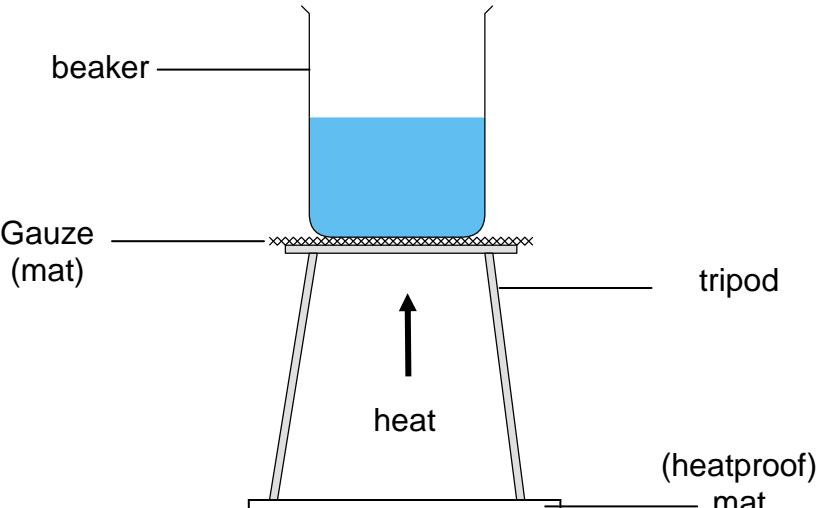


Assessment Schedule 9B 2008

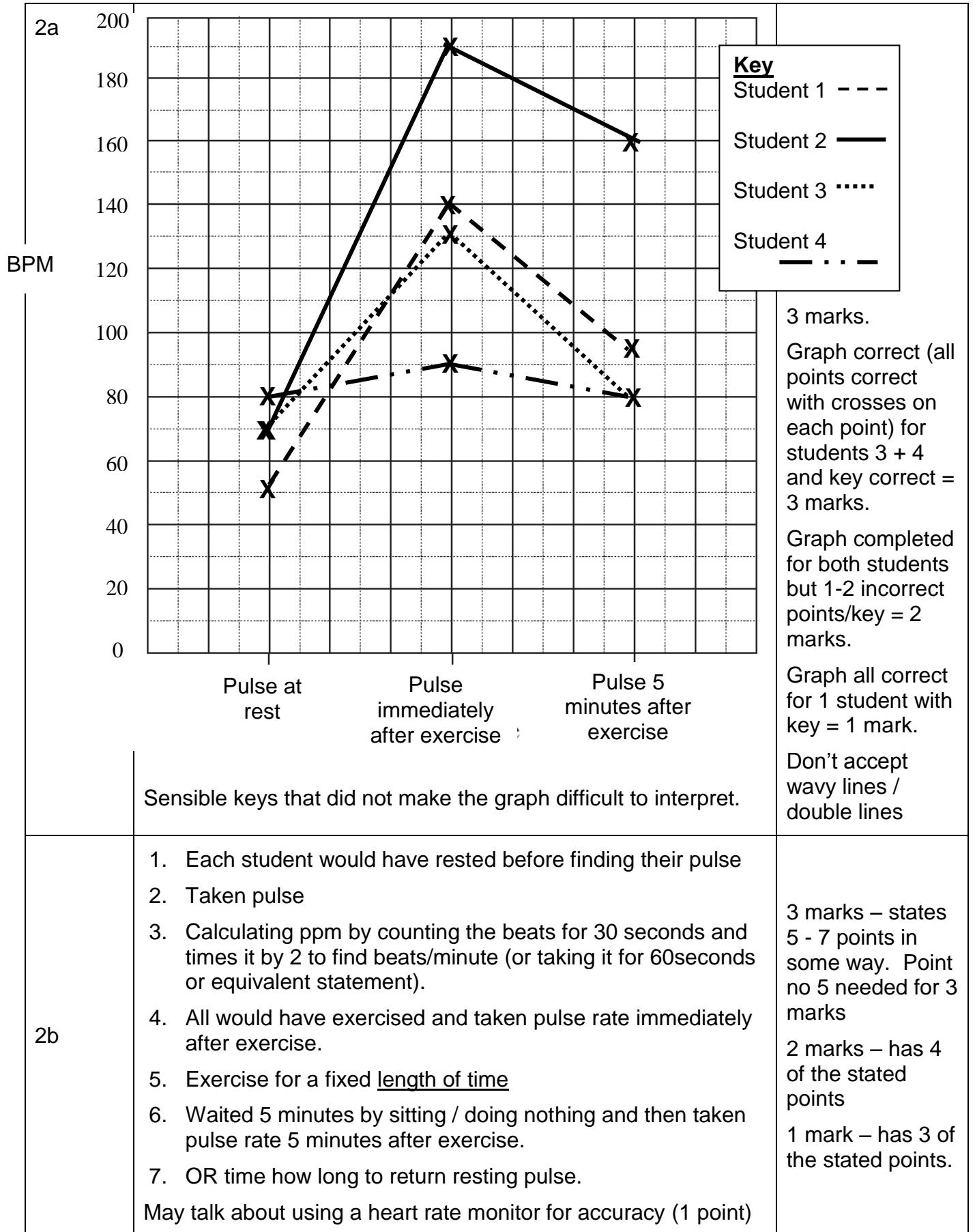
/ means OR eg. green / blue – answer needs green OR blue

