



Cambridge Lower Secondary Checkpoint

SCIENCE

1113/01

Paper 1

October 2021

FINAL MARK SCHEME

Maximum Mark: 50

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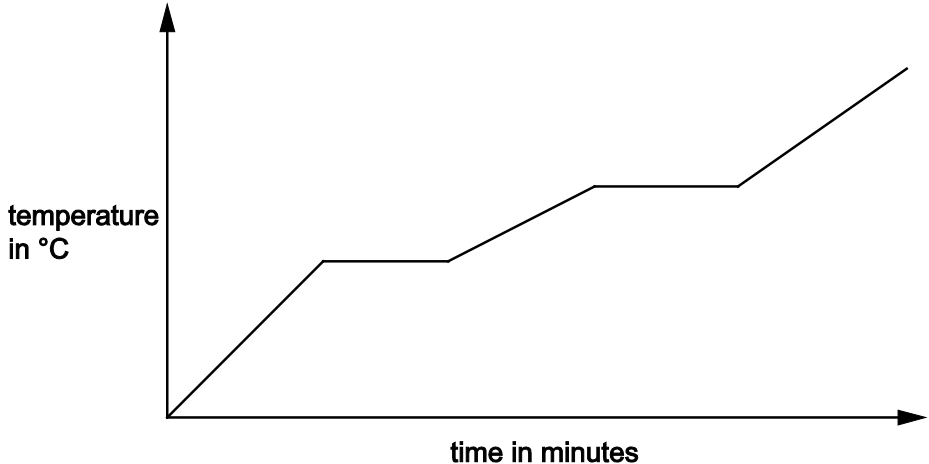
This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Markers were instructed to award marks. It does not indicate the details of the discussions that took place at the Markers' meeting before marking began, which 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 has **14** pages.

Question	Answer		Marks	Further Information
1	part	function	3	each correct answer = 1 mark Ignore pumps oxygen Ignore oxygenated or deoxygenated Ignore contracts and relaxes Accept capillaries Ignore carries blood from the tissues
	artery	carries blood from the heart		
	heart	pumps blood (around the body)		
	capillary	allows exchange of substances between blood and organs		
	vein	carries blood (back) to the heart		

Question	Answer	Marks	Further Information
2(a)	boiling condensing evaporating melting	1	more than one answer circled = 0 marks
2(b)	<p>any two from</p> <p>(particles are) losing energy</p> <p>(particles are) slowing down</p> <p>(particles are) becoming more ordered or arrangement becomes less random or become arranged in a lattice</p>	2	<p>each correct answer = 1 mark</p> <p>Note each answer must imply a change so particles do not move is not awarded a mark</p> <p>Descriptions of particles in a solid are not sufficient</p> <p>Accept particles get closer together or get more tightly packed or become compacted as an extra marking point</p> <p>Accept (attractive) forces between particles increases or gets stronger as an extra marking point</p>

Question	Answer	Marks	Further Information
2(c)	 <p>temperature in °C</p> <p>time in minutes</p> <p>line increasing</p> <p>two horizontal sections</p>	2	<p>each correct answer = 1 mark</p> <p>Do not accept if any portion of the line decreases</p> <p>Note line does not need to start at the origin</p> <p>Ignore any labels on line</p>

Question	Answer	Marks	Further Information
3(a)	C	1	
3(b)	H	1	Accept Neptune
3(c)	E	1	Accept Jupiter
3(d)	B – Venus F – Saturn H – Neptune	1	

Question	Answer	Marks	Further Information
4(a)(i)	collect or take in or absorb more water	1	<p>Ignore just take in water</p> <p>Accept to absorb as much water as it can or increase chance of absorbing water</p> <p>Accept collect or take in or absorb water from a large, big or deep area</p> <p>Accept collect or take in or absorb water because roots have a large surface area</p>
4(a)(ii)	<p>any one from</p> <p>spines or spikes (instead of leaves) to reduce water loss or spines or spikes (instead of leaves) to stop transpiration or evaporation</p> <p>(fleshy) stem to store water</p> <p>thick waxy layer to reduce water loss</p>	1	<p>Accept (idea of) to stop being eaten by animals or spines to stop plant wilting</p> <p>Accept does not have leaves so reduced loss of water or no leaves so reduced transpiration</p> <p>Accept (large) stem to store water</p>
4(b)	cactus → kangaroo or rats → snakes → (desert) foxes	2	<p>correct names in order = 1 mark</p> <p>Accept reverse order</p> <p>all three correct arrows in the direction from cactus to fox = 1 mark</p>

