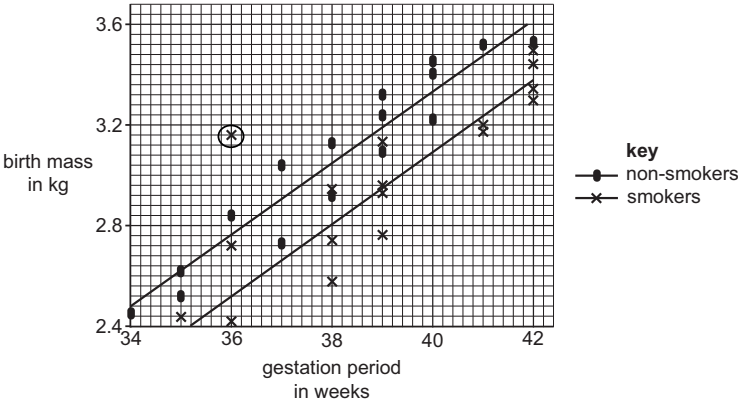


Question	Answer	Marks	Further Information										
1(a)	<table border="1"> <thead> <tr> <th>part</th> <th>what happens</th> </tr> </thead> <tbody> <tr> <td>renal artery</td> <td>blood enters excretory (renal) system</td> </tr> <tr> <td>kidney</td> <td>filters (the blood)</td> </tr> <tr> <td>ureter</td> <td>urine travels through this tube to be stored</td> </tr> <tr> <td>bladder</td> <td>urine is stored here before excretion from body</td> </tr> </tbody> </table>	part	what happens	renal artery	blood enters excretory (renal) system	kidney	filters (the blood)	ureter	urine travels through this tube to be stored	bladder	urine is stored here before excretion from body	3	<p>each correct answer = 1 mark</p> <p>Accept (ultra)filtration</p>
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1(b)	urea	1											
1(c)	<p>the toxic substance goes through the (partially permeable) membrane</p> <p>leaving the blood without any toxic substance / (membrane) does not allow blood through</p>	2	<p>each correct answer = 1 mark</p> <p>Accept blood is purified</p> <p>Accept urea for toxic substance</p> <p>Accept the (partially permeable) membrane lets the toxic substance through but not the blood = 2 marks</p> <p>Accept the (partially permeable) membrane only lets the toxic substance through = 2 marks</p>										

Question	Answer	Marks	Further Information
2(a)	stays the same increases	2	each correct answer = 1 mark
2(b)(i)	reinforcement	1	Accept constructive interference
2(b)(ii)	cancellation	1	Accept destructive interference

Question	Answer	Marks	Further Information
3(a)	sodium (atom) loses an electron	1	Accept electron(s) lost
3(b)(i)	ionic/ electrovalent	1	
3(b)(ii)	attraction between positive and negative ions	1	Accept electrostatic attraction between ions
3(b)(iii)	801 °C	1	more than one answer circled = 0 marks Accept any indication of the correct answer, e.g. ticking or underlining, but circling takes precedence

Question	Answer	Marks	Further Information
4(a)(i)	crust	1	Accept lithosphere
4(a)(ii)	(tectonic plates) are less dense than the mantle	1	Accept less dense than magma
4(b)(i)	(Earth's) core	1	
4(b)(ii)	(prediction) (the two large pieces of biscuit) will move (apart) (explanation) convection current (moves the biscuits/plates)	2	each correct answer = 1 mark
4(b)(iii)	(earthquakes) result from movement of plates (idea that) earthquakes occur at plate boundaries	2	each correct answer = 1 mark
4(b)(iv)	jigsaw appearance of continental coasts fossil record alignment of magnetic materials in the Earth's crust position of volcanoes	2	each correct answer = 1 mark
4(c)	climate change / increase in global temperature / increase in carbon dioxide in atmosphere / increase in sulfur dioxide in atmosphere / (idea that) oxygen levels reduced	1	Accept blocks sunlight Accept leads to an ice age with no reference to global warming in the answer

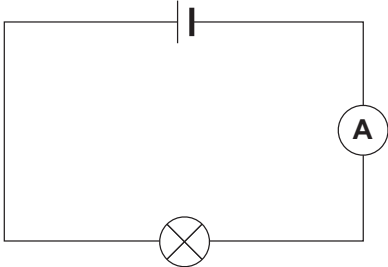
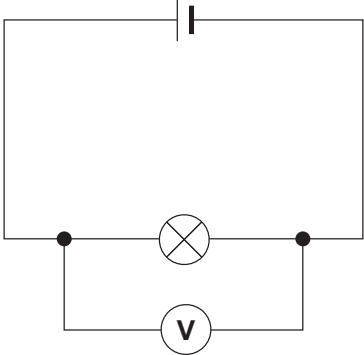
Question	Answer	Marks	Further Information
5(a)(i)	 <p>The scatter plot shows birth mass in kg on the y-axis (ranging from 2.4 to 3.6) and gestation period in weeks on the x-axis (ranging from 34 to 42). Two data series are shown: non-smokers (solid circles) and smokers (asterisks). Both series show a positive correlation between gestation period and birth mass. A key indicates that solid circles represent non-smokers and asterisks represent smokers. One smoker data point at approximately (36, 3.15) is circled.</p>	1	<p>Accept other correct indications of the anomalous point but circling takes precedence</p> <p>more than one point circled = 0 marks</p>
5(a)(ii)	(birth mass is) decreased by smoking	1	<p>Accept as gestation period increases, birth mass increases</p>
5(b)	increase sample size	1	

Question	Answer	Marks	Further Information
6(a)	any value in the range 105 to 200 (°C)	1	
6(b)	any value in the range 550 to 650 (°C)	1	
6(c)	rubidium	1	Accept Rb but name takes precedence

Question	Answer	Marks	Further Information
7	evaporate thermal decreases	3	each correct answer = 1 mark

Question	Answer	Marks	Further Information
8(a)	23 (idea that sperm cell has) half the number of chromosomes of a fertilised egg cell	2	each correct answer = 1 mark Accept 23 is the haploid number for humans = 2 marks
8(b)	 (higher temperatures) reduce sperm production (without sperm) no fertilisation takes place	2	each correct answer = 1 mark Accept sperm not viable Accept reduced fecundity
8(c)	population	1	

Question	Answer	Marks	Further Information
9(a)	(reading on balance) gets less / decreases / reduces as carbon dioxide/gas is lost/released (from the equipment)	2	each correct answer = 1 mark Accept a reading less than 102.34 g Ignore water vapour is lost Do not accept name of incorrect gas is lost/released
9(b)	powder has a greater surface area / lumps have a smaller surface area more collisions with powder / fewer collisions with lumps	2	each correct answer = 1 mark Accept more frequent collisions with powder
9(c)	wear goggles/gloves hydrochloric acid is corrosive/harmful	2	each correct answer = 1 mark Ignore facemask Accept (hydrochloric acid) burns the skin/eyes

Question	Answer	Marks	Further Information
10(a)(i)	<p>correct symbol for ammeter connected in series with cell and lamp e.g.</p> 	1	
10(a)(ii)	<p>correct symbol for voltmeter connected in parallel with lamp e.g.</p> 	1	
10(b)	(idea that) current divides/splits	1	

Question	Answer	Marks	Further Information
11(a)	any one from objects with a density greater than cooking oil or 0.9 g/cm^3 will sink objects with a density less than cooking oil or 0.9 g/cm^3 will float	1	Accept ice will remain suspended as its density is the same as cooking oil
11(b)	any two from measure the density of a range of different plastic objects use objects of the same shape/size add to water and record if they float or sink	2	each correct answer = 1 mark