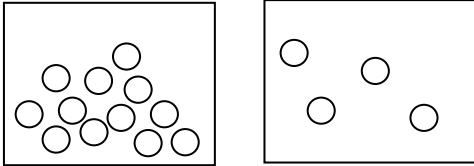
() means additional, not really required eg. Gauze (mat) – gauze would be sufficient

: means AND eg. red : hot - answer needs red and hot.

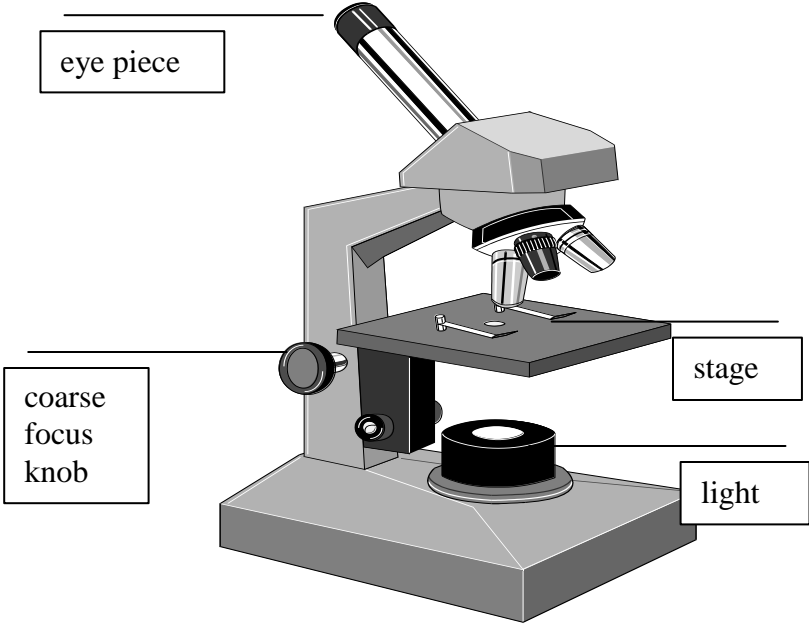
Question	Evidence	Marks
One a	Correct symbols for pieces of scientific equipment (ruler not needed)	4-6 correct = 1 mark
b	<div style="text-align: center;">  </div> <p>For Full (3) marks: Correct scientific 2D diagram of a heat proof mat, Bunsen burner, tripod, gauze (mat), and beaker all with labels. All drawn with no big gaps between pieces of equipment etc. For 3 marks a ruler must have been used</p> <p><u>Additional symbols that can be counting towards getting 2 or 1 marks</u> Thermometer / measuring cylinder / boss clamp and stand</p>	<p>All 5 symbols correct with labels = 3 marks (no labels minus 1 mark)</p> <p><u>Any</u> 4 correct symbols + 4 correct labels = 2 marks.</p> <p><u>Any</u> 4 correct symbols without labels = 1 mark.</p> <p>Or 3 symbols + labels = 1 mark</p>

