


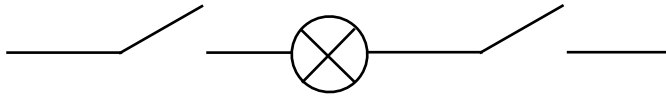
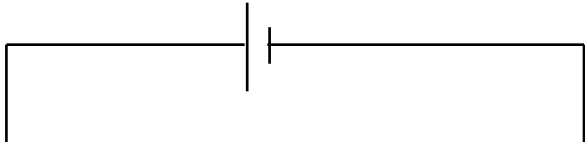
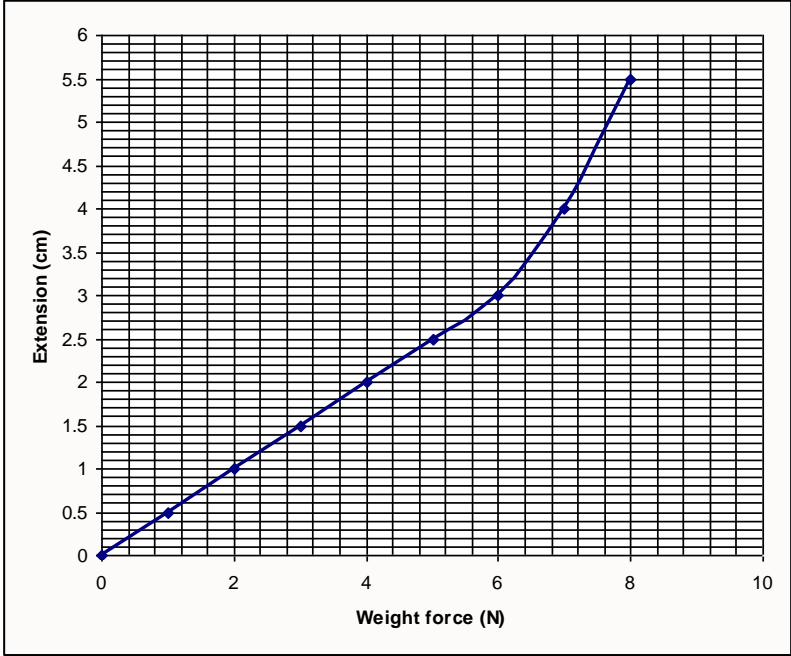


## Assessment Schedule 10C 2009

- / means OR eg. green / blue – answer needs green OR blue  
 ( ) means additional, not really required eg. Gauze (mat) – gauze would be sufficient  
 : means AND eg. red : hot - answer needs red and hot.

Question	Evidence	Marks
1(a)	(i) copper carbonate	1 mark
	(ii) colourless / no colour - but do not accept clear.	1 mark
1 (b)	All three steps to be correct. Credit may be given for labelled diagram 1. <u>Add water</u> to dissolve the NaCl 2. Pour the mixture through filter paper to remove the zinc carbonate 3. Evaporate the filtrate to remove the water to leave behind the salt	1 mark
2 (a)	Fingerprints are dusted with powder (carbon/graphite/chalk) and then lifted using cellophane / clear tape.	1 mark
2 (b)		- All 3 1 mark
	LOOP	
		- All 3 1 mark
	WHORL	
		- All 3 1 mark
	ARCH	
2 (c)	Fingerprints are unique to an individual / no two people on earth have the same fingerprint	1 mark
2 (d)	Suspect 2 – the genetic markers/pattern of lines are the same / the DNA bands match the blood from the car (ref must be made to the evidence)	1 mark
2 (e)	Blood grouping is not unique – you can only narrow down your list of suspects. Genetic DNA profiling is accurate enough to identify an individual. ( both needed)	1 mark

