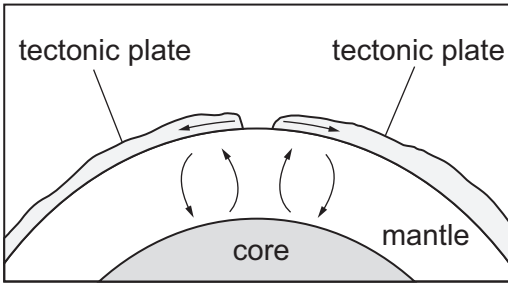


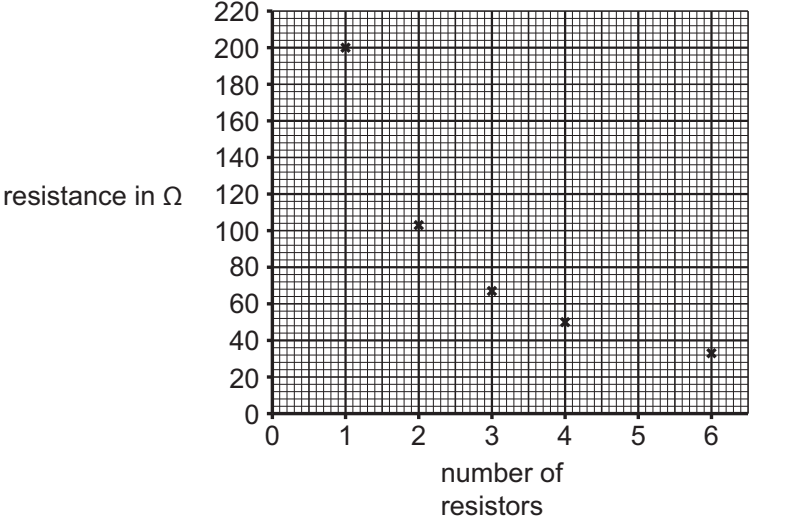
Question	Answer	Marks	Further Information
1	root hair xylem vapour transpiration	4	each correct answer = 1 mark Note just root is not sufficient for the mark Accept gas Accept evaporation or diffusion
Question	Answer	Marks	Further Information
2(a)	2.8.4	1	
2(b)	P or As or Sb or Bi or Mc	1	
2(c)	Be or B or C or N or O or F or Ne	1	
2(d)	2 or two	1	
Question	Answer	Marks	Further Information
3(a)(i)	2	1	
3(a)(ii)	2 (Hz)	1	
3(b)	four times louder one half lower pitched	2	all four correct = 2 marks two or three correct = 1 mark

Question	Answer	Marks	Further Information
4(a)	convection	1	
4(b)	second box ticked 	1	more than one box ticked = 0 marks Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence

Question	Answer	Marks	Further Information
5	(A) kidney or kidneys (B) <u>ureter</u> (C) bladder (D) <u>urethra</u>	4	each correct answer = 1 mark

Question	Answer	Marks	Further Information
6(a)	all have 1 electron in outer shell	1	Accept orbit for shell
6(b)	decreases	1	
6(c)	density	1	

Question	Answer	Marks	Further Information
7(a)	(combustion) D (photosynthesis) B (respiration) A (and) C	4	each correct answer = 1 mark Accept in either order
7(b)	carbon dioxide	1	Ignore water Accept methane