c	<p><u>Measuring cylinder</u> 8.8 mL (must have units) Volume</p> <p><u>Thermometer</u> 98.2 °C (must have units) Temperature (not “heat”)</p> <p><u>Ruler</u> 34 mm or 24mm or 58mm (due to clarity of question) but must have units. Length / distance</p>	<p>4 - 7 correct = 1 mark</p> <p>8 - 9 correct = 2 marks</p>
d (i)	<p>A corrosive substance = C A highly flammable substance = A A toxic substance = E A substance which is harmful = D A substance which is an irritant = F (B not used)</p>	<p>3-5 correct = 1 mark</p>
d (ii)	<p>Concentrated sulfuric acid = corrosive substance (C) Petrol = highly flammable substance (A) Rat poison = toxic substance (E)</p>	<p>2-3 correct = 1 mark</p>
e	<p>Student 1: Is putting the test-tube towards her face / has a beaker of liquid on her tie / no safety glasses on / her hair is not tied back. This is unsafe because.... (any valid reason that relates to the action chosen above). Student 2: He has the conical flask tipped up and is peering into it / he is drinking out of conical flask / Bunsen burner is on but he is not paying attention to it / he is in the way – blocking the pathway between tables. This is unsafe because....(any valid reason that relates to the action chosen above) Note – any sensible alternative not on mark scheme acceptable provided reasoning was given</p>	<p>3 marks = all correct for both students.</p> <p>2 marks = any 3 correct answers.</p> <p>1 marks = any 2 correct answers</p> <p>No marks for 0-1 correct answer.</p>



<p>Three a</p>	<ol style="list-style-type: none"> 1. When you heat the can the water turns to steam/water vapour (displacing the air). 2. When it cools, the steam <u>condenses</u> very rapidly and the can is crushed. 3. This is because there is nothing to support the can from the inside - so the air pressure crushes it! OR while there is steam in the can its pressure is equal to the air pressure outside. 	<p>1 mark = idea of water turning to steam/vapour</p> <p>2 marks = as above + steam condensing when placed in cold water to crush can</p> <p>3 marks = as above and talks about air pressure</p>
<p>b</p>	<p>Liquid – particles close but not regular in arrangement: must not have enough space between the particles to fit another particle!</p> <p>Gas – ensure particles are the same size as in liquid : less drawn in the box AND random arrangement.</p> <div style="text-align: center;">  </div>	<p>1 mark (both diagrams correct)</p>
<p>c</p>	<p>Liquid to gas = boiling / evaporation</p> <p>Solid to gas = sublimation</p>	<p>Both correct = 1 mark</p>
<p>d</p>	<ol style="list-style-type: none"> i. move faster AND move further apart (or vice versa) ii. slow down AND move closer together iii. slow down AND move closer together 	<p>3-4 correct phrases = 1 mark</p> <p>5-6 correct phrases = 2 marks</p>
<p>e</p>	<p>D – A – B</p>	<p>All in correct order = 1 mark</p>
<p>f</p>	<p>(i) distillation</p>	<p>1 mark</p>
	<p>(ii) Water vapour / steam is condensed back into liquid water as the water vapour is cooled down as it passes through the condenser.</p>	<p>1 mark – must have idea of condensation / cooling</p>

