

Mark Scheme (Results)

Summer 2015

PLSC Science (JSC01/01)

Edexcel International Primary
Curriculum Science

Y6 Achievement test

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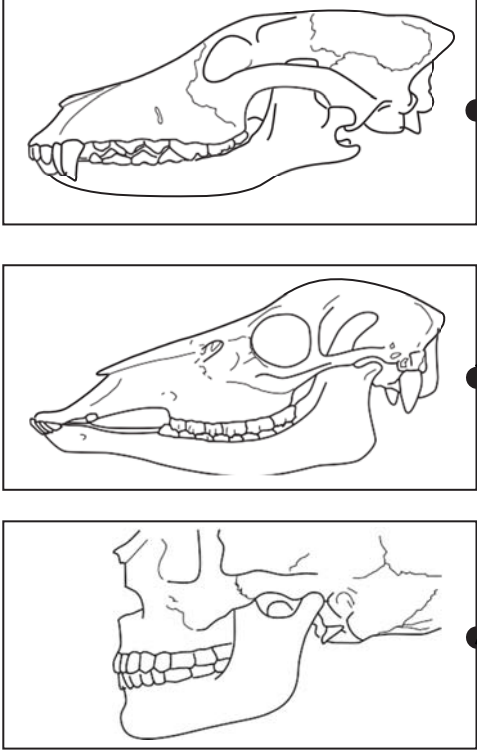
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General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

SECTION A

Question	Acceptable answers	Additional guidance	Mark
1	B		1
2	B		1
3	A		1
4	D		1
5	C		1
6	C		1
7	D		1
8	C		1

Question	Acceptable answers	Mark
9	 <p>1 correct scores 1 mark</p>	<p>2</p> <p>plants and meat</p> <p>meat</p> <p>plants</p>

Question	Acceptable answers	Additional guidance	Mark
10	<p>Any TWO from</p> <p>A (qualified effect of) smoke/ash</p> <p>Eye irritation/goes into eyes/drivers cannot see road or pedestrians/lung damage/coughing/breathing problem/asthma OWTTE</p> <p>B (reference to or consequence of) fire spreading</p> <p>Fire may spread/fire may get out of control/vehicles may catch fire/vehicles may explode/fuel or named fuel may catch fire or explode/(other) trees or vegetation may burn;</p> <p>C (reference to) death/burns</p> <p>People/animals may suffer burns/death;</p>	<p>Credit one consequence from each section.</p> <p>Ignore 'harmful' unqualified throughout.</p> <p>Ignore unqualified references to (air) pollution.</p> <p>Ignore references to burning leaves blowing away without a consequence.</p> <p>Ignore 'go to hospital' unless qualified with reference to burns, or loss of life</p>	2

Question	Acceptable answers	Additional guidance	Mark
11(a)	N or newton	Accept newtons, Newton, Newtons	1
11(b)	3 (N)	Ignore unit (credited in part a)	1

Question	Acceptable answers	Additional guidance	Mark
12	B		1
13	C		1
14	C		1
15	A		1
16	D		1
17	B		1
18	C		1
19	A		1
20	B		1

Question	Acceptable answers	Additional guidance	Mark
21	Prey <u>and</u> predator (1)	Both words in correct order	1

Question	Acceptable answers	Additional guidance	Mark
22	Does not allow <u>light</u> to pass through it / blocks <u>light</u> (1)	Allow reference to some of the <u>light</u> being blocked Ignore you can't see through it unless qualified	1

Question	Acceptable answers	Additional guidance	Mark
23(a)	Any TWO from Add an extra cell/more cells (1) Remove/disconnect the motor (1)	Accept: Add more batteries/more power/increase voltage (1) Ignore 'more energy' unqualified Use lower wattage/less powerful <u>motor</u> /use a <u>motor</u> of lower resistance (1) Allow Use (much) thicker/shorter (connecting) wires (1) as an alternative to either of acceptable answers	2
23(b)	Buzzer		1

Question	Acceptable answers	Additional guidance	Mark
24	Correct reference to any TWO structural features relevant to the animals shown from: (Number/presence of) <u>wings</u> / (Number/presence of) <u>legs</u> / (Number/presence of) <u>segments</u> / (Presence of) <u>shell</u> / <u>Width/length/shape</u> of body/ <u>Shape/length</u> of antennae	Answers may be a question or a statement but must be workable in a key. Flying needs to be linked to wings Ignore bones/feathers/scales /movement/diet/habitat/colour Allow <u>shape/length</u> of feelers	2