Question	Answer	Marks	Further Information									
8(a)	<table border="1"> <thead> <tr> <th data-bbox="481 250 808 322">measurement</th> <th data-bbox="813 250 1003 322">name of meter</th> <th data-bbox="1008 250 1265 322">how the meter is connected</th> </tr> </thead> <tbody> <tr> <td data-bbox="481 325 808 397">current in resistor R</td> <td data-bbox="813 325 1003 397"><u>ammeter</u></td> <td data-bbox="1008 325 1265 397">series</td> </tr> <tr> <td data-bbox="481 400 808 472">voltage across resistor R</td> <td data-bbox="813 400 1003 472"><u>voltmeter</u></td> <td data-bbox="1008 400 1265 472">parallel</td> </tr> </tbody> </table>	measurement	name of meter	how the meter is connected	current in resistor R	<u>ammeter</u>	series	voltage across resistor R	<u>voltmeter</u>	parallel	2	<p>all four correct = 2 marks</p> <p>two or three correct = 1 mark</p> <p>Ignore P or Q</p>
measurement	name of meter	how the meter is connected										
current in resistor R	<u>ammeter</u>	series										
voltage across resistor R	<u>voltmeter</u>	parallel										
8(b)	 <p>resistance in Ω</p> <p>number of resistors</p>	3	<p>all three plotted correctly = 1 mark</p> <p>Accept tolerance \pm half a small square</p> <p>x-axis label and y-axis label with unit = 1 mark</p> <p>curve of best fit = 1 mark</p> <p>Accept ecf from plots for curve of best fit</p> <p>Do not accept dot-to-dot or straight line</p>									
8(c)	value read off from learner's graph	1	<p>Note expected value is 40 (Ω)</p> <p>Accept ecf from curve of best fit</p> <p>Accept tolerance \pm half a small square</p>									

Question	Answer	Marks	Further Information
9(a)	as fetal age increases, birth mass increases	1	Accept ora
9(b)	(idea that) at the same fetal age, babies from mothers who did not smoke have a higher birth mass (than those from mothers who did smoke)	1	Accept the line for mothers who did smoke is always lower than the line for mothers who did not smoke

Question	Answer	Marks	Further Information
10(a)	particles have increased energy so more frequent or more energetic or more successful collisions	2	each correct answer = 1 mark Accept particles move faster Note if zero marks scored, award 1 mark for more collisions
10(b)	any one from increase the surface area (of the magnesium) (increase the) concentration of the acid	1	Accept use smaller pieces of magnesium or use powdered magnesium

Question	Answer	Marks	Further Information												
11	<table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 50%;">terms</th> <th style="text-align: left; width: 50%;">description</th> </tr> </thead> <tbody> <tr> <td style="border: 1px solid black; padding: 5px; width: 50%;">conservation of energy</td> <td style="border: 1px solid black; padding: 5px; width: 50%;">a measure of the energy in an object</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">evaporation</td> <td style="border: 1px solid black; padding: 5px;">when the most energetic particles escape from the surface of a liquid</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">heat</td> <td style="border: 1px solid black; padding: 5px;">energy cannot be created or destroyed</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">heat dissipation</td> <td style="border: 1px solid black; padding: 5px;">a measure of how hot an object is</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">temperature</td> <td style="border: 1px solid black; padding: 5px;">thermal energy is transferred from hotter objects to colder objects</td> </tr> </tbody> </table>	terms	description	conservation of energy	a measure of the energy in an object	evaporation	when the most energetic particles escape from the surface of a liquid	heat	energy cannot be created or destroyed	heat dissipation	a measure of how hot an object is	temperature	thermal energy is transferred from hotter objects to colder objects	3	<p>all five correct = 3 marks</p> <p>three or four correct = 2 marks</p> <p>one or two correct = 1 mark</p> <p>Note one term linked to two descriptions is incorrect for that term</p>
terms	description														
conservation of energy	a measure of the energy in an object														
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Question	Answer	Marks	Further Information
14(a)	population decreases and no food to eat	1	both answers correct for the mark Accept become extinct Accept population eventually is the same as they find different food to eat = 1 mark
14(b)	any two from reduce the amount of food available less shelter drought flooding	2	each correct answer = 1 mark Accept idea of global warming (may make temperature unsuitable for wolves)

Question	Answer	Marks	Further Information
15	All boxes ticked apart from they are asteroids	1	Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence
16	Na ₂ O K ₂ SO ₄	2	Each correct answer = 1 mark Accept ONa ₂ Accept SO ₄ K ₂ or O ₄ SK ₂ or K ₂ O ₄ S