	<p>(iii)</p> <p>1. The water is heated and is turned into water vapour/steam (as it has the lower boiling point)</p> <p>2. Water vapour is then condensed back into liquid form as it goes through the (cool) condenser.</p> <p>3. The water is collected in a beaker leaving the ink behind (in the flask).</p> <p>4. This is able to occur because water and ink have different boiling points.</p>	<p>2 marks = 3-4 points</p> <p>1 mark = at least 2 points</p>																
Four a	<p>R = respiration / respiring</p> <p>G = growth / grow / growing</p> <p>S = sensitivity / senses / sensitive</p> <p>N = nutrition (but not nutrients)</p>	3-4 for 1 mark																
b	<table border="0"> <tr> <td><u>Living</u></td> <td><u>Non living</u></td> </tr> <tr> <td>Snake</td> <td>Computer</td> </tr> <tr> <td>Oak tree</td> <td>Clock</td> </tr> <tr> <td>Spider</td> <td>Car</td> </tr> <tr> <td>Grass</td> <td>Rock</td> </tr> <tr> <td>Worm</td> <td>Toilet</td> </tr> <tr> <td>Human</td> <td></td> </tr> <tr> <td>Whale</td> <td></td> </tr> </table>	<u>Living</u>	<u>Non living</u>	Snake	Computer	Oak tree	Clock	Spider	Car	Grass	Rock	Worm	Toilet	Human		Whale		<p>Less than 7 correct = no marks</p> <p>7-10 correct = 1 mark</p> <p>11-12 correct = 2 marks</p>
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c	<p>Fire does not respire OR fire is not sensitive OR does not have all the 7 characteristics of living things / or a specific life characteristic.</p> <p>But not just “does not show / do MRS GREN”</p>	1 mark for either correct statement																
Five a	<p>(i) Chloroplasts</p> <p>(ii) Vacuole, cell wall.</p>	2 or 3 correct = 1 mark																
	<p>(iii) chlorophyll, carbon dioxide, water, light</p>	2 or 3 correct = 1 mark																
b	Smallest: C – E - A – B – D	3-5 in correct spot = 1 mark																

c		3-4 labels placed in correct spot = 1 mark
d	<p>Ignoring bolded answers 6 – 3 – 2 – 5 – 1 – 4 Or 6 – 2 – 3 – 5 – 1 – 4</p>	all correct = 1 mark.
Six a	<p>Left side labels: stigma ovary</p> <p>Right side labels: petal anther filament</p>	2-4 correct = 1 mark 5 correct = 2 marks
b	<p>Colourful : petals (not just “colour or colourful) Scent / smell Produce nectar OR pollen</p>	2 correct = 1 mark
c	<p>Sweet pea = eaten by animals/popping Dandelion = wind Bidibid = hooks Mangrove = water</p>	3-4 correct = 1 mark

d	<p>It is important for seeds to be dispersed to:</p> <ul style="list-style-type: none"> • to avoid competition for nutrients • to avoid competition for water • to avoid competition for light, and • to establish plant in new areas <p>(Not “to avoid over crowding” without specifying effect it would have on plant).</p>	<p>Any one reason = 1 mark</p> <p>Any 2 or more reasons = 2 marks</p>
Seven a	Single light ray drawn at 45° angle (to normal) reflecting off both mirrors and into the eye. Drawn with or without arrow but otherwise correct.	1 mark.
b	The law of reflection: The angle of incidence (ray) equals the angle of reflection (ray). Don't have to have mention of rays.	1 mark.
c	Light ray B	1 mark
d	(i) Concave	1 mark
	<p>(ii) The light rays reflect off the concave surface : in a forward direction to produce a beam of parallel light rays.</p> <p>(When a light source is placed at the focus/in the middle of a concave mirror).</p>	<p>1 mark = light from bulb is reflected in a forward direction / light is reflected to produce a beam of light</p> <p>2 marks = both points</p>
	(iii) Shows <u>both</u> light rays reflected correctly using the law of reflection (measured from the normal)	1 mark
Eight a	(i) An element	1 mark
b	<p>(i) Making jewellery = C / D / E / F</p> <p>(ii) Gold dental filling = C / D / F</p> <p>(iii) Electronic components = A / B / F</p>	For <u>each</u> of i-iii need at least 1 correct. Any incorrect cancels out 1 correct in

		that line
c	(i) a) electrons b) neutrons c) protons	2-3 correct labels = 1 mark
	(ii) oxygen (iii) magnesium or Mg	One correct = 1 mark
	(iv) Aluminium (Al), potassium (K), magnesium (Mg) – can have symbols rather than names	2 or 3 metals correct = 1 mark Any incorrect answer cancels out 1 correct answer
	(v) Protons = 19 Electrons = 19 Neutrons = 20	2 or 3 correct = 1 mark
d	2 crosses (x) in 1 st ring already done. Need 8 electrons in 2 nd ring and 1 electron in 3 rd ring	All correct = 1 mark
d(!)	Oxygen – Element (E) Calcium – Element (E) Water – Compound (C) Sodium chloride – Compound (C) Air – Mixture (M) Carbon dioxide – Compound (C) Copper – Element (E) Orange juice – Mixture (M) Magnesium - Element (E)	4-7 correct = 1 mark 8-9 correct = 2 marks
e	(i) Physical then Chemical	Both correct = 1 mark
	(ii) Water freezing = physical (P) Vinegar making baking soda fizz = chemical (C)	4 or more correct = 1 mark

