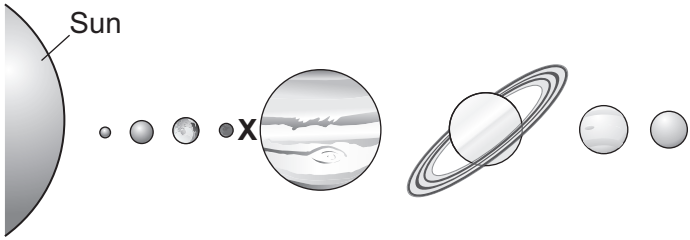


Question	Answer	Marks	Further Information
1		3	<p>all four correct = 3 marks</p> <p>two or three correct = 2 marks</p> <p>one correct = 1 mark</p> <p>if two lines from one nutrient and one is incorrect = 0 marks for that nutrient</p>
Question	Answer	Marks	Further Information
2(a)	(idea there are) (magnetic field) lines with arrows around the magnet	1	Ignore there is N or there is S or there is S and N on the magnet
2(b)	magnet nickel coin	1	<p>Both correct for the mark</p> <p>more than two answers circled = 0 marks</p> <p>Accept any indication of the correct answer, e.g. ticking or underlining, but circling takes precedence</p>

Question	Answer	Marks	Further Information
3(a)	glucose + oxygen → water + carbon dioxide	2	reactants correct in any order = 1 mark products correct in any order = 1 mark Ignore carbohydrate or sugar
3(b)(i)	mitochondria	1	more than one answer circled = 0 marks Accept any indication of the correct answer, e.g. ticking or underlining, but circling takes precedence
3(b)(ii)	needs more energy to contract	1	Ignore just needs energy Accept needs more energy to do more work Accept needs more energy to move

Question	Answer	Marks	Further Information
4(a)(i)	14	1	
4(a)(ii)	exothermic and (idea that) there is a temperature increase	1	Both correct for the mark
4(b)	Any two from temperature increases rapidly between 0 and 20s temperature increases less rapidly between 20 and 50s temperature constant after 50 seconds	2	each correct answer = 1 mark Accept the rate of temperature increase decreases with time = 2 marks

Question	Answer	Marks	Further Information
5(a)	a rock that is smaller than a planet	1	more than one answer ticked = 0 marks Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence
5(b)(i)	 <p>The diagram shows the Sun on the left