



Cambridge Lower Secondary Checkpoint

SCIENCE

1113/01

Paper 1

April 2021

MARK SCHEME

Maximum Mark: 50

Published

This mark scheme is published as an aid to teachers and learners, to indicate the requirements of the examination. However, we have not been able to adjust it to reflect the full range of answers that would have been seen as a part of the normal moderation and marking process, and it does not necessarily contain all the possible alternatives that might have arisen.

Cambridge will not enter into discussions about the mark scheme.

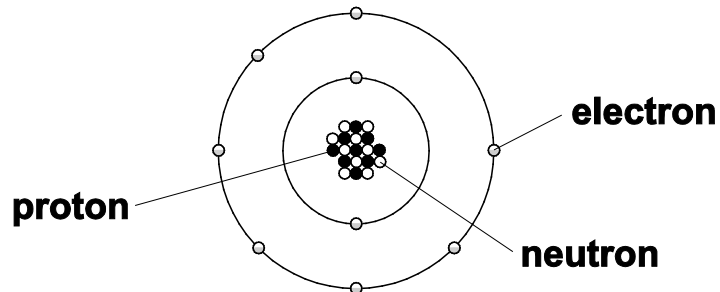
This document has **14** pages.

Question	Answer	Marks	Further Information
1(a)	A B C D E	1	more than one answer circled = 0 marks
1(b)	A B C D E	1	more than one answer circled = 0 marks
1(c)	mouth and stomach	1	both needed for the mark either order Accept throat / pharynx for mouth Ignore nose / nasal cavity

Question	Answer	Marks	Further Information
2(a)	<p>Rock A is sedimentary rock.</p> <p>Rock B is igneous rock.</p> <p>Rock C is metamorphic rock.</p>	2	<p>all three correct = 2 marks</p> <p>one or two correct = 1 mark</p>
2(b)	<p>any two from</p> <p>(small) particles of rock</p> <p>sink to bottom of seas or lakes</p> <p>compressed / cemented</p>	2	<p>each correct answer = 1 mark</p> <p>Accept sediment / mud / sand</p> <p>Accept under high pressure compacted grains or rock particles stick together</p>

Question	Answer	Marks	Further Information										
3(a)	<table><tr><td>Jupiter</td><td></td></tr><tr><td>Mars</td><td></td></tr><tr><td>the Sun</td><td>✓</td></tr><tr><td>North Star</td><td>✓</td></tr><tr><td>the Earth's Moon</td><td></td></tr></table>	Jupiter		Mars		the Sun	✓	North Star	✓	the Earth's Moon		2	each correct tick = 1 mark but two correct ticks and one incorrect tick = 1 mark one correct tick and one incorrect tick = 1 mark two incorrect ticks included in answer = 0 marks
Jupiter													
Mars													
the Sun	✓												
North Star	✓												
the Earth's Moon													
3(b)	<div><div>Copernicus</div><div>Darwin</div><div>Galileo</div><div>Rutherford</div></div>	1	more than one answer circled = 0 marks										
3(c)	<div><div>Earth</div><div>Jupiter</div><div>Neptune</div><div>Venus</div></div>	1	more than one answer circled = 0 marks										

Question	Answer	Marks	Further Information												
4	<table><tr><th>Scientific name</th><th>letter</th></tr><tr><td><i>Buccinum</i></td><td>C</td></tr><tr><td><i>Ensis</i></td><td>D</td></tr><tr><td><i>Mytilus</i></td><td>B</td></tr><tr><td><i>Ostrea</i></td><td>E</td></tr><tr><td><i>Patella</i></td><td>A</td></tr></table>	Scientific name	letter	<i>Buccinum</i>	C	<i>Ensis</i>	D	<i>Mytilus</i>	B	<i>Ostrea</i>	E	<i>Patella</i>	A	2	all five correct = 2 marks two, three or four correct = 1 mark one correct = 0 marks
	Scientific name	letter													
	<i>Buccinum</i>	C													
	<i>Ensis</i>	D													
	<i>Mytilus</i>	B													
	<i>Ostrea</i>	E													
	<i>Patella</i>	A													

Question	Answer	Marks	Further Information
5(a)	11	1	
5(b)	8	1	
5(c)(i)	F	1	Accept fluorine
5(c)(ii)		1	all three correct = 1 mark

Question	Answer	Marks	Further Information
6(a)	<p>trace A trace B have the same pitch</p> <p>trace A trace B have the same frequency</p> <p>trace A trace B have the same loudness</p> <p>trace A trace B have the same amplitude</p>	3	<p>all four correct = 3 marks</p> <p>three correct = 2 marks</p> <p>two correct = 1 mark</p> <p>one correct = 0 marks</p>
6(b)	makes them move	1	Accept makes them vibrate