	<p>Iron nail rusting = C</p> <p>Your clothes drying on the line = P</p> <p>Melted wax going hard = P</p> <p>Wood burning = C</p>	
Nine a	<p>(i) stomach</p> <p>(ii) mouth / salivary glands</p> <p>(iii) heart</p> <p>(iv) lungs</p> <p>(v) kidneys</p>	<p>3-4 correct = 1 mark</p> <p>5 correct = 2 marks</p>
b	<p>(i) water</p> <p>(ii) skin</p>	Both correct = 1 mark
c	<p>4.5</p> <p>28</p>	Either correct = 1 mark
d	<p>(i) A balanced diet = eating the <u>correct/right amounts/enough</u> of all the main food groups / states at least 4 groups of food</p>	1 mark
	<p>(ii)</p> <p>Bones – not enough calcium</p> <p>Intestine – not enough fibre</p> <p>Heart – too much fat</p>	2-3 correct = 1 mark
e	<p>(i) 1-3 lungs 2-4</p> <p>(ii) R and S</p> <p>(iii) Valves</p> <p>(iv) Ventricle</p>	<p>2 correct = 1 mark</p> <p>3-4 correct = 2 marks</p>

Ten a	<table border="1"> <thead> <tr> <th>Product</th> <th>Food type being tested</th> <th>Chemicals added</th> <th>Positive result</th> </tr> </thead> <tbody> <tr> <td>Honey</td> <td>Sugar / glucose</td> <td>Benedicts solution</td> <td>Change to a Red/ orange/ yellow/green colour</td> </tr> <tr> <td>Bread</td> <td>Starch</td> <td>Iodine solution</td> <td>Change to a blue-black colour</td> </tr> <tr> <td>Milk</td> <td>Protein</td> <td>Sodium hydroxide + copper sulphate solution</td> <td>Change to a pale purple colour (will accept just purple)</td> </tr> </tbody> </table>	Product	Food type being tested	Chemicals added	Positive result	Honey	Sugar / glucose	Benedicts solution	Change to a Red/ orange/ yellow/green colour	Bread	Starch	Iodine solution	Change to a blue-black colour	Milk	Protein	Sodium hydroxide + copper sulphate solution	Change to a pale purple colour (will accept just purple)	<p>3-4 correct = 1 mark</p> <p>5-6 correct = 2 marks</p>
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(i) For growth and repairs of cells / body tissues / body	1 mark																	
(ii) Carbohydrates	1 mark																	
(iii) Glucose molecules / sugar	1 mark																	
b	<p>Shows working of how they arrived at answer and correct answer</p> <p>Correct answer = 6250 kJ</p>	<p>Correct answer + working = 2 marks</p> <p>Correct answer / correct working = 1 mark</p>																
c	<p><u>Cow</u></p> <ul style="list-style-type: none"> • large/well developed incisors for cutting/slicing • no upper incisors/canines/small canine teeth as • doesn't eat meat • hard palate acts like a chopping board • diastema (gap) where food is moved around • pre-molars/molars are large for grinding/crushing 	<p>1 mark = states at least 2 types of teeth that relate to animals but no reasons OR states 2 reasons, one for each animal. (i.e. teeth for <u>grinding</u> for cows etc)</p>																

	<p><u>Lion</u></p> <ul style="list-style-type: none">• long pointed canines for piercing / holding animals : as it eats meat• carnassials used to slice/tear meat and skin• sharp premolars and molars for cutting and shearing meat• small incisors because don't really need to cut. <p>(has to state type of teeth can't just say big teeth). (NOT accepting chewing for a reason).</p>	<p>2 marks = at least 1 correctly stated teeth for each animal and reasons for these (have to have 1 for each animal).</p>
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