Question	Acceptable answers	Additional guidance	Mark
25	D		1
26	A		1
27	D		1
28	C		1
29	B		1
30	C		1
31	C		1
32	A		1

Question	Acceptable answers	Additional guidance	Mark
33(a)	Melting;	Accept: description of melting	1
33(b)	Burning;	Accept: description of burning wax/wick/smoke formation	1

Question	Acceptable answers	Additional guidance	Mark
34	<u>Yellow</u> ; (1) <u>Round(ed)</u> ; (1)		2

Question	Acceptable answers	Additional guidance	Mark
35	(Rays with) arrows pointing in correct direction from torch to mirror <u>and</u> mirror to eye;	Both needed for the mark Allow correct directional arrows beside correct ray lines	1

Question	Acceptable answers	Additional guidance	Mark
36(a)	Emulsion;		1
36(b)	Gas and liquid;	If circle more than one box 0 mark	1

Question	Acceptable answers	Additional guidance	Mark
37(a)(i)	Bulb;	Accept lamp Ignore light	1
37(a)(ii)	(to ensure a) fair test;	Accept: correct reference to having only one (independent) variable e.g. 'you don't want it to be a factor that will affect results'	1
37(b)	Thicker <u>wire</u> gave a brighter <u>bulb</u> / thickest <u>wire</u> gave brightest <u>bulb</u> /as thickness <u>increases</u> , brightness <u>increases</u> (1); <u>Thick and medium wire</u> gave same brightness/result (1);	Ignore Yes/No/partly Accept correct reverse comparison eg thinner wire gave dimmer bulb	2
37(c)	Any TWO from 1. repeats; (using same wires) 2. (using) wires of different thicknesses/range of thicknesses; 3. <u>measure</u> the thickness of the wire; 4. <u>measure</u> the brightness of the bulb;	Ignore reference to taking mean/average as these are not numerical results Accept idea of looking up actual thickness of wire if it is clear that this will be quantitative eg units suggested Use a lightmeter/ <u>measure</u> the current/use an ammeter	2

Question	Acceptable answers	Additional guidance	Mark										
38(a)	<u>Beaker</u> ;		1										
38(b)	75 cm ³ ;	Number and unit both required for mark but ignore use of superscript Accept 75 ml	1										
38(c)	Either Heat/boil/evaporate (the water) (1) look for solid/see if there is sugar (at bottom of beaker) (1) OR Weigh (each beaker) (1) The heavier one contains the sugar solution (1)	Dependent on gaining first mark Allow description of weighing	2										
38(d)	See example table opposite. 1. (Two) columns, <u>both</u> columns correctly headed, including unit for time (1) 2. Correct data transfer throughout (1) 3. Independent variable column to left of time column <u>and</u> values in ascending/descending numerical sequence (1)	<table border="1"> <thead> <tr> <th>Number of <u>stirs</u>/amount of <u>stirring</u></th> <th><u>Time</u> taken for sugar to dissolve (<u>s</u>)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>53</td> </tr> <tr> <td>5</td> <td>42</td> </tr> <tr> <td>10</td> <td>34</td> </tr> <tr> <td>15</td> <td>22</td> </tr> </tbody> </table> Do not award mp1 if unit is repeated down column Ignore additional columns In any order	Number of <u>stirs</u> /amount of <u>stirring</u>	<u>Time</u> taken for sugar to dissolve (<u>s</u>)	0	53	5	42	10	34	15	22	3
Number of <u>stirs</u> /amount of <u>stirring</u>	<u>Time</u> taken for sugar to dissolve (<u>s</u>)												
0	53												
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10	34												
15	22												

38(e)	Bar plotted (10, 34) (1)	Bar should be correct height Ignore width/shading	1
38(f)	<p>The <u>more/greater number of stirs</u>, the <u>faster</u> (the sugar dissolves)</p> <p>OR</p> <p>The <u>more/greater number of stirs</u>, the <u>less/shorter</u> time (the sugar takes to dissolve)</p> <p>OR</p> <p><u>More stirs decrease</u> the time taken (for the sugar to dissolve)</p> <p>OR</p> <p><u>Increasing</u> the number of stirs <u>decreases</u> the time taken (for the sugar to dissolve)</p>	<p>Assume 'it' refers to sugar</p> <p>Ignore reference to speed of stirring</p> <p>Answers must indicate the pattern/trend not individual values</p> <p>Accept correct reverse comparison</p>	1