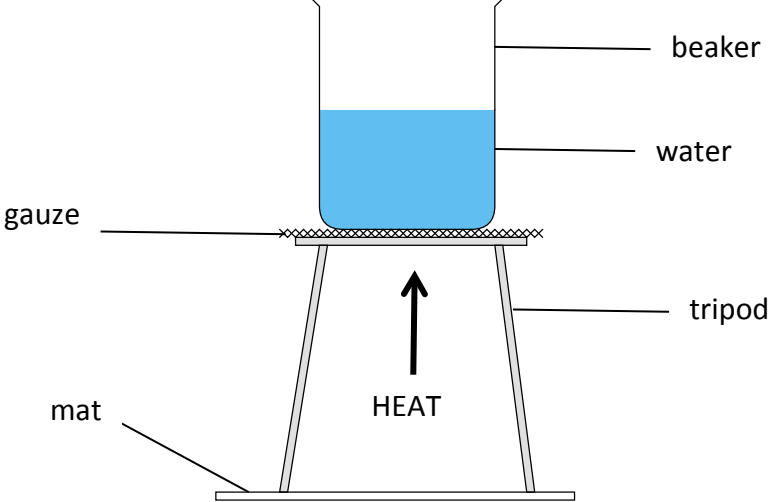
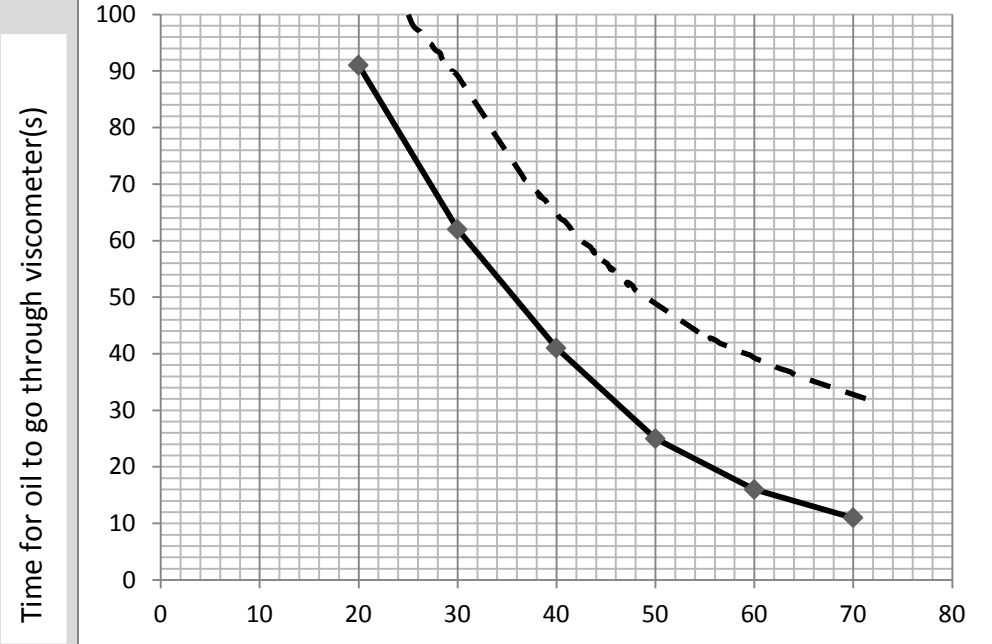


Year 9 2013 C

/ 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
One	 <p>2D diagram – 1 mark Correct scientific symbol – Bunsen, tripod and gauze – 1 mark Correct scientific symbol – beaker with water (NOT “solution”) – 1 mark 4 items labelled correctly – 1 mark Draw appropriate size / ruler used – 1 mark</p>	5 marks
Two (a)	 <p>Time for oil to go through viscometer(s)</p> <p>Temperature (°C)</p>	<p>½ mark x-axis scale and title and units</p> <p>½ mark y-axis scale and title and units</p> <p>5-6 correct points and a suitable smooth line = 1 mark</p>

