

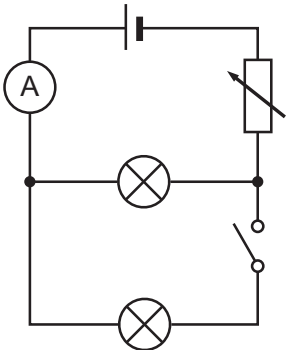
Question	Answer	Marks	Further Information
1(a)	(prediction) decreases (explanation) less food for puffins or puffins starve	2	each correct answer = 1 mark Accept (idea that) puffins migrate to where the water is colder Ignore puffins die Accept population stays the same because the puffins find a new food source = 2 marks
1(b)	(population) decreases because predators eat puffins or decreases because predators eat eggs	1	
2(a)	E	1	Accept 2.8.8.2
2(b)	C	1	Accept 2.4
2(c)	A (and) B	1	both required in either order for the mark Accept 2.7 (and) 2.8.7
2(d)	A (and) C	1	both required in either order for the mark Accept 2.7 (and) 2.4

Question	Answer	Marks	Further Information
3	any three from (description) volume increases or sound gets louder pitch gets higher (explanation) amplitude increases frequency increases	3	each correct answer = 1 mark Note award marks wherever they are written Note assume answer refers to car getting closer to the object but Accept ora if car moving away from object is specified

Question	Answer	Marks	Further Information
4(a)	convection (currents)	1	
4(b)	any two from location of volcanoes location of earthquakes fossil records alignment of magnetic materials in the Earth's crust	2	each correct answer = 1 mark Note award marks wherever they are written
4(c)	the tectonic plates in the ocean are moving away from each other	1	Accept there are constructive plate boundaries in the ocean or there are divergent plate boundaries in the ocean Accept sea floor spreading

Question	Answer	Marks	Further Information
5(a)	(A) chromosome (B) DNA (C) gene	3	each correct answer = 1 mark Accept deoxyribonucleic acid
5(b)	gene	1	Accept C , but name takes precedence

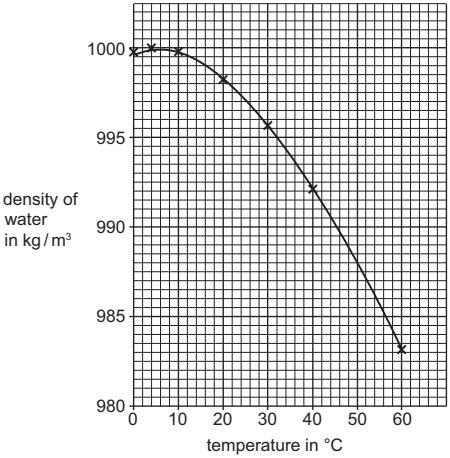
Question	Answer	Marks	Further Information
6(a)	lithium or francium	1	Accept Li or Fr, but name takes precedence
6(b)	any number in the range 680 to 740 (°C)	1	
6(c)	(idea that) increases	1	

Question	Answer	Marks	Further Information
7(a)	2 (A) 2 (A)	1	both correct for the mark
7(b)		3	<p>correct symbol for variable resistor = 1 mark</p> <p>correct symbol for ammeter and open or closed switch = 1 mark</p> <p>wires connected correctly and no gaps in the circuit by eye = 1 mark</p> <p>Ignore junction of connectors symbols</p> <p>Ignore any labels or words</p>

Question	Answer	Marks	Further Information
8	respiration decomposition	2	each correct answer = 1 mark Do not accept breathing or photosynthesis Accept decay

Question	Answer	Marks	Further Information
9	(dark mice) decreases and (light mice decreases and then) increases (explanation) (idea that) dark mice are more visible so are more likely to be eaten or light mice are less visible so less likely to be eaten (idea that) light mice are more likely to reproduce or dark mice are less likely to reproduce (idea that) the characteristics for light mice more likely to be passed on to offspring or characteristics for dark mice less likely to be passed on to offspring	4	each correct answer = 1 mark Accept dark mice goes from 4 to 1 and light mice goes from 4 to (3 to) 7

Question	Answer	Marks	Further Information
10	<p>(idea that) Blessy adds excess zinc carbonate to dilute sulfuric acid or AW</p> <p>filters the mixture</p> <p>slowly evaporates (the filtrate) or boils away half of filtrate or leaves (filtrate) to crystallise slowly</p>	3	<p>each correct answer = 1 mark</p> <p>Accept filtration</p> <p>Ignore sieving</p> <p>Do not accept heat to dryness or boil to dryness</p> <p>Do not accept evaporate residue slowly</p>

Question	Answer	Marks	Further Information
11(a)		2	<p>all points plotted correctly = 1 mark</p> <p>Accept plots \pm half a small square</p> <p>smooth curve through plotted points = 1 mark</p> <p>Accept ecf for the curve from incorrect plots</p> <p>Do not accept dot-to-dot or a straight line</p>
11(b)	<p>float (no marks)</p> <p>and</p> <p>(idea that) ice has a lower density than water or water has a higher density than ice</p> <p>water has a density of $999.8 \text{ (kg/m}^3\text{)}$ or the difference in density is $999.8 - 918 \text{ (kg/m}^3\text{)}$ or the difference in density is $81.8 \text{ (kg/m}^3\text{)}$</p>	2	<p>each correct answer = 1 mark</p> <p>Note full marks can only be awarded if 'float' is stated</p>

Question	Answer	Marks	Further Information
12(a)	<p>C A D B</p> <p>C (idea that) small planet is close to the Earth or small planet moves towards the Earth or large rock moves towards Earth</p> <p>A (idea that) small planet collides with the Earth or there is a collision</p> <p>D (idea that) debris collects around the Earth or dust is formed around the Earth</p> <p>B (idea that) the dust comes together to form the Moon</p>	3	<p>correct order = 1 mark</p> <p>all four descriptions matching the diagrams = 2 marks for the descriptions</p> <p>only two or three descriptions matching the diagrams = 1 mark for the descriptions</p> <p>one description matching the diagrams = 0 marks for the descriptions</p>
12(b)	<p>any one from</p> <p>rock samples from the Moon are similar to rock on Earth</p> <p>lunar meteorites are similar in composition to the Earth</p>	1	<p>Accept any suitable higher-level evidence, e.g. Earth's spin and the Moon's orbit have similar orientations or there here is evidence in other star systems of similar collisions</p>

Question	Answer	Marks	Further Information
14(a)	(I think) that the smaller the pieces of wood the faster they will burn (because) smaller pieces of wood have a larger surface area.	2	each correct answer = 1 mark Accept reverse argument for both marking points
14(b)	any two from mass of wood sample time for wood to burn completely surface area of wood sample	2	each correct answer = 1 mark Accept volume of wood sample
Question	Answer	Marks	Further Information
15(a)	(idea that) level of liquid in thermometers is the same	1	
15(b)	(idea that for the same temperature) the volumes of water are different	1	Accept the height of the water is different