Question	Answer	Marks	Further Information					
5(a)	<table><tr><td>C</td><td>B</td><td>(A)</td><td>E</td><td>D</td></tr></table>	C	B	(A)	E	D	2	<p>CB in correct order = 1 mark</p> <p>ED in correct order = 1 mark</p>
C	B	(A)	E	D				
5(b)	sulfuric (acid)	1	Accept hydrogen sulfate					
5(c)	hydrogen	1						

Question	Answer	Marks	Further Information
6(a)		3	<p>correct linear scale and labelling of x-axis = 1 mark</p> <p>correct linear scale and labelling of y-axis = 1 mark</p> <p>all points correctly plotted to within half a square = 1 mark</p> <p>Accept plots with small x, dot or dot with circle</p>
6(b)		2	<p>(2, 3) or (3, 2.8) circled = 1 mark</p> <p>smooth curve through other plots = 1 mark</p> <p>Accept any indication of anomalous plot</p>
6(c)	<p>(idea that) as the number of lamps increases the current decreases</p> <p>(idea that) the relationship is not linear</p>	2	<p>each idea = 1 mark</p> <p>Ignore negative correlation unqualified</p> <p>Accept graph is not a straight line or line is curved</p> <p>Accept (idea that) the relationship between current and number of lamps is inversely proportional = 2 marks</p>

Question	Answer	Marks	Further Information
7(a)(i)	photosynthesis	1	
7(a)(ii)	oxygen glucose or sugar	2	each correct product = 1 mark
7(a)(iii)	any one from provides (a source of) food provides (a source of) energy provides oxygen for respiration provides glucose for respiration	1	
7(b)(i)	roots	1	Accept root hairs
7(b)(ii)	any one from (transported) in solution or dissolved in water through xylem (vessels) or vascular bundles	1	Do not accept phloem

Question	Answer	Marks	Further Information
8(a)	measuring cylinder	1	
8(b)(i)	70 (cm ³) and reaction is faster or rate is doubled	1	Accept any value from above 35 cm ³ to 70 cm ³ Accept more acid particles available to react with the excess magnesium or more collisions between particles both correct for the mark
8(b)(ii)	any two from volume of acid temperature (of acid) mass of magnesium or size of magnesium ribbon time (taken to collect the gas)	2	each correct answer = 1 mark Do not accept concentration of acid Accept surface area of the magnesium or amount of magnesium or volume of magnesium
8(c)	(idea that) sodium would be too reactive or might explode or might burst into flames	1	

Question	Answer	Marks	Further Information
9(a)	<p>pollute the water</p> <p>remove the water from the pond or destroy the habitat or pond</p>	2	<p>each correct answer = 1 mark</p> <p>Accept examples of pollution, e.g. pesticides or fertilisers or litter</p> <p>Accept building near the pond</p>
9(b)	Toads belong to a group of vertebrates called amphibians .	1	more than one answer circled = 0 marks
9(c)	This means the toads in the pond all belong to the same species .	1	Accept population

Question	Answer	Marks	Further Information
10(a)	A B C D	1	more than one answer circled = 0 marks
10(b)	A B C D	1	more than one answer circled = 0 marks
10(c)	A B C D	1	more than one answer circled = 0 marks
10(d)	4cm/minute 5 cm/minute 8 cm/minute 40cm/minute	1	more than one answer circled = 0 marks

Question	Answer	Marks	Further Information
11	<p>At the very centre of the Earth is the core.</p> <p>This is surrounded by a layer of magma called the mantle.</p> <p>On top of the magma is the Earth's outer layer called the crust.</p>	3	<p>each correct answer = 1 mark</p> <p>Accept inner core</p> <p>Do not accept outer core</p> <p>Accept thin or thinner crust or outer crust or lithosphere</p>

Question	Answer	Marks	Further Information
12	<p>(idea that) they are destroyed by heat/they are destroyed by high temperature</p> <p>or</p> <p>(idea that) they are destroyed by (high) pressure</p>	1	<p>Do not accept fossils are burned</p> <p>Accept by the weight of rocks on top or crushed</p>