



Science

Stage 7

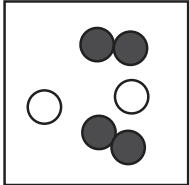
Paper 1


2022

Cambridge Lower Secondary Progression Test

Mark Scheme

Question	Answer	Marks	Further Information
1(a)	(cell) membrane	1	
1(b)	(idea that) it controls what moves in and out of the cell	1	Ignore maintains the shape of the cell
1(c)	mitochondrion	1	Accept mitochondria
1(d)	(where aerobic) respiration (takes place)/ the release of energy	1	Accept where ATP is produced

Question	Answer	Marks	Further Information
2(a)	a substance which is only made up of one type of atom which cannot be broken down into anything simpler	2	each correct answer = 1 mark
2(b)	compound (no mark) contains two elements/ contains two types of atom that are chemically combined / that are bonded together	2	each correct answer = 1 mark Note if mixture given only the first marking point can be awarded Accept contains elements/element X and element Z for first marking point
2(c)		1	Note there must be at least one molecule of X and one atom of Y Do not accept a model with a molecule of X touching an atom of Y

Question	Answer	Marks	Further Information
3(a)	switch	1	
3(b)		1	
3(c)	break in the circuit/ flow of electron(s) has been stopped	1	Accept the current cannot flow

Question	Answer	Marks	Further Information
4(a)	gravity	1	Accept gravitational (force)
4(b)	the Moon is between the Earth and the Sun light from the Sun is blocked/stopped from reaching the Earth	2	each correct answer = 1 mark Accept marking points shown on diagram

Question	Answer	Marks	Further Information
6(a)	(reactant) copper carbonate (products) copper oxide and carbon dioxide	1	reactant and both products in either order = 1 mark
6(b)	any two from colour change (large) heat or energy change gas made	2	each correct answer = 1 mark Accept changes from green to black Accept needs heat to take place Accept carbon dioxide is made / new substances made / copper oxide is made Accept there is a change in mass / mass is lost (as a gas)
6(c)	limewater	1	Accept calcium hydroxide solution Accept hydrogencarbonate indicator

Question	Answer	Marks	Further Information
7(a)	thermal / heat sound	2	each correct answer = 1 mark Accept kinetic / movement Ignore potential
7(b)	(metre) rule(r) / measuring tape	1	Do not accept trundle wheel
7(c)(i)	46	1	more than one answer circled = 0 marks Accept any indication of the correct answer, e.g. ticking or underlining, but circling takes precedence
7(c)(ii)	79	1	Accept correct answer in the space for working out, but answer in the table takes precedence Accept 68 if anomalous result circled is not from 10 cm row Accept ecf if 78 or 80 circled
7(c)(iii)	the test is not fair	1	Accept any correct answer in terms of energy or gravity Accept higher level answers, e.g. more energy is transferred to GPE than kinetic energy

Question	Answer	Marks	Further Information
8	evaporate condenses / cools down precipitation ground water	4	each correct answer = 1 mark Accept becomes a liquid Do not accept run-off / open water
Question	Answer	Marks	Further Information
9	(<i>Orconectes punctimanus</i>) B (<i>Cancer pagurus</i>) D (<i>Schistocerca gregaria</i>) C (<i>Enantiulus armatus</i>) A	2	all four organisms correct = 2 marks two or three organisms correct = 1 mark one organism correct = 0 marks

Question	Answer	Marks	Further Information
10(a)		3	<p>all four correct = 3 marks</p> <p>two or three correct = 2 marks</p> <p>one correct = 1 mark</p> <p>if two lines from a solution and one is incorrect = 0 marks for that solution</p>
10(b)		1	<p>more than one box ticked = 0 marks</p> <p>Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence</p>

Question	Answer	Marks	Further Information										
11(a)	<table><tr><th>metal</th><th>non-metal</th></tr><tr><td>(E)</td><td>B</td></tr><tr><td>A</td><td>C</td></tr><tr><td>D</td><td></td></tr><tr><td>F</td><td></td></tr></table>	metal	non-metal	(E)	B	A	C	D		F		2	all five correct = 2 marks three or four correct = 1 mark one or two correct = 0 marks
metal	non-metal												
(E)	B												
A	C												
D													
F													
11(b)	(improvement) use an ammeter / measure the current (explanation idea that) the higher the current the better the electrical conductor / if the current is the same the metals have the same electrical conductivity	2	each correct answer = 1 mark Accept ora										

Question	Answer	Marks	Further Information
12(a)	the particles vibrate (in the same direction as the direction of travel)	1	
12(b)(i)	the particles are closer together (in glass)	1	Accept glass is more dense than air Note assume the answer refers to glass unless otherwise specified Accept ora if air specified
12(b)(ii)	any value greater than 300 and less than 2000 (m/s) (idea that) water is a liquid and so will have a speed in between the solid and the gas	2	each correct answer = 1 mark Accept correct answer in terms of particles/density
12(b)(iii)	(idea that) there are no particles (to vibrate in a vacuum)	1	