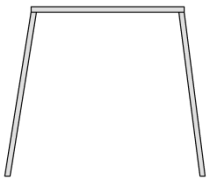
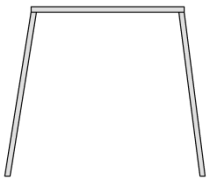
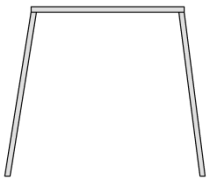
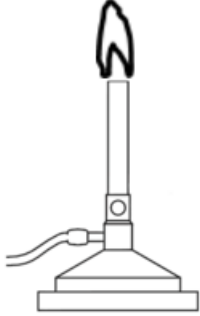
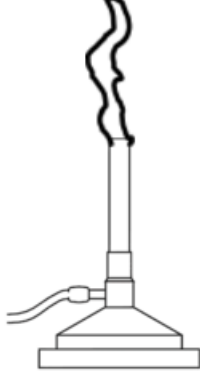


2015 9BA AS


/ 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)	Look on diagram NOTE: did not accept eyewash station	Any 2-3 hazards = ½ mark 4-5 hazards circled = 1 mark												
		For any one danger <ul style="list-style-type: none"> • Danger identified e.g. long hair • What might happen e.g might catch on fire • What the student should be doing e.g should be tied back 	--- 1 mark 1 mark												
	(b)	Quicker to read / easier to see / does not require ability to read (a language)/people don't bother to read	1 mark												
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;"></td> <td style="width: 33%;">(Digital) balance /scales</td> <td style="width: 33%;">A or E</td> </tr> <tr> <td style="text-align: center;">  <p>Accepted a 3D picture</p> </td> <td></td> <td style="text-align: center;">C</td> </tr> <tr> <td style="background-color: black;"></td> <td>Measuring cylinder</td> <td style="text-align: center;">B</td> </tr> <tr> <td style="background-color: black;"></td> <td>gauze / gauze mat</td> <td style="background-color: black;"></td> </tr> </table>		(Digital) balance /scales	A or E	 <p>Accepted a 3D picture</p>		C		Measuring cylinder	B		gauze / gauze mat		½ mark each: max of 3 marks total
	(Digital) balance /scales	A or E													
 <p>Accepted a 3D picture</p>		C													
	Measuring cylinder	B													
	gauze / gauze mat														
Two	(b)	$81.50 - 78.60 = 2.9 : \text{g/grams}$	1 mark answer 1 mark units												
Three	(a)	30	1 mark												
	(b)	45 mL drawn in cylinder B : good attempt at a meniscus	½ + ½ mark												
Four		<table style="border: none;"> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;">O</td></tr> <tr><td style="padding: 2px;"> </td></tr> <tr><td style="padding: 2px;"> </td></tr> </table>		O			½ mark each: 2 marks in total								
O															

Five				½ mark each: 3 marks in total
		Blue / colourless	Yellow / orange	
		Heating	safety flame	
Six	(a)	A and D		1 mark for <u>both</u> correct
	(b)	Filter / Filtering / Filtration		1 mark
	(c)	(Being insoluble) the bits/dirt are too big to pass through the filter paper		1 mark
Seven	(a)	Line drawn in ink Line would dissolve and travel up the paper too		1 mark
		Line with samples below solvent level Sample spots would dissolve in solvent and not travel up the paper		1 mark
	(b)	Any TWO of: it is a mixture, it is made of 3 colours, it contains C and B; it contains an unknown/unidentified dye		1 mark each: 2 marks in total
	(c)	Some dyes are more soluble than others and so travel faster/further up the paper		1 mark
Eight	(a)	B		1 mark
	(b)	D		1 mark
	(c)	Plastic bag = light and waterproof Rubber band = elastic and light Glass = transparent and easily breakable Gold ring = shiny and strong		½ mark each: 2 marks in total
Nine	(a)	B		1 mark
	(b)	condensation		1 mark
	(c)	Clamp (no NOT accept test tube holder)		1 mark
	(d)	Liquid		1 mark
	(e)	25-34°C (anywhere in this range)		1 mark

