



**GCSE Science B  
(Science in Context)**

**Foundation Tier**

**Science B 1F**

**SPECIMEN MARK SCHEME**

**Version 1.0**

## Quality of Written Communication and levels marking

In Question 9(b) 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.

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<b>question</b>	<b>answer</b>	<b>extra information</b>	<b>mark</b>
<b>1(a)</b>	core - <b>C</b> crust - <b>A</b> mantle - <b>B</b>	<b>2</b> marks if all three correct <b>1</b> mark if one or two correct	<b>2</b>
<b>1(b)(i)</b>	cooled down		<b>1</b>
<b>1(b)(ii)</b>	tectonic		<b>1</b>
<b>1(b)(iii)</b>	convection		<b>1</b>
<b>1(b)(iv)</b>	volcanic eruptions		<b>1</b>
<b>1(c)</b>	12 %		<b>1</b>
<b>Total</b>			<b>7</b>

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<b>question</b>	<b>answer</b>	<b>extra information</b>	<b>mark</b>
<b>2(a)(i)</b>	number of legs		1
	presence / absence of wings		1
<b>2(a)(ii)</b>	<b>A, B, C</b>		1
<b>2(a)(iii)</b>	because they all have 6 legs	accept because they all have three distinct body parts	1
<b>2(b)(i)</b>	amphibians		1
<b>2(b)(ii)</b>	reptiles		1
<b>2(b)(iii)</b>	evolution	accept natural selection	1
<b>Total</b>			<b>7</b>

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question	answer	extra information	mark
<b>3(a)</b>	electron correctly labelled		1
	proton correctly labelled		1
	neutron correctly labelled		1
<b>3(b)</b>	atomic number 6		1
	mass number 12		1
<b>3(c)</b>	photosynthesis	must have effects for each gas for the second mark for each process	1
	removes carbon dioxide and adds oxygen		1
	respiration		1
	removes oxygen and adds carbon dioxide		1
<b>Total</b>			<b>9</b>

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<b>question</b>	<b>answer</b>	<b>extra information</b>	<b>mark</b>
<b>4(a)</b>	<u>direction</u> of light		1
	auxin		1
	elongation	accept growth	1
<b>4(b)</b>	phototropism		1
<b>Total</b>			<b>4</b>

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question	answer	extra information	mark
<b>5(a)</b>	drawn correctly	<b>must</b> have 4 steps, decreasing as go up	1
	labelled correctly	actual lengths not necessary	1
<b>5(b)(i)</b>	12600 (kJ/m <sup>3</sup> )		1
<b>5(b)(ii)</b>	lost as heat <b>or</b> in movement <b>or</b> in faeces <b>or</b> excretion <b>or</b> by respiration		1
<b>Total</b>			<b>4</b>





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question	answer	extra information	mark
<b>7(a)(i)</b>	all four points plotted correctly ( $\pm 1$ small square)	all four points correct = <b>2</b> marks three points correct = <b>1</b> mark	Max 2
	smooth curve drawn between points	must be curve, not point to point ignore extrapolation in either direction	1
<b>7(a)(ii)</b>	the larger the orbit, the more time it takes	accept converse do <b>not</b> accept longer for larger	1
<b>7(b)(i)</b>	(the light is) red shifted		1
<b>7(b)(ii)</b>	the further away the galaxy is, the bigger the effect		1
	the universe is expanding		1
<b>Total</b>			<b>7</b>

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<b>question</b>	<b>answer</b>	<b>extra information</b>	<b>mark</b>
<b>8(a)</b>	fractional distillation	allow distillation for 1 mark	2
<b>8(b)</b>	the boiling point increases with the number of carbon atoms		1
	the viscosity increases with the number of carbon atoms		1
	the higher the boiling point the greater the viscosity		1
<b>8(c)</b>	less petrol in crude oil	accept converse (ie more fuel oil in crude oil, more demand for petrol)	1
	less demand for fuel oil		1
<b>Total</b>			<b>7</b>

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question	answer	extra information	mark
9(a)	gold		1

9(b)			
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 description of the laboratory procedure for obtaining a sample of pure salt from rock salt. The answer would not necessarily allow the procedure to be completed successfully by another person.	There is a description of the laboratory procedure for obtaining a sample of pure salt from rock salt that could be followed by another person. The answer <b>must</b> mention that the rock salt is mixed with water.	There is a clear, detailed description of the laboratory procedure for obtaining a sample of pure salt from rock salt that could easily be followed by another person. The answer <b>must</b> mention that the rock salt is mixed with water.

examples of the points made in the response	extra information
<ul style="list-style-type: none"> <li>• crush the rock salt</li> <li>• with a mortar and pestle</li> <li>• mix the crushed rock with water</li> <li>• in a beaker</li> <li>• stir and warm to dissolve the salt</li> <li>• filter the mixture to remove the undissolved solids</li> <li>• using filter paper and funnel</li> <li>• put the filtrate into an evaporating dish</li> <li>• warm using Bunsen burner, tripod and gauze</li> <li>• to evaporate to dryness</li> </ul>	

9(c)(i)	sodium and chlorine	must have both for the mark do <b>not</b> accept chloride	1
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9(c)(ii)	NaCl		1
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<b>Total</b>			<b>9</b>
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