2010 Science

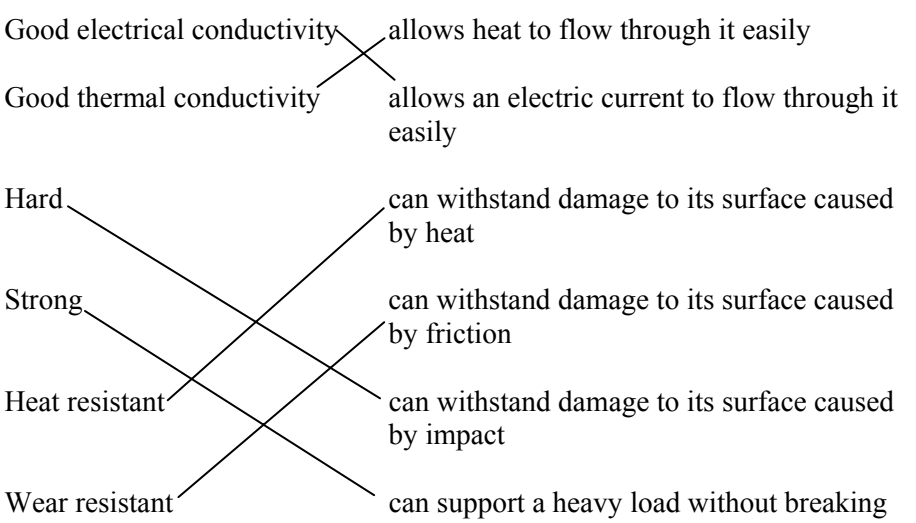
Standard Grade Credit

Finalised Marking Instructions

Credit Level
Marking Scheme

Please note that **FRACTIONAL** marks should **NOT** be awarded for responses to questions on this paper.

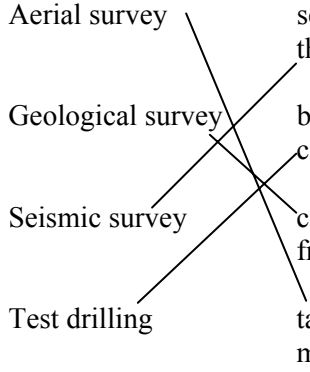
				Space for Notes
1	**(a)**	Idea it is addictive	**KU1**	
	(b)	Idea of prevents gas exchange/lung cancer/reduces/stops oxygen getting in (to blood)	**KU1**	Not: stops air getting in prevents self-cleaning mechanism blocks lungs/air sacs
	(c)	Haemoglobin	**KU1**	
2		Idea that mucus traps dust/dirt etc Idea that cilia sweep dirty mucus 1 mark each	**KU2**	
3	**(a)**	X	**KU1**	
	(b)	Heron	**KU1**	

			Space for Notes
4	Any **two** from Repeat or repeat and average More ages/older/younger/wider age range More men/people Use women (as well) Measure over a longer time any two, 1 mark each	**PS2**	
5	 all 5 correct 3 marks 3, 4 correct 2 marks 1, 2 correct 1 mark	**KU3**	

				Space for Notes
6	**(a)**	To protect the local environment	**PS1**	
	(b)	Any **two** from Fold flat Easy to transport Reliable Simple to operate Can be recycled Uses heat/energy from the sun Idea of cleaning water	**PS1**	
	(c)	Idea of traps heat (absorbed by pot)	**PS1**	
	(d)	Kills (disease-causing) parasites	**PS1**	
7	**(a)**	Pie chart 1 Idea of flowers are closer together and bees journeys are shorter	**PS1**	
	(b)	160.5 2 marks Correct total (963) 1 mark Wrong total divided correctly by 6 1 mark	**PS2**	160 161 } rounding answer − 1 mark 160·3 correct total − 1 mark

					Space for Notes
	(c)		Any **two** from Movement or example Waste Respiration Heat Not eating all the animal/plant or example Reproduction Growth	**KU2**	Not: feeding/death
8	**(a)**		Any **two** from As power (rating) increases, cross-section increases (or vice versa) As power rating increases, maximum safe current increases (or vice versa) As cross-section increases, maximum safe current increases (or vice versa) 1 mark each	**PS2**	Power rating: accept power/wattage/watts not: W Maximum safe current: accept maximum current safe current not: current amps A Do not accept answers relating to fuse ratings
	(b)	**(i)**	1.25	**PS1**	
		(ii)	6	**PS1**	
	(c)		3	**KU1**	

