

Science

Stage 7

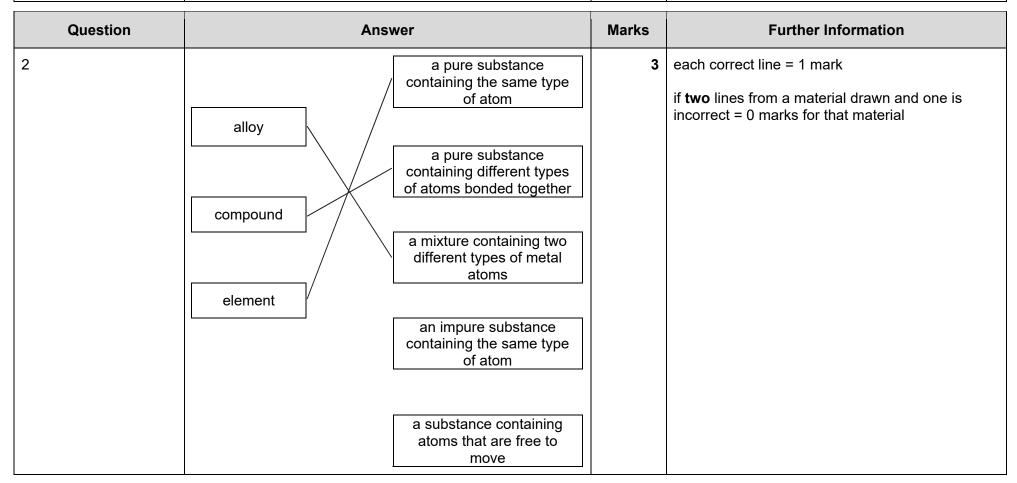
Paper 1 2023

Cambridge Lower Secondary Progression Test

Mark Scheme

Question	Answer	Marks	Further Information
1(a)	cell substances into and out of the cell contains genetic information and controls what happens inside the cell jelly-like substance, where chemical reactions happen mitochondria where most respiration reactions happen	2	three lines correct = 2 marks one or two lines correct = 1 mark if two lines from a part of a cell drawn and one is incorrect = 0 marks for that part of a cell
1(b)	any two from (are packed with many) chloroplasts (idea that) column-shaped large vacuole	2	each correct answer = 1 mark Accept (are packed with many) chloroplasts so they can absorb light (energy) = 2 marks Accept (idea that) column-shaped so they can be arranged closely together = 2 marks Accept (idea that) large vacuole so chloroplasts are towards the edge of the cell or close to the cell membrane or closer to the light = 2 marks Ignore chlorophyll

Question	Answer	Marks	Further Information
1(c)	has (plant) chloroplasts but no cell wall	1	Accept has (animal) flagella or eye spot instead of no cell wall



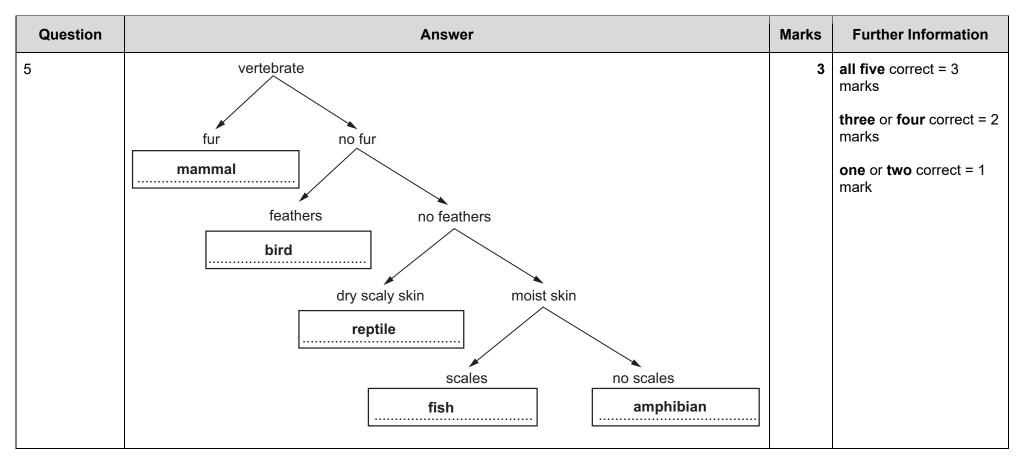
Question	Answer	Marks	Further Information
3(a)	echo	1	
3(b)	(distance travelled by sound wave =) time x 1500 or 4 x 1500 or 6000 (m) 3000 (m)	2	Accept correct answer with or without working = 2 marks Accept ecf from distance travelled by sound wave for second marking point

