



2012 Science

Standard Grade Foundation

Finalised Marking Instructions

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2012 Science – Standard Grade

Foundation Level

Marking Scheme

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

Please note that where a question specifies circling or underlining, other forms of clearly indicating a response are acceptable.

		Space for Notes
1	(a) 20	PS1
	(b) Oil and refining	PS1
2	(a) Windpipe Lung Heart All correct, 2 marks 1 or 2 correct, 1 mark	KU2
	(b) Any one from (Cigarette) smoke/smoking/tar/nicotine Solvent (abuse)/aerosol Factory fumes Car exhaust fumes Carbon monoxide Dust/asbestos	KU1 Not: carbon dioxide tobacco/cigarettes alcohol pollution

		Space for Notes
3	<p>(a) Any one from</p> <p>(Cavity) wall insulation Double glazing Loft/roof insulation Lagging Carpets Curtains Draught-proofing</p>	<p>KU1</p> <p>Not: close the windows/doors insulation</p>
	<p>(b) Any one from</p> <p>Turn thermostat down/reduce amount of heating being used Showers instead of baths Switch off appliances/lights Don't keep things on standby Change his energy supplier Low energy bulbs Close the windows/doors Use solar panels/wind turbine/ground source heat</p>	<p>KU1</p> <p>Not: use an energy meter use less energy use less electricity</p>
4	<p><u>gloss</u></p> <p><u>eggshell</u> <u>shiny</u> (finish) <u>Vinyl Matt</u></p> <p>All correct, 2 marks 2 or 3 correct, 1 mark</p>	<p>PS2</p>

			Space for Notes
5	(a)	live (wire)	KU1
	(b)	earth (wire) <u>and</u> fuse, both required	KU1
6	(a)	(i) Sun(light)	KU1
		(ii) (plant) plankton → mussel → cod → walrus or (plant) plankton → cockle → cod → walrus	KU1
	(b)	Light, water flow rate, wind speed, pH, humidity, rainfall, oxygen (content), moisture/water (content)	KU1
			Not: temperature/heat shelter/space/habitat climate/weather food/lack of food predators/hunting people pollution/deforestation/other effect of human activity
7		C	KU1
8	(a)	2 (heart)	KU1
	(b)	3 (blood)	KU1

				Space for Notes	
9	(a)	1 and 2	Both required	PS1	
	(b)	Idea of effect of: size/weight/type/shape of vehicle size of wheels changing the car/ difference in cars (comparing) the car and the lorry		PS1	Not: what car is quicker (no factor stated or implied) which car the car
10	(a)	Any one from Plastic Metal Food waste Cloth Paper/card		KU1	Not glass (given in question) named materials eg tin named objects eg cans
	(b)	(i)	Idea that it can be used again	KU1	
		(ii)	Any one from Cloth/named cloth (eg cotton) Plastic/named plastic (eg polyester) Metal/named metal (eg aluminium) Paper/card	KU1	Not glass (given in question) named objects eg bottles, boxes, tins

		Space for Notes
11	<p>(a) Any one from</p> <ul style="list-style-type: none"> Smoke Car exhaust fumes CFCs Sulphur dioxide Carbon monoxide Factory fumes Etc 	<p>KU1</p> <p>Not pollution carbon dioxide gas</p> <p>a gaseous pollutant must be implied eg not “chemicals”, “factories”</p>
	<p>(b) Any one from</p> <ul style="list-style-type: none"> Oil Industrial/toxic waste Pesticides Fertilisers Sewage/human waste Acid rain 	<p>KU1</p> <p>Not rubbish/litter/household waste pollution</p>

					Space for Notes
12	(a)	(i)	85	KU1	
		(ii)	935 or 9.35	PS1	Accept carry forward from wrong answer in (a)(i) Ignore units
	(b)	(i)	Northpower 17 Southpower 14 Westpower 12 Eastpower 10 8 correct, 2 marks 5, 6 or 7 correct, 1 mark	PS2	Accept any order Full names of suppliers required
		(ii)	3 bars correct, height and labels 2 marks 2 bars correct, height and labels 1 mark	PS2	Full labels or labels/key required
13	(a)		1	KU1	
	(b)		6	KU1	
	(c)		3	KU1	

				Space for Notes
14	(a)	(i) Any two from (crude) oil coal (natural) gas peat	KU1	
		(ii) Idea of: finite/non-renewable/will run out to make supplies last longer it takes millions of years for them to form	KU1	
	(b)	Any one from Solar/sun Hydro Tidal Water Waves Geothermal Etc	KU1	Not wind (given in question) light nuclear
	(c)	(i) Increases	PS1	
		(ii) Any value <u>between</u> 500 and 600	PS1	

			Space for Notes
15	air vent upper chamber food entrance	PS2	
	All correct, 2 marks 1 or 2 correct, 1 mark		
16	(a) Tulip	PS1	
	(b) Daffodil	PS1	
	(c) Any one of: As size (of bulb) increases, depth (of planting) increases (or vice versa) The depth (of planting) is three times the size (of the bulb) (or vice versa)	PS1	
	(d) Any value between 9 and 15	PS1	
17	(a) 20 to 20 000	PS1	
	(b) Ultrasonic	PS1	
	(c) Too high-pitched/it is in the ultrasonic/ultrasound (range)	PS1	Not: high-pitched too high
	(d) (up to) five kilometres (away)	PS1	

			Space for Notes
18	<p>Use of material</p> <p>steel girders</p> <p>copper wiring</p> <p>aluminium saucepan</p> <p>PVC drain pipes</p>	<p>Property of material</p> <p>resistance to corrosion</p> <p>thermal conductivity</p> <p>electrical conductivity</p> <p>strength</p> <p>All correct, 2 marks 1 or 2 correct, 1 mark</p>	KU2
19 (a)	3 (anorexia) and 6 (heart disease)		KU1 Accept any order
(b)	5 (sweating)		KU1

				Space for Notes	
20	A			KU1	
21	(a)	25		PS1	
	(b)	40		PS1	
22	(a)	All points correctly plotted $\pm 1/2$ small square All points joined, as plotted	1 mark 1 mark	PS2	Ignore extrapolation eg to (0,0) and (70,0) Not bar graph
	(b)	40		PS1	
23	(a)	decreases		PS1	
	(b)	stays the same		PS1	

[END OF MARKING INSTRUCTIONS]