



# Science

Stage 7

Paper 2

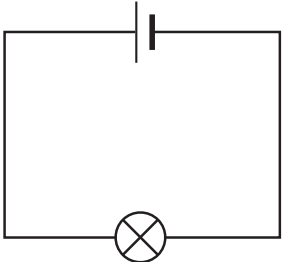
**2023**

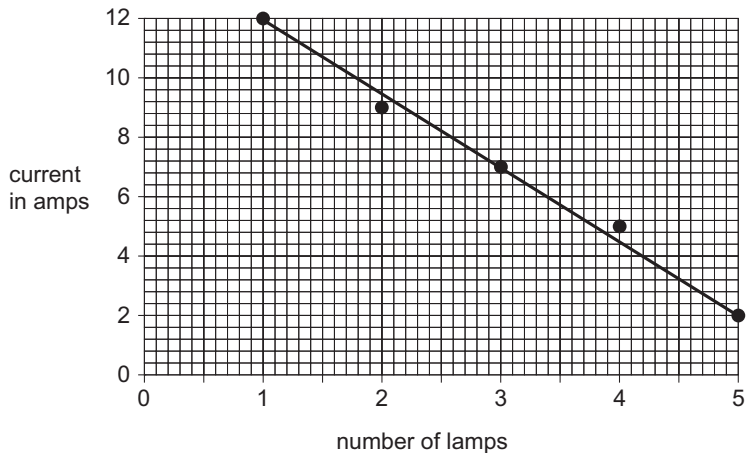
Cambridge Lower Secondary Progression Test

## Mark Scheme

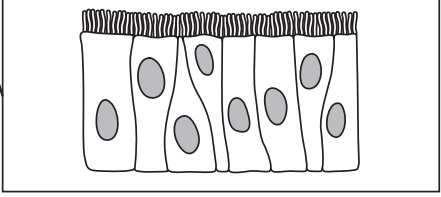
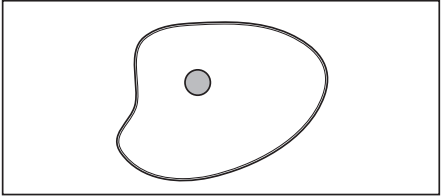
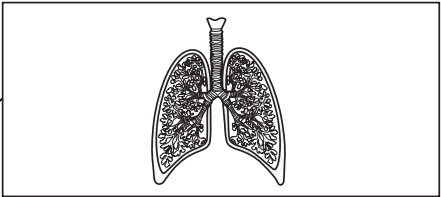
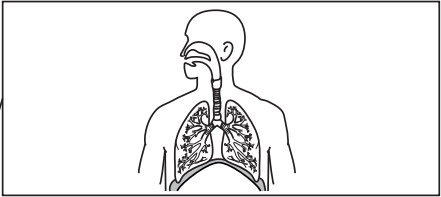
Question	Answer	Marks	Further Information
1(a)	(1) excretion (2) growth <b>or</b> growing (3) reproduction <b>or</b> reproducing (4) sensitivity (5) respiration <b>or</b> respiring	4	each correct answer = 1 mark  <b>Accept</b> breeding <b>Accept</b> irritability <b>Do not accept</b> breathing <b>Ignore</b> nutrition
1(b)	(idea that) <b>no</b> respiration <b>or no</b> excretion <b>or no</b> nutrition <b>or no</b> growth <b>or no</b> sensitivity <b>or no</b> (independent) movement	1	<b>Accept no</b> reproduction without a host cell  <b>Accept</b> do <b>not</b> show all the characteristics of living organisms

Question	Answer	Marks	Further Information
2(a)	(idea that) gases have (large) spaces between particles (so can be squeezed closer together)  (idea that) particles in solids are tightly packed (so no space to squeeze them closer together)	2	each correct answer = 1 mark  <b>Accept</b> gases have larger spaces between particles / <b>ora</b> = 2 marks  <b>Accept</b> particles in solids are more tightly packed / <b>ora</b> = 2 marks
2(b)	(idea that) particles in solids <b>cannot</b> move freely (other than to vibrate)  (idea that) particles in gases move freely and/or quickly (so can fill the container)	2	each correct answer = 1 mark    <b>Accept</b> (idea that) particles in a solid can only vibrate but particles in a gas can move from one location to another = 2 marks

Question	Answer	Marks	Further Information
3	(Gas <b>A</b> is) <b>oxygen</b> (Gas <b>B</b> is) <b>hydrogen</b> (Gas <b>C</b> is) <b>carbon dioxide</b>	<b>3</b>	each correct answer = 1 mark <b>Accept</b> O <sub>2</sub> or O <b>Accept</b> H <sub>2</sub> or H <b>Accept</b> CO <sub>2</sub>
Question	Answer	Marks	Further Information
4(a)		<b>2</b>	<b>Accept</b> symbol for battery of cells <b>Accept</b> cell either way round  <b>two</b> correct symbols = 1 mark complete circuit with no breaks = 1 mark
4(b)	ammeter	<b>1</b>	
4(c)	amp(s) <b>or</b> ampere(s)	<b>1</b>	<b>Accept</b> A <b>Accept</b> any indication of the correct answer, e.g. writing next to question, but answer in table takes precedence