Question	Answer	Marks	Further Information
4(a)	crust	2	each correct answer = 1 mark
	(uppermost part of) mantle		Accept lithosphere = 2 marks
4(b)		3	each correct answer = 1 mark
	(idea of fold) mountain building		Accept fold mountains
	earthquake		Accept tsunami
	volcanic eruption		Accept volcano
			Accept (idea of) subduction
			Accept sea floor spreading
			Accept rift valleys
4(c)	any two from	2	each correct answer = 1 mark
	shows the magma (in the mantle) moving		Accept shows plates move in the same direction
	shows the plates moving		as the magma (in the mantle) = 2 marks
	shows volcanoes or mountains forming		
	shows what happens deep under the Earth's surface		
	shows the different layers of the Earth		
	it is not a moving model or (idea that) it does not show the speed of movement		

(idea that) there are **no** labels, e.g. no temperature, no depth

(idea that) it does **not** show how long the mountains take to form

does **not** show earthquakes



Question	Answer	Marks	Further Information
6(a)	4 or four	1	
6(b)	purple	1	
6(c)	7 or seven	1	Ignore green
6(d)	lemon juice	1	

Question	Answer	Marks	Further Information
7(a)	electrical (energy)	1	all four correct = 1 mark Accept heat (energy) for thermal Accept light, sound and thermal in any order
7(b)(i)	20 (J)	1	
7(b)(ii)	it dissipates or it is transferred to the environment or surroundings	1	Accept it spreads out Accept any reasonable energy transfer process involving sound or thermal energy, e.g. thermal energy makes molecules move faster Ignore it is wasted or it is lost

Question		Answer	Marks	Further Information
8	gas	percentage by volume	2	each correct answer = 1 mark
	nitrogen	(78)		Accept N or N ₂ for nitrogen
	(oxygen)	21		

Question	Answer	Marks	Further Information
9	donkey and horse	2	both ticked = 1 mark
	species produce fertile offspring / ora		correct explanation = 1 mark

Question	Answer	Marks	Further Information
10(a)	precipitation	1	more than one answer circled = 0 marks
			Accept any indication of the correct answer, e.g. ticking or underlining, but circling takes precedence
10(b)	increases or rises or gets bigger	2	each correct answer = 1 mark
	acid is being neutralised (by the alkali) / ora		

Question	Answer	Marks	Further Information
11(a)	a force	2	each correct answer = 1 mark
	(that) pulls objects towards each other or pulls objects towards the centre of the planet		Accept pulls objects towards a named planet, e.g. Earth
			Accept a force of attraction between two objects = 2 marks
11(b)(i)	Jupiter	1	
11(b)(ii)	as mass (of most planets) increases so does gravity	2	relationship = 1 mark
	and relevant data to support, e.g. Jupiter has the biggest mass and the most gravity		correct data to support = 1 mark
	or		
	as mass (of most planets) increases so does gravity except for Uranus and relevant data to support, e.g. Uranus has more mass than		
	Earth but has less gravity		
	or		
	(idea that) there is no relationship and relevant data to support, e.g. Uranus has more mass than Earth but has less gravity		

Question	Answer	Marks	Further Information
12	(sulfuric acid) corrosive	3	each correct answer = 1 mark
	(ethanol) flammable		Accept inflammable
	(mercury nitrate) toxic or poisonous		Do not accept harmful

Question	Answer	Marks	Further Information
13(a)	iron, steel, graphite, aluminium	1	all four correct any order for the mark
			Accept symbols, i.e. Fe for iron, A <i>l</i> for aluminium, C for graphite
13(b)	electron(s)	1	Accept ions(s)
13(c)	insulator(s)	1	Ignore non-conductor

Question	Answer	Marks	Further Information
14(a)	grass → grasshopper	2	all four correct = 2 marks
	grasshopper ────► lizard		two or three correct = 1 mark
	grasshopper → hawk		one correct = 0 marks
	lizard ───── hawk		but
			one incorrect arrow = maximum 1 mark
			three or more incorrect arrows = 0 marks
14(b)		2	each correct answer = 1 mark
	(hawk) excretes waste		Accept excretion
			Accept faeces or urine or uric acid
	(hawk) decays or decomposes		Accept decomposition