Question	Answer	Marks	Further Information
7	<p>any two from</p> <p>choose parents with the desired characteristics and mate them together / choose A and B and mate them together</p> <p>select offspring with the desired combination of features</p> <p>use the offspring to produce subsequent generations</p>	2	<p>each correct answer = 1 mark</p> <p>Accept breed / cross / cross-breed / reproduce instead of mate</p>

Question	Answer	Marks	Further Information
8(a)	48 (cm ³)	1	
8(b)	to ensure his results are reliable	1	Do not accept to get more accurate results / for a fair test Accept reduce errors/ check results / to get an average
8(c)	wear goggles or eye protection / wear gloves	1	Accept wear lab coat / protective clothing Ignore face masks
8(d)	bar graph <u>line graph</u> pie chart scatter graph	1	more than one answer circled = 0 marks
8(e)	do preliminary work / try out different concentrations / double the concentration	1	

Question	Answer	Marks	Further Information
9(a)(i)	The difference between the two containers is the surface / A is dull and B is shiny .	1	Accept only A is dull / only B is shiny
9(a)(ii)	The water cools faster in container A because the container is a better radiator .	1	
9(b)	water in C is hotter / water in A is cooler	1	Assume unqualified answers refer to C Accept ora for A
9(c)	greater surface area / more convection / more radiation / more conduction / more evaporation	1	Assume unqualified answers refer to D Note the answer must be comparative Accept ora for A

Question	Answer	Marks	Further Information
10(a)	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> adaptation <div style="border: 1px solid black; padding: 5px; margin: 5px;">large ears</div> <div style="border: 1px solid black; padding: 5px; margin: 5px;">trunk</div> <div style="border: 1px solid black; padding: 5px; margin: 5px;">tusks</div> </div> <div style="text-align: center;"> reason <div style="border: 1px solid black; padding: 5px; margin: 5px;">pull grass from ground</div> <div style="border: 1px solid black; padding: 5px; margin: 5px;">keep elephant cool</div> <div style="border: 1px solid black; padding: 5px; margin: 5px;">used to fight other elephants</div> </div> </div>	1	all three correct = 1 mark
10(b)(i)	East (Africa)	1	
10(b)(ii)	any two from hunting / poaching habitat destruction disturbance climate change / pollution	2	each correct answer = 1 mark Accept global warming

Question	Answer			Marks	Further Information												
11(a)	<table><tr><th>solids</th><th>liquids</th><th>gases</th></tr><tr><td>A</td><td>(B)</td><td>C</td></tr><tr><td>E</td><td></td><td>D</td></tr><tr><td>F</td><td></td><td></td></tr></table>			solids	liquids	gases	A	(B)	C	E		D	F			3	<p>all five letters correct = 3 marks</p> <p>three or four letters correct = 2 marks</p> <p>one or two letters correct = 1 mark</p> <p>any letter in more than one column is incorrect for that letter</p>
solids	liquids	gases															
A	(B)	C															
E		D															
F																	
11(b)	<p>any two from</p> <p>(idea that) particles move further apart</p> <p>(idea that) particles move faster / gain energy</p> <p>(idea that) particles escape from liquid</p> <p>(idea that) forces between particles in liquid reduced / overcome</p>			2	<p>each correct answer = 1 mark</p> <p>if no marks awarded accept (liquid) changes to a gas = 1 mark</p>												

Question	Answer	Marks	Further Information
12(a)	any one from to attract pollinators to create a landing platform for insects	1	Accept insects / birds / bees for pollinators
12(b)	to produce pollen / produce male gametes	1	
12(c)(i)	transfer of pollen (from bee to stigma)	1	
12(c)(ii)	any two from (pollen grain) develops a pollen tube male gamete moves down the style or pollen tube / male gamete moves to the ovary / pollen tube grows down the style / pollen tube grows towards the ovary male gamete fuses with ovule / male gamete joins the ovule / male gamete fuses or joins with female gamete fertilisation forms a zygote forms a seed	2	each correct answer = 1 mark Accept nucleus for gamete throughout

Question	Answer	Marks	Further Information
13(a)	force/area or 500/400 1.25 (N/cm ²)	2	each correct answer = 1 mark correct answer on its own = 2 marks
13(b)	pressure increases	1	Accept pressure is 50 (N/cm ²) / pressure is 40 times bigger
13(c)	(very) high pressure / too much pressure / weight is acting through a small area	1	