Question	Answer	Marks	Further Information
4(d)	 <p>current in amps</p> <p>number of lamps</p>	3	<p><b>Accept</b> ecf from (c) for unit</p> <p><b>both</b> axes labels correct = 1 mark</p> <p><b>all</b> points plotted correctly (<math>\pm 1/2</math> square) = 1 mark</p> <p><b>Accept</b> plots shown as small cross, dot or dot with circle</p> <p>straight line of best fit for their plots judged by eye = 1 mark</p>
4(e)	(idea that) as the number of lamps increases the current decreases / <b>ora</b>	1	

Question	Answer	Marks	Further Information
5(a)(i)	condensation	1	
5(a)(ii)	<b>any two from</b> (idea that) less water vapour inside the beaker (idea that) rate of evaporation is very low (idea that) rate of condensation is very low (idea that) the temperature difference between the water vapour and the plastic sheet is very small	2	each correct answer = 1 mark <b>Accept</b> no water vapour inside the beaker <b>Accept</b> no evaporation <b>Accept</b> no condensation
5(b)	<b>any two from</b> (the model) does <b>not</b> show water run-off (the model) does <b>not</b> show groundwater (the model) does <b>not</b> show clouds (the model) does <b>not</b> show flowing water, e.g. rivers, streams, etc.	2	each correct answer = 1 mark <b>Accept</b> does <b>not</b> show aquifers or does <b>not</b> show water underground

Question	Answer	Marks	Further Information
6	<div><div>description</div><div><div>group of cells working together to do the same function</div><div>group of tissues working together to do the same function</div><div>group of organs working together</div></div><div><div>diagram</div><div></div></div></div>	2	<p><b>all three</b> lines correct = 2 marks</p> <p><b>one</b> or <b>two</b> lines correct = 1 mark</p> <p>if <b>two</b> lines from <b>one</b> description and <b>one</b> is incorrect = 0 marks for that description</p>

Question	Answer	Marks	Further Information
7	<p><b>any three from</b></p> <p>in the air the stone falls faster than the feather / <b>ora</b></p> <p>in the vacuum the stone and feather fall at the same speed</p> <p>in the air the feather experiences more air resistance than the stone / <b>ora</b></p> <p>in the vacuum there is no air resistance</p>	3	<p>each correct answer = 1 mark</p> <p><b>Accept</b> in the air the stone takes less time to fall to the bottom than the feather / <b>ora</b></p> <p><b>Accept</b> in the vacuum the stone and feather take the same time to fall to the bottom</p> <p><b>Accept</b> in the air and in the vacuum the stone takes the same time to fall</p>

Question	Answer	Marks	Further Information
8(a)	gravity	1	<b>Accept</b> gravitational force
8(b)	(diagram) <b>C</b>  (explanation idea that) has gravity from both the Sun and Moon pulling in same direction	2	each correct answer = 1 mark
8(c)	<b>C</b>  (idea that) the Moon is in the Earth's shadow	2	each correct answer = 1 mark  <b>Accept</b> any indication of the correct answer, e.g. ticking or underlining, but circling takes precedence



Question	Answer	Marks	Further Information
9(a)(i)	decomposition	1	<b>Accept</b> decay <b>or</b> rotting <b>Ignore</b> moldy
9(a)(ii)	microorganism(s) <b>or</b> decomposer(s)	1	<b>Accept</b> bacteria <b>or</b> fungi
9(b)(i)	thermometer	1	<b>Accept</b> temperature probe
9(b)(ii)	(idea that) the temperature in composter <b>B</b> is still increasing	1	
9b(iii)	(idea that) need to keep recording temperature until the temperature starts decreasing	1	<b>Ignore</b> repeat investigation
9(iv)	spot anomalies <b>or</b> check results <b>or</b> more reliable	1	<b>Accept</b> more valid results <b>or</b> able to calculate an average <b>or</b> to be sure of the results <b>or</b> compare results <b>or</b> more consistent <b>Ignore</b> get more accurate results <b>Do not accept</b> fair test

Question	Answer	Marks	Further Information
10	(powders) <b>D and F</b>  ( <b>D</b> ) changes colour  ( <b>F</b> ) makes a gas	<b>3</b>	<b>both</b> letters needed any order for the mark  each correct explanation = 1 mark  <b>Accept</b> makes a new substance as an alternative to makes a gas

Question	Answer	Marks	Further Information
11	(description) rice moves  (explanation idea that) sound waves travel in the air and make the rubber sheet vibrate	<b>2</b>	each correct answer = 1 mark  <b>Accept</b> (idea that) particles in the air vibrate and make the rubber sheet vibrate

Question	Answer	Marks	Further Information
12(a)	high melting point  good conductor of electricity	<b>2</b>	each correct answer = 1 mark
12(b)	<b>any two from</b>  dull  brittle  low density	<b>2</b>	each correct answer = 1 mark       <b>Accept</b> poor ductility