



Science

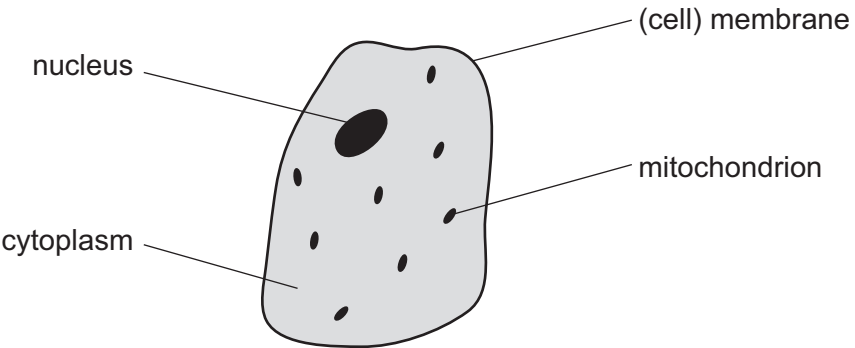
Stage 7

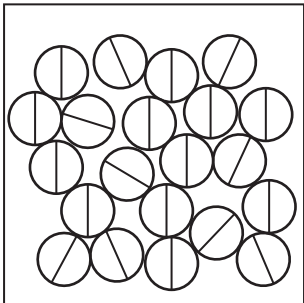
Paper 1

2024

Cambridge Lower Secondary Progression Test

Mark Scheme

Question	Answer	Marks	Further Information
1(a)	 <p>The diagram shows an irregularly shaped animal cell. A large, dark, oval nucleus is located in the upper left. The interior is filled with small, dark, oval mitochondria. The entire cell is enclosed by a thin, irregular line representing the cell membrane. Labels with leader lines point to the nucleus, cytoplasm, (cell) membrane, and a mitochondrion.</p>	2	<p>all four correct = 2 marks</p> <p>two or three correct = 1 mark</p> <p>one correct = 0 marks</p>
1(b)	<p>any two from</p> <p>chloroplast(s)</p> <p>cell wall</p> <p>(sap) vacuole</p>	2	each correct answer = 1 mark
1(c)	release energy (from food)	1	Accept respiration

Question	Answer	Marks	Further Information
2(a)	D	1	
2(b)	B and E has (only) two elements chemically joined together or has (only) two different types of atoms bonded together	2	each correct answer = 1 mark both correct in any order for the mark Accept correct explanation for 1 mark even if letters are incorrect or missing
2(c)	C	1	
2(d)	F	1	
2(e)		1	Note: <ul style="list-style-type: none">• at least four particles drawn• particles should not be in a pattern, but should be touching each other• particles should be similar sizes
2(f)	a mixture that contains metals	2	each correct answer = 1 mark Accept that contains a metal and a non-metal

Question	Answer	Marks	Further Information
3(a)	thermal sound	2	each correct answer = 1 mark Accept answers in either order
3(b)	(idea that) energy that is transferred to less useful forms	1	Accept energy has spread out (so less is in a useful form) Accept energy is wasted Ignore energy is lost

Question	Answer	Marks	Further Information
4(a)	mountain building volcanic eruption earthquake	3	each correct answer = 1 mark Accept volcano
4(b)	crust and mantle magma	2	each correct answer = 1 mark both correct for the mark

Question	Answer	Marks	Further Information
5(a)	neurone	1	Accept nerve cell
5(b)	large surface area to absorb water quickly or to absorb nutrients quickly	2	each correct answer = 1 mark Accept large (sap) vacuole = 1 mark for storage = 1 mark Accept contains many mitochondria = 1 mark to provide (lots of) energy = 1 mark

Question	Answer	Marks	Further Information
6	<p>gas</p> <p>carbon dioxide</p> <p>hydrogen</p> <p>oxygen</p> <p>test for the gas</p> <p>relights a glowing splint</p> <p>turns limewater milky</p> <p>burns with a squeaky pop when ignited with a burning splint</p>	2	<p>all three correct = 2 marks</p> <p>one or two correct = 1 mark</p> <p>if two lines from one gas and one is incorrect = 0 marks for that gas</p>

Question	Answer	Marks	Further Information
7(a)	any two from (particles) vibrate (particles) collide (particles) move closer together or move further apart (particles) move in the same direction as the sound wave	2	each correct answer = 1 mark Accept compression or rarefaction
7(b)	no particles or no air	1	

Question	Answer	Marks	Further Information
8(a)	<p>(process A) (water) run-off</p> <p>(description) (idea of) water moving over the surface of the land (into groundwater)</p>	2	<p>each correct answer = 1 mark</p> <p>Accept water in rivers etc.</p>
8(b)	<div> <div> <p>process</p> <div>precipitation</div> <div>condensation</div> <div>evaporation</div> </div> <div> <p>description</p> <div>the process of water vapour changing into liquid water</div> <div>the process of liquid water changing into water vapour</div> <div>the process by which water falls from clouds</div> </div> </div>	2	<p>all three correct = 2 marks</p> <p>one or two correct = 1 mark</p> <p>if two lines from one process and one is incorrect = 0 marks for that process</p>

Question	Answer	Marks	Further Information
9(a)	(idea that it is) information from people who did not do the experiment	1	
9(b)(i)	(idea that) the mass may vary due to amount of water in the soil	1	Accept any valid explanation
9(b)(ii)	(idea that she) has five different height measurements per pot	1	Accept she calculates an average
9(b)(iii)	(safety precaution) washes hands afterwards or wears gloves (explanation) to protect against any (soil) bacteria	2	each correct answer = 1 mark Accept to protect against harmful substances in the soil or protect against seed allergies

Question	Answer	Marks	Further Information
10	<p>add Universal Indicator (to each sample)</p> <p>(idea of) observe or record the colour (of the indicator)</p> <p>match the colour with a pH colour chart</p>	3	<p>each correct answer = 1 mark</p> <p>Accept pH paper</p> <p>Do not accept litmus (paper)</p> <p>Accept specific colour linked to the pH ranges, e.g. red is pH 1-3</p>

Question	Answer	Marks	Further Information
11(a)	(A) corrosive (B) hazardous to the environment	2	each correct answer = 1 mark Ignore dangerous
11(b)	ammeter	1	Ignore ampmeter Ignore amp or ampere or A
11(c)(i)	(current) 1.30 (A)	1	
11(c)(ii)	(average current) 0.24 (A)	1	
11(c)(iii)	(idea of) halves	1	

Question	Answer	Marks	Further Information
12	gravitational Sun and Moon	2	each correct answer = 1 mark Ignore force both correct in either order for the mark

Question	Answer	Marks	Further Information
13	(electrical) conductors allow electrons to flow or (electrical) insulators do not allow electrons to flow	1	Accept (electrical) conductors allow electrons to flow more easily Accept (electrical) insulators inhibit the flow of electrons