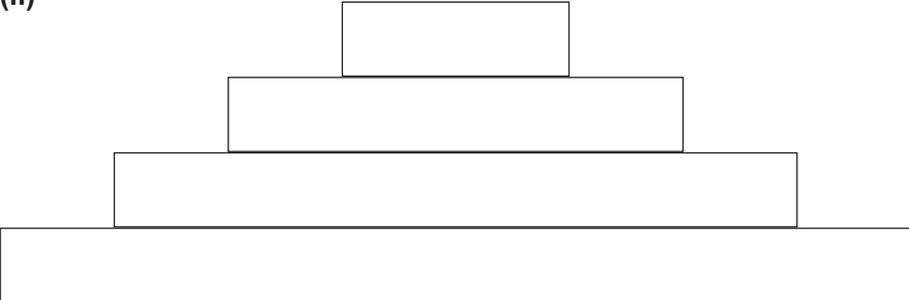
explain mark: less energy taken in;

Response	Marks
Candidates use appropriate terms throughout to give at least five points from the indicative content. They use good spelling, punctuation and grammar skills. Form and style are of a high standard.	[5]–[6]
Candidates use appropriate terms throughout to give at least three or four points from the indicative content. They use satisfactory spelling, punctuation and grammar. Form and style are of a satisfactory standard.	[3]–[4]
Candidates use appropriate terms throughout to give one or two points from the indicative content. They use limited spelling, punctuation and grammar and have made little use of specialist terms.	[1]–[2]
Response not worthy of credit.	[0]

[6]

6

AVAILABLE
MARKS

		AVAILABLE MARKS
9	(a) (i) Sun	[1]
	(ii) Winter moth larvae	[1]
	(iii) Oak tree → winter moth larvae → blue tits → sparrowhawks [1] for organisms in correct order [1] for arrows	[2]
	(iv) Decrease; more chiffchaffs to eat the mottled moth larvae	[2]
	(v) Any two from; • disease • predators/sparrowhawks eaten by something else • emigrated • poisoned/shot	[2]
	(b) (i) 4, 3, 2, 1 (4 at the top)	[1]
	(ii)	
		[1]
	(iii) 16; 2; symmetrical about the centre	[3]
	(c) 20×48 ; 960	[2]
10	(a) Crusty	[1]
	(b) Decrease; from 180 to 10	[2]
	(c) Shrubby only found after 7 km/where pollution levels are lowest/furthest from city centre	[2]
	(d) Shrubby – would be present/more; Leafy – more present/ more than four present/numbers increase	[2]
Total		70