Cambridge Secondary 1 Checkpoint

Cambridge Assessment International Education
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SCIENCE **1113/01**

Paper 1 **April 2019**

MARK SCHEME

Maximum Mark: 50

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Markers were instructed to award marks. It does not indicate the details of the discussions that took place at an Markers' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the End of Series Report. Cambridge will not enter into discussions about these mark schemes.

This document consists of **10** printed pages.

CAMBRIDGE International Examinations

Annotations and abbreviations

/ OR alternate responses for the same marking point
( ) the words or units in brackets do not need to be stated
Accept an acceptable response
Do not accept indicates an incorrect response that would contradict another otherwise correct alternative
Ignore indicates an irrelevant answer that is not creditworthy, however, full marks can still be achieved even with the answers that are ignored
ecf error carried forward, marks are awarded if an incorrect response has been carried forward from earlier working, provided the subsequent working is correct
ora or reverse argument
note provides extra information when necessary

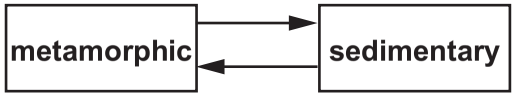
<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Further Information</th></tr>
<tr><td>1(a)</td><td>
<table>
<tr><th>part of a cell</th><th>only in animal cells</th><th>only in plant cells</th><th>in both animal and plant cells</th></tr>
<tr><td>cell membrane</td><td></td><td></td><td>✓</td></tr>
<tr><td>cell wall</td><td></td><td>(✓)</td><td></td></tr>
<tr><td>cytoplasm</td><td></td><td></td><td>✓</td></tr>
<tr><td>nucleus</td><td></td><td></td><td>✓</td></tr>
<tr><td>chloroplast</td><td></td><td>✓</td><td></td></tr>
</table>
</td><td>3</td><td>all four correct = 3 marks

three correct = 2 marks

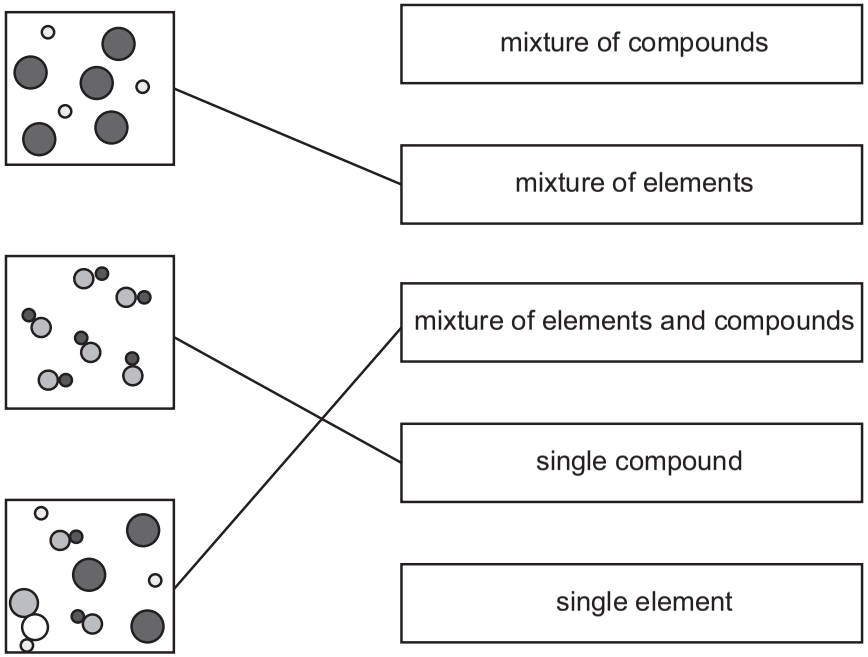
two correct = 1 marks

one correct = 0 marks</td></tr>
<tr><td>1(b)</td><td>nucleus</td><td>1</td><td></td></tr>
</table>

Question	Answer	Marks	Further Information
2(a)	Polaris Sirius	**1**	both required in either order = 1 mark
2(b)(i)	light from the Sun is reflected by Mars	**1**	
2(b)(ii)	(idea that) Mars is a long distance from Earth / poor resolution	**1**	**Accept** it is too far (away) / it is not close enough
2(c)	Earth moves	**1**	**Accept** Earth rotates / Earth orbits / Earth revolves

Question	Answer	Marks	Further Information
3(a)		**2**	each correct answer = 1 mark **Accept** one mark for both names given but reversed
3(b)	A **pumice** B **basalt** C **obsidian** D **scoria**	**2**	**all** correct = 2 marks **two** or **three** correct = 1 mark **one** correct = 0 marks

Question	Answer	Marks	Further Information
4	**F** **E** **C** **D**	**4**	each correct letter = 1 mark

