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**SCIENCE**

**1113/02**

Paper 2

**October 2015**

FINAL MARK SCHEME

Maximum Mark: 50

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**IMPORTANT NOTICE**

Mark Schemes have been issued on the basis of **one** copy per Assistant examiner and two copies per Team Leader.

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This document consists of **8** printed pages.

Question number	1	CSS00330	
Part	Mark	Answer	Further Information
(a)	1	cactus <b>and</b> sage bush	<b>both</b> correct answers needed for the mark  any order
(b)	1	hawk, scorpion <b>and</b> snake	all <b>three</b> needed for the mark  any order
(c)	2	increase  There are fewer foxes eating them / fewer of them are being eaten	decrease = 0 marks for the question
(d)	2	cactus→insect→lizard→scorpion →hawk  <b>or</b>  cactus→insect→lizard→snake →fox	five organisms in correct order = 1 mark  arrows pointing correctly in any correct chain = 1 mark
<b>Total</b>	<b>6</b>		

Question number	2	CSS00362	
Part	Mark	Answer	Further Information
(a)	1	condensation <b>diffusion</b> fermentation neutralisation	more than one answer circled = 0 marks
(b)	2	<p>The particles are already too far apart. <input type="checkbox"/></p> <p>The particles in a solid do not move around. <input checked="" type="checkbox"/></p> <p>Solids have a fixed shape. <input checked="" type="checkbox"/></p> <p>Solids can only take on the shape of a container. <input type="checkbox"/></p> <p>The pressure in a solid is too great. <input type="checkbox"/></p>	<p>each correct tick =1 mark</p> <p>if <b>three</b> ticks and <b>two</b> correct = 1 mark</p> <p>if <b>three</b> ticks and <b>one</b> correct = 0 marks</p> <p>if <b>four</b> or <b>five</b> ticks = 0 marks</p>
(c)	1	<b>A</b> melting <b>B</b> evaporating / boiling	<b>both</b> needed for 1 mark
<b>Total</b>	<b>4</b>		

Question number	3	CSS00448	
Part	Mark	Answer	Further Information
(a)	1	<b>A</b>	
(b)	1	<b>A</b>	
<b>Total</b>	<b>2</b>		

Question number	4	CSS00243	
Part	Mark	Answer	Further Information
(a)	3		<p>correct plots for 25 cm and 30 cm = 1 mark</p> <p>correct plot for 20 cm = 1 mark <b>Accept</b> plots to within half a square</p> <p>smooth curve through all points including anomalous point <b>or</b> smooth curve through all points but ignoring anomalous point = 1 mark</p> <p><b>Do not allow</b> dot to dot for smooth curve mark</p>
(b)	2	<p>The result that may be wrong is the one for a distance of <b>25</b> cm</p> <p>This is because (idea that) it is not on the same curve / not in the same pattern as others</p>	
(c)	2	<p>As the water plant is moved away from the lamp the amount of light on it <b>reduces / decreases / gets dimmer</b></p> <p>This makes the rate of photosynthesis <b>decrease / reduce</b></p>	<b>Accept</b> slower
<b>Total</b>	<b>7</b>		

Question number	5	CSS00054_A	
Part	Mark	Answer	Further Information
(a)	1	fluorine <b>and</b> neon	<b>Accept</b> F and Ne. both required for the mark, either order
(b)	1	sulfur	<b>Accept</b> S, sulphur
(c)	1	sodium	<b>Accept</b> Na
(d)	1	sulfur <b>and</b> neon	both required for the mark, either order <b>Accept</b> S and Ne, <b>Accept</b> sulphur
(e)	1	sodium <b>and</b> sulfur	<b>Accept</b> Na, sulphur or S both answers required for the mark, either order
<b>Total</b>	<b>5</b>		

Question number	6	CSS00302	
Part	Mark	Answer	Further Information
(a)	2	meters / metres / distance tape measure / trundle wheel	each correct part = 1 mark
(b)	2	<b>Any two from</b> to see if the results are consistent to work out an average time or speed improves the reliability of the results	<b>Accept</b> to compare results <b>Accept</b> to see the effect of fatigue / see the effect of training any <b>two</b> correct ideas = 2 marks <b>one</b> correct idea = 1 mark
<b>Total</b>	<b>4</b>		

Question number	7	CSS00355	
Part	Mark	Answer	Further Information
(a)	1	egg / ovum / ova / <b>female</b> gamete / <b>female</b> sex cell	
(b) (i)	1	(idea of) breeding brown with the same colour	<b>Accept</b> use a brown male
(ii)	1	(idea that) can inherit brown information from <b>both</b> parents (not just one)	<b>Accept</b> (idea that) this eliminates the <b>black</b> characteristic
<b>Total</b>	<b>3</b>		

Question number	8	CSS00327	
Part	Mark	Answer	Further Information
	3	<b>Any three from</b> (same) temperature (same) mass or amount of zinc (same) concentration (of acid) (same) volume of acid (same) state of zinc / zinc powder / zinc lumps	
<b>Total</b>	<b>3</b>		

Question number	9	CSS00396	
Part	Mark	Answer	Further Information
(a)	1	<b>A and B</b> A and C B and D C and D	more than one answer circled = 0 marks
(b)	1	Sound cannot travel in a vacuum because it can only travel when there are <b>particles</b> .	<b>Accept</b> matter / molecules / atoms / material / medium / solid, liquid <b>and</b> gas
<b>Total</b>	<b>2</b>		

Question number	10	CSS00356	
Part	Mark	Answer	Further Information
	2	The flies pick up the pollen produced by the <b>anther</b> and carry it to the <b>stigma</b> .	
Total	2		

Question number	11	CSS00326	
Part	Mark	Answer	Further Information
(a)	2	A, C and E they all conduct electricity	correct materials in any order = 1 mark explanation = 1 mark The explanation can be awarded providing one, two or all of the metals have been identified.
(b) (i)	1	hydrogen	<b>Accept</b> H <sub>2</sub>
(ii)	1	zinc sulfate	<b>Accept</b> ZnSO <sub>4</sub> <b>Do not accept</b> zinc sulfide
Total	4		

Question number	12	CSS00188	
Part	Mark	Answer	Further Information
(a)	2	ammeter in series and correct symbol voltmeter connected in parallel across lamp and correct symbol	ammeter may be on either side of the lamp one mark for each correct answer
(b)	1	The current going into a junction in a circuit is <b>equal to</b> the current coming out of the junction.	
(c)	1	increases	<b>Accept</b> doubles
Total	4		

<b>Question number</b>	<b>13</b>	<b>CSS00295</b>	
<b>Part</b>	<b>Mark</b>	<b>Answer</b>	<b>Further Information</b>
(a)	1	We can feel the heat of the Sun because of <b>radiation</b> .	
(b)	1	Metals transfer thermal (heat) energy using the process of <b>conduction</b> .	
<b>Total</b>	<b>2</b>		

<b>Question number</b>	<b>14</b>	<b>CSS00301</b>	
<b>Part</b>	<b>Mark</b>	<b>Answer</b>	<b>Further Information</b>
(a)	1	6 (kilometres)	
(b)	1	(idea that) the line has different gradients / steepness / slopes	Answer must refer to the <b>shape of the graph</b> or <b>correct calculation</b> of two speeds
<b>Total</b>	<b>2</b>		