(b)	50 – 52 s (but read off student graph and allow f/o)	1 mark
(c)	As the temperature increases the time taken to flow through the viscometer gets less (or equivalent statement)	1 mark
(d)	Appropriate line drawn above plotted line (something like dotted line shown)	1 mark
Three (a)	Energy is lost along the food chain ; idea that there is less energy for, top predators / at end of food chain so there are less of them	1 mark
(b)	Decomposers (Recycle nutrients from dead animals / droppings)	1 mark
(c)	<pre> graph BT Plankton --> Herring Plankton --> Mussel Herring --> Dolphin Herring --> Seal Herring --> Crab Mussel --> Crab Mussel --> Starfish Seaweed --> Limpet Limpet --> Starfish Limpet --> Crab Starfish --> Seagull Crab --> Seagull </pre>	<p>3-4 correct = 1 mark</p> <p>5-6 correct = 2 marks</p>
(d)	<p>As crabs eat mussels the crab numbers would decrease which could mean less seals as they have lost one of their food sources.</p> <p>OR As crabs eat mussels the crab numbers would decrease which could mean less herrings as seals have to eat more of them since they have lost a food source.</p> <p>(accept any TWO logically argued causes and effects)</p>	<p>1 mark</p> <p>1 mark</p>
Four (a)	more drinking attempts from smooth materials than rough use of figures / almost no attempts from rough	<p>1 mark</p> <p>1 mark</p>
(b)	sound waves scattered in many directions from a rough surface / not scattered in many directions from a smooth surface ; bats receive fewer echoes from a smooth surface / more echoes from a rough surface	<p>1 mark</p> <p>1 mark</p>
(c)	moths are more likely to survive / are less likely to be killed by bats because the zig-zag motion lets them avoid detection	<p>1 mark</p> <p>1 mark</p>

Five (a)	Pen would dissolve on the solvent and rise up the paper (with the food colourings)	1 mark																																																																				
(b)	<p>Cake icing colour is a mixture as it separates into different spots</p> <p>Cake icing colour is made of 4 colours / dyes</p> <p>Cake icing colour contains the safe colours B and C</p> <p>Two colours in cake icing are not the safe colours</p> <p>Cake icing (may) not be safe to eat</p>	1 mark each = max. of 5 marks																																																																				
Six (a)	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th rowspan="2">insect</th> <th colspan="2">1</th> <th colspan="2">2</th> <th colspan="2">3</th> <th colspan="2">4</th> <th rowspan="2">name</th> </tr> <tr> <th>a</th> <th>b</th> <th>a</th> <th>b</th> <th>a</th> <th>b</th> <th>a</th> <th>b</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>✓</td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td><i>Musca</i></td> </tr> <tr> <td>B</td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td><i>Formica</i> ;</td> </tr> <tr> <td>C</td> <td></td> <td>✓</td> <td></td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td><i>Termes</i> ;</td> </tr> <tr> <td>D</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td></td> <td>✓</td> <td><i>Graphosoma</i> ;</td> </tr> <tr> <td>E</td> <td>✓</td> <td></td> <td>✓</td> <td></td> <td></td> <td></td> <td>✓</td> <td></td> <td><i>Coccinella</i> ;</td> </tr> </tbody> </table>	insect	1		2		3		4		name	a	b	a	b	a	b	a	b	A	✓			✓					<i>Musca</i>	B		✓				✓			<i>Formica</i> ;	C		✓			✓				<i>Termes</i> ;	D	✓		✓					✓	<i>Graphosoma</i> ;	E	✓		✓				✓		<i>Coccinella</i> ;	<p>½ mark for each correct name and ticks – max. of 2 marks</p> <p>(4 names correct without ticks = max. of 1 mark)</p>
insect	1		2		3		4		name																																																													
	a	b	a	b	a	b	a	b																																																														
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(b)	<p>Phylum Athropoda</p> <p>Class Insect</p> <p>Family Muscidae</p> <p>Species <i>domestica</i></p>	½ mark each = 3 marks																																																																				
(c)	Different countries may have the same insects for example but use different common name; idea of universal understanding / to identify its genus and species	1 mark																																																																				
Seven (a)	Centre of flame is a region of unburnt gas (or equivalent answer)	1 mark																																																																				
(b)	The card in C burst into flames / air hole open so it gets more oxygen	1 mark																																																																				
(c)	60°C	1 mark																																																																				
(d)	Water boils at 100°C and so David's water boiled at 13 minutes; at 13 minutes the temperature of her water was 60°C	1 mark																																																																				
(e)	<ul style="list-style-type: none"> Her water was 74°C then – so will need to rise 26°C to boil. To rise from 74 – 100°C took David's Bunsen about 3.5 minutes, so her water will boil at about 19 ½ minutes 	1 mark 1 mark																																																																				
		40																																																																				