Question	Answer	Marks	Further Information
5		**3**	each correct line = 1 mark more than one line from a diagram = 0 marks for that diagram

Question	Answer	Marks	Further Information
6(a)(i)	oxygen	**1**	
6(a)(ii)	stop-watch / stop-clock	**1**	
6(b)(i)	it is a control variable	**1**	**Accept** make a fair test / to allow a comparison / a variable that does not change
6(b)(ii)	number of bubbles decreases	**1**	
6(c)	between 53 and 27 inclusive **AND** between 1 and 25 inclusive	**1**	both needed
6(d)	decreases	**1**	

Question	Answer	Marks	Further Information
7	**A** × 6 or 2 × 12 4 (N)	**2**	calculation of a moment / moment = force x distance = 1 mark correct answer of 4 (N) = 2 marks

Question	Answer	Marks	Further Information
8(a)	hydrochloric (acid)	**1**	**Accept** HC*l*
8(b)	**(D)EBCA**	**2**	EBCA = 2 marks **note** EBAC = 1 mark **note** BECA = 1 mark

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th><th>Further Information</th></tr>
<tr><td>9(a)(i)</td><td><table><tr><th>time with
no umbrella
in seconds</th><th>time
with umbrella
in seconds</th></tr><tr><td>10</td><td>14</td></tr><tr><td>8</td><td>9</td></tr><tr><td>7</td><td>13</td></tr><tr><td>11</td><td>15</td></tr></table></td><td>1</td><td>all correct = 1 mark

Accept numbers in correct columns but in any order (the numbers do not have to match horizontally)</td></tr>
<tr><td>9(a)(ii)</td><td>mean time with no umbrella= 9

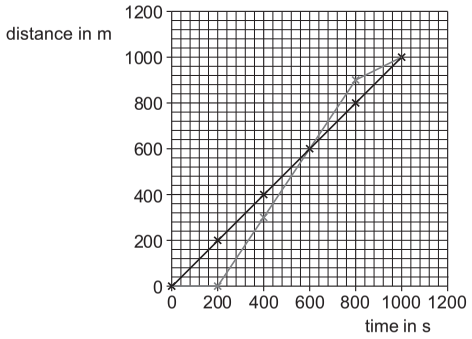
mean time with umbrella = 12.75 / 12.7 / 12.8 / 13</td><td>1</td><td>both correct = 1 mark

Accept ecf from the table in part (b)(i)</td></tr>
</table>

Question	Answer	Marks	Further Information
9(b)	A comparative statement that links air resistance with the speed or the time scores two marks for example: • the greater the air resistance the harder it is to run • more air resistance means that it takes more time to run • more air resistance the slower they run • (greater surface area has) greater air resistance so speed decreases.	**2**	**Accept** reverse arguments **note** a conclusion without a comparison with reference to speed or time = 1 mark For example: • air resistance makes it hard to run • air resistance makes you run slowly • air resistance takes a long time to run • greater surface area gives greater air resistance / bigger object has large air resistance • more air resistance with umbrella. **note** answers that indicate there is no air resistance without an umbrella have a maximum mark of 1 mark (either with or without a comparison)

Question	Answer	Marks	Further Information
10(a)	fossils	**1**	
10(b)(i)	**any two from** (increases in) size (decrease in number of) toes	**2**	**Accept** growth / more body mass / bigger / smaller / taller **Accept** mane grows (bigger) / more hair on head or neck **Accept** tail is longer / tail length
10(b)(ii)	(Charles) Darwin	**1**	

Question	Answer	Marks	Further information
11(a)	(most reactive) **magnesium** **zinc** (iron) **tin** (least reactive) **copper**	**1**	**all** correct = 1 mark
11(b)	displacement (reactions)	**1**	
11(c)	magnesium + zinc sulfate → zinc + magnesium sulfate	**2**	reactants either order = 1 mark products either order = 1 mark

Question	Answer	Marks	Further Information
12(a)		**2**	all points correctly plotted with a tolerance of ½ small square = 1 mark straight line or dot to dot through all the points = 1 mark **Accept ecf** from incorrectly plotted points but line should be dot to dot
12(b)	Chen with a suitable linked explanation e.g. Chen because he only takes 800 s rather than 1000 s Chen because his (average) speed between 200 s and 1000 s, is faster Chen starts later but arrives (at school) at same time	**1**	**Accept** any indication of the correct answer **note** Chen must be ringed or referred to in their answer for a mark to be awarded

Question	Answer	Marks	Further Information
13	50 (cm^3)	**1**	

Question	Answer	Marks	Further Information
14	In area **A** the dots are **close together**. This area is called a **compression**. In area **B** the dots are **far apart**. This area is called a **rarefaction**.	**4**	each correct sentence = 1 mark