



Science

Stage 7

Paper 2

2024

Cambridge Lower Secondary Progression Test

Mark Scheme

Question	Answer	Marks	Further Information
1(a)	organisms that can breed together and produce fertile offspring	2	each correct answer = 1 mark Accept have babies that can reproduce = 2 marks
1(b)	rowan	1	
1(c)	question that distinguishes eucalyptus and beech yes and no in correct position for the question asked	2	each correct answer = 1 mark Accept Are the edges of the leaves smooth? yes no or Are the edges of the leaf rough? no yes Note yes and no with no question or incorrect question = 0 marks Accept other correct observational differences between the leaves, e.g. Are the leaves long and thin? yes no Do not accept differences based on other features that are not seen on the leaf

Question	Answer			Marks	Further Information															
2	<table><tr><th>physical property</th><th>metal</th><th>non-metal</th></tr><tr><td>electrical conductivity</td><td>high</td><td>(low)</td></tr><tr><td>thermal conductivity</td><td>(high)</td><td>low</td></tr><tr><td>melting point</td><td>high</td><td>(low)</td></tr><tr><td>density</td><td>(high)</td><td>low</td></tr></table>	physical property	metal	non-metal	electrical conductivity	high	(low)	thermal conductivity	(high)	low	melting point	high	(low)	density	(high)	low			2	<p>all four correct = 2 marks</p> <p>two or three correct = 1 mark</p> <p>one correct = 0 marks</p>
physical property	metal	non-metal																		
electrical conductivity	high	(low)																		
thermal conductivity	(high)	low																		
melting point	high	(low)																		
density	(high)	low																		

Question	Answer	Marks	Further Information
3(a)(i)	because the distance (between object A and object B) is the same	1	Accept the variable of distance is controlled Accept only mass is changed
3(a)(ii)	(measurement) 3 (N) (explanation) (idea that) the gravitational force is the product of the masses of the two objects	2	each correct answer = 1 mark Accept numerical explanation, e.g. $2 \times 2 = 4$ or $2 \times 2 \neq 3$
3(b)	attraction	1	

Question	Answer	Marks	Further Information
4	A	1	more than one answer circled = 0 marks Accept other indications of the correct answer, e.g. ticking, underlining or indicated on the diagram, but circling on the answer line takes precedence

Question	Answer	Marks	Further Information
5(a)	small fish	1	
5(b)	<pre> graph LR Plankton --> SmallFish[small fish] SmallFish --> Squid Squid --> Whale Penguin --> SmallFish Penguin --> Whale </pre>	2	penguin and lines to small fish and whale = 1 mark both arrowheads in the correct direction = 1 mark
5(c)	to break down dead (organic) matter or to break down faecal matter	1	Accept full answer in terms of this food web, e.g. to break down dead penguins

Question	Answer	Marks	Further Information
6(a)	any two from bubbles or fizzing colour change (idea that) calcium carbonate disappears	2	each correct answer = 1 mark Accept makes gas Accept there is a temperature change or mixture gets hotter or mixture gets colder
6(b)	increases or gets higher	1	Accept specified increase of pH, e.g. 1 to 3 or 4 to 7 Ignore pH becomes alkaline or pH becomes neutral

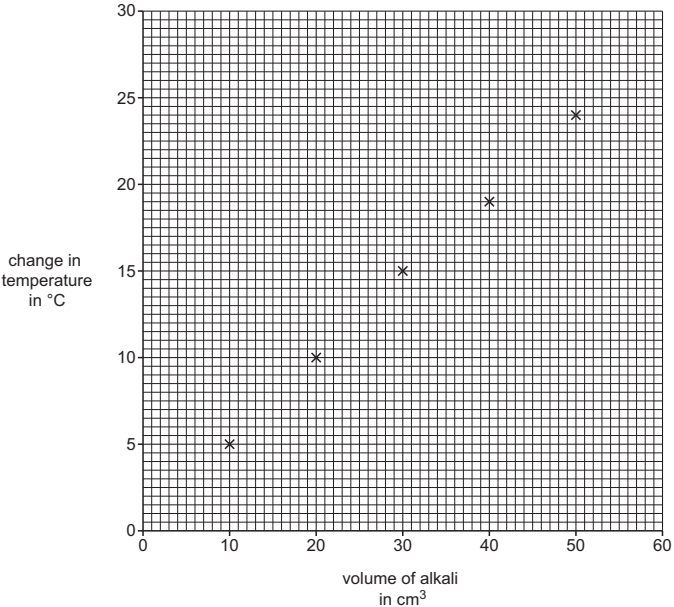
Question	Answer	Marks	Further Information
7(a)	sound is reflected (from the prey) sound travels back to the bat or the bat hears the (reflected) sound or the bat detects the (reflected) sound	2	each correct answer = 1 mark
7(b)	(idea that) the bat hears the (reflected) sound in less time or detects the sound in less time	1	Ignore the sound is louder or the sound is quieter Ignore the time is quicker Do not accept sound moves quicker or sound moves slower

Question	Answer	Marks	Further Information
9(a)		3	<p>each correct line = 1 mark</p> <p>if two lines from one characteristic and one is incorrect = 0 marks for that characteristic</p>
9(b)(i)	viruses (may) reproduce (but only with a host cell)	1	<p>Accept viruses replicate or viruses multiply</p> <p>Accept viruses (may) move (but not independently)</p>
9(b)(ii)	viruses do not excrete or viruses do not respire or viruses do not grow or viruses do not require nutrition or viruses are not sensitive	1	

Question	Answer	Marks	Further Information
10	soluble insoluble	2	each correct answer = 1 mark Accept aqueous for soluble

Question	Answer	Marks	Further Information
11		4	M1 correct symbol for ammeter = 1 mark M2 correct symbols for two lamps and a closed switch = 1 mark M3 correct symbol for buzzer = 1 mark M4 series circuit drawn with no gaps (by eye) = 1 mark Accept M4 even if an open switch is drawn Accept M4 even if some of the components are missing Note components may be in any order

Question	Answer	Marks	Further Information
12(a)	78(%)	1	
12(b)	(at least) two substances that are not bonded together or not chemically combined	2	each correct answer = 1 mark Accept element or compound for substances Accept not in a fixed proportion Accept can be separated by physical means, e.g. filtering

Question	Answer	Marks	Further Information
13(a)	(temperature) thermometer (volume) measuring cylinder	2	each correct answer = 1 mark Accept burette or graduated pipette or volumetric pipette Ignore syringe or unqualified pipette
13(b)	24	1	Accept answers next to question, but answer in table takes precedence
13(c)		2	points plotted correctly within $\pm \frac{1}{2}$ a small square = 1 mark correct labels on axes = 1 mark Accept ecf from 13(b)

Question	Answer	Marks	Further Information
13(d)	line of best fit drawn	1	Accept ecf from incorrect points Note judge line by eye Do not accept dot to dot
13(e)	as volume of alkali increases the change in temperature increases	1	Accept ora Note answer must be comparative

Question	Answer	Marks	Further Information
14(a)	A air B (a vacuum) C water D thick oil	1	all three answers correct = 1 mark
14(b)	no air resistance (so) nothing to oppose motion or nothing to stop it falling or can fall freely or no upward force or no friction	2	each correct answer = 1 mark Accept no air particles