Ten	(a)	transparent	½ mark
	(b)	Spot drawn on D	½ mark
	(c)	Angle of incidence should be measured from normal <u>Incident</u> ray (not incidence ray) Normal not drawn at 90° to mirror Normal is (usually) drawn as dotted line Arrow on reflected ray points in the wrong direction	1 mark each, max of 2
	(d)	Correct pathway off first / second mirror At least one correct arrow on the reflected ray	½ mark ½ mark
	(e)	A = lens B = retina C = allows light in	2-3 correct = 1 mark, no half marks
Eleven	(a)	Solar (cell, panel) - will not accept sunlight or light.	1 mark
	(b)	Passing cloud / "sun went in"	1 mark
	(c)	Chemical to heat = fuel being burned Light to chemical = plant making food by photosynthesis Kinetic to sound = guitar string vibrating	2 correct :1 mark 3 correct: 2 marks
Twelve	(a)	(i) neutrons (ii) nucleus (iii) electrons (iv) 14	½ mark ½ mark ½ mark ½ mark
	(b)	Seawater = mixture Gold = element	½ mark ½ mark
	(c)	(i) O ₂ = D (ii) Ne = A (iii) H ₂ O = B (iv) CH ₄ = C	½ mark each
Thirteen	(a)	he hears the echo / he hears the initial clap of his hands and then the echo NOTE: sound bounced/reflected back <i>may</i> be awarded a ½ mark if all the rest was correct	1 mark
	(b)	The flash : light travels faster than sound	½ mark + ½ mark
	(c)	(i) D (ii) A	½ mark ½ mark
Fourteen		There are 7 differences on the diagram	Any 6 (of the 7) 1 mark each; max of 6 marks
Fifteen	(a)	Grow --- chicks quite a lot bigger Nutrition --- chick eating corn Reproduce --- hen laid eggs Sensitive --- chick ran away	½ mark each: max of 2 marks
	(b)	They (bee beetle, clearwing moth, hoverfly) are less likely to be eaten as other animals / birds think they will sting like a wasp does (or	1 mark

		equivalent answer which implies mimicry / copying of stinging wasp)	
	(c)	Sue Gail <u>Ian</u> Brian Karen Neil Dave	½ mark each: max of 3 marks
Sixteen	(a)	1 - sun 2 - clouds 3 - evaporation 4 - precipitation 5 - ocean	½ mark each - 2 marks max
	(b)	Water, water, cloud, cloud, ground, rivers & lakes, cycle	½ mark each - 2 marks max
	(c)	Any 2 correct observations e.g. condensation on box lid under ice cubes, ice cubes melting (!), drops of water falling under ice cubes, rivers of water on mountain, mountain washing away	1 mark each; max of 2 marks
Seventeen	(a)	Half on each side / all in middle / marked the circle with an X	1 mark
	(b)	Dry and dark	3
		Damp and dark	6
		Damp and light	1
		Dry and light	0
	(c)	Maggots prefer dark (1 mark) BUT maggots prefer dark and damp (conditions) (2 marks)	½ mark each - 2 marks
	(d)	Any one of: Repeat experiment / leave experiment for longer / use a larger number of maggots (or other suitable answer)	2 marks
Eighteen	(a)	solute	1 mark
	(b)	solution	1 mark
	(c)	It is insoluble / does not dissolve / very little of it dissolves	1 mark
	(d)	C is more soluble than D / more of C dissolves than D does	1 mark
	(e)	Evaporate it (using Bunsen) / leave it in the sun for water to evaporate	1 mark
Nineteen	(a)	Carla	1 mark
	(b)	Any 2 of: same length material / same width material / same size strip of material / masses added in the same way (NOT same number of masses), material attached in the same way etc	1 mark 1 mark
	(c)	Bar chart	½ mark each - 2 marks Bars do not need to touch i.e. could be 2 squares wide

			BUT cannot be a line / line graph
	(d)	Hessian is the strongest material / hessian and polyester are the strongest materials / cotton is the weakest material ./ hessian would be best for making the bag out of (or other suitable answer)	1 mark
Twenty	(a)	omnivores	1 mark
	(b)		<p>1 mark for one correct arrow</p> <p>OR</p> <p>1 mark for all 3 correct but no arrow heads</p> <p>BUT</p> <p>2 marks if all 3 arrows correct and no extras</p>
	(c)	<p>Any adaption selected e.g. long tail</p> <p>Any adaption described with a link to meerkat survival e.g. helps meerkat to stand up so it can see better when on sentry duty (implied it is looking out for predators)</p>	<p>1 mark</p> <p>1 mark</p>
			40 marks