3 (a)	<pre> graph BT     diatom --&gt; sweep     diatom --&gt; euphausiid     diatom --&gt; water_flea     dinoflagellate --&gt; euphausiid     dinoflagellate --&gt; water_flea     euphausiid --&gt; pilchard     euphausiid --&gt; blenny     water_flea --&gt; pilchard     water_flea --&gt; blenny     sweep --&gt; snapper     pilchard --&gt; snapper     blenny --&gt; snapper </pre>	1 mark															
3 (b)	Tertiary consumer or top predator or top carnivore	1 mark															
3 (c)	Decrease in euphausiid population / numbers of euphausiid Reason : More blenny / pilchard : which eat them	1 mark 1 mark															
4 (a)	Moisture / water and temperature - both correct (accept other answer such as same surface woodlice are on etc) not light / dark	1 mark															
4 (b)	That (more) woodlice select / prefer dark conditions	1 mark															
4 (c)	Less visible to predators / less likely to dry out	1 mark															
5 (a)	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Indicator</th> <th style="width: 33%;">Colour Change</th> <th style="width: 33%;">pH Range</th> </tr> </thead> <tbody> <tr> <td>Alizarin</td> <td>Pink to violet</td> <td>11.0 to 13.0</td> </tr> <tr> <td>Thymol Blue</td> <td>Red to yellow</td> <td>1.2 to 2.8</td> </tr> <tr> <td>Methyl Red</td> <td>Red to yellow</td> <td>4.2 to 6.3</td> </tr> <tr> <td>Congo Red</td> <td>Blue to red</td> <td>3.0 to 5.0</td> </tr> </tbody> </table> <p>[1 mark] = table headings must be <b>colour change</b> – not just colour etc. [2 marks] – correct transfer of all info but [1 mark] if 1-2 errors in transfer</p>	Indicator	Colour Change	pH Range	Alizarin	Pink to violet	11.0 to 13.0	Thymol Blue	Red to yellow	1.2 to 2.8	Methyl Red	Red to yellow	4.2 to 6.3	Congo Red	Blue to red	3.0 to 5.0	3 marks
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6 (a)	Any from : Iron/steel/nickel/cobalt/neodymium	1 mark															
6 (b)	copper and aluminium - both correct	1 mark															
6 (c)	As there is no longer any <b>current</b> flowing through the wire (around the core) it will no longer be magnetic.	1 mark															
7 (a)	Any from : ammeter / bulb / LED / buzzer / bell <b>not voltmeter</b>	1 mark															
7 (b)	insulator	1 mark															
7 (c)	Brass : graphite rod – both should be ticked (and no others)	1 mark															

7 (d) i	 <p style="text-align: right;">Either location labeled A</p>	1 mark							
7 (b) ii	 <p>Any location along this line labelled B</p>	1 mark							
8 (a)	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td>1.0</td></tr> <tr><td>1.5</td></tr> <tr><td>2.0</td></tr> <tr><td>2.5</td></tr> <tr><td>3.0</td></tr> <tr><td>4.0</td></tr> <tr><td>5.5</td></tr> </table> <p style="text-align: center;">All correct</p>	1.0	1.5	2.0	2.5	3.0	4.0	5.5	1 mark
1.0									
1.5									
2.0									
2.5									
3.0									
4.0									
5.5									
	<p>correctly labelling each of the axes – Force (N) along the bottom and Extension (cm) along the vertical axis.</p>	1 mark							
8 (b)	<p>correctly plotting each of the points accurately joining the points</p> <p style="text-align: right;">1 mark each</p> <div style="text-align: center;">  </div>	2 mark							
8 (c)	<p>There is a linear relationship / straight line relationship between Force and Extension up to 6N After 6N the elastic limit of the spring has been reached and there is no longer a direct relationship.</p> <p>1 mark for each correct statement,</p>	2 Mark							

9 (a)	Yes – because beetroots are root vegetables similar to potatoes and carrots and they prefer a pH the same as / similar to Marigolds	1 mark
9 (b)	No – because Mint prefers a pH of 7 to 8 whereas rhododendron prefers an acid soil / pH of 4.5 - 6	1 mark
9 (c)	A mixture of plants does not indicate how well they are growing. Some plants can survive outside their comfort zone, but will not thrive. i.e. the chart only indicates preferred pH the plants can grow outside the preferred pH but not as well	1 mark
10 (a)	Phosphorous      Calcium      Vitamin D      all correct	1 mark
10 (b)	Carbon and Nitrogen only - both correct	1 mark
10 (c)	Animals cannot survive due to the removal of oxygen from the water by the <b>dying</b> plants,	1 mark
10 (d)	The jaw absorbs so much phosphorous that it becomes soft and crumbly / swollen. This was called Phossy Jaw	1 mark
10 (e)	<pre> graph TD     Rocks[Phosphorus in rocks] -- erosion --&gt; Soil[Phosphorus in water in the soil]     Soil -- absorption --&gt; Plants[Phosphorus in plants]     Plants -- eaten --&gt; Animals[Phosphorus in animals]     Animals --&gt; Waste[Phosphorus in animal waste and dead organisms]     Waste -- decomposition --&gt; Soil     Waste --&gt; Water[Phosphorus in water/rivers/seas/water / seabed]     Water --&gt; Rocks </pre> <p>Phosphorus in rocks</p> <p>Phosphorus in water/rivers/seas/water / seabed</p> <p>Phosphorus in animal waste and dead organisms</p> <p>Phosphorus in plants</p> <p>Phosphorus in animals</p> <p>erosion</p> <p>decomposition</p> <p>absorption</p> <p>eaten</p> <p>All correct 2 marks      1 mistake – 1 mark</p>	1 mark