				Space for Notes
9	**(a)**	Any **two** from Loss of production Cost of replacement parts/repair Cost of protection Cost of labour 1 mark each	**KU2**	
	(b)	Greasing or oiling or lubrication (or examples)	**KU1**	Apply cancelling errors Eg oiling and painting − 0 marks
	(c)	Anodising	**KU1**	
	(d)	Zinc	**KU1**	
10		Ammonia Nitrogen monoxide Oxidising tower Nitrogen dioxide Water 5 correct 2 marks 3/4 correct 1 mark 0/1/2 correct 0 marks	**PS2**	

				Space for Notes
11	**(a)**	 All 4 correct 3 marks 2/3 correct 2 marks 1 correct 1 mark	**KU3**	
	(b)	(fractional) distillation	**KU1**	Fractioning/Fractionating/distilling/ Refining/Fractionising } Accept Not refinery
12		Any **two** from Strong Lightweight/light Corrosion resistant Wear-resistant/hard wearing/durable/durability 1 mark each	**KU2**	<u>Not</u> hard

				Space for Notes
13	**(a)**	200	**KU1**	
	(b)	Longer	**KU1**	
14	**(a)**	6 months	**PS1**	
	(b)	95	**PS1**	
	(c)	Sickness and headache	**PS1**	
15	**(a)**	Idea of: As mass (hanging on spring) increases, the stretch increases (or vice versa) Idea of: As the width (of the spring) increases, the stretch decreases (or vice versa) 1 mark each	**PS2**	
	(b)	1.7	**PS1**	
	(c)	Any value **between** 2·4 and 5.5	**PS1**	

						Space for Notes
16	Cold and hot		both required	1 mark	**KU2**	
	Heated and steam		both required	1 mark		
17	**(a)**	A and C (both required)			**KU1**	
	(b)	Right atrium (auricle)			**KU1**	
	(c)	Has to pump blood all round the body/further			**KU1**	Not higher pressure
18	**(a)**	Capillary			**KU1**	
	(b)	Veins			**KU1**	
19	**(a)**	Fungi/fungus			**KU1**	Apply cancelling answer for fungus and hazel trees
	(b)	A (producers)			**KU1**	
	(c)	C (population)			**KU1**	
	(d)	More stable/other things for animals to eat etc			**KU1**	

				Space for Notes
20	**(a)**	Idea of: The percentage drinking (more than the weekly limit) is higher in males (than females) (or vice versa) The percentage drinking (more than the weekly limit) decreases with age (or vice versa)	**PS2**	
	(b)	Label and scale on y-axis 1 mark Legend and labels (or key) on x-axis 1 mark Bars drawn correctly within ½ small square 1 mark	**PS3**	Not tolerance of +/- ½ square If only half the graph paper is used. Accept percentage or % in label
	(c)	26 units 2 marks 1 mark for correctly identifying 5 units of alcohol over limit	**PS2**	
21	**(a)**	4 (carbon monoxide)	**KU1**	
	(b)	3 (ozone)	**KU1**	
	(c)	6 (sulphur dioxide)	**KU1**	

				Space for Notes
22	**(a)**	green	**PS1**	
	(b)	(leaves) yellow, (leaf) bases red, smaller (leaves) any two, 1 mark	**PS1**	Apply cancelling errors if information about roots and/or height is given
	(c)	4 (magnesium)	**PS1**	
	(d)	D	**PS1**	
23	**(a)**	40 2 marks 500 1 mark $\frac{20000}{500}$ 1 mark	**PS2**	Accept correct answer from space for working Ignore transcription errors
	(b)	60 2 marks (1500 – 600) = 900 1 mark $\frac{900}{1500} \times 100$ 1 mark	**PS2**	Accept correct answer from space for working Ignore transcription errors

					Space for Notes
24		y-axis title	‘mass’ **and** unit (g)		Accept ‘temp’ for temperature
	and	x-axis title/unit	‘temperature’ **and** unit (ºC)	1 mark	
		y-axis	linear scale from 0 to 80		
	and	x-axis	linear scale from 0 to 100	1 mark	
	allow transposed axes				
	All 6 points correct for each line **and** lines labelled or key			1 mark	Accept shortened labels eg pot chloride Not initials only
	allow +/-half box if scale is 1 box/1ºC no tolerance if smaller scale is used				
			Total	**KU40** **PS40**	

[END OF MARKING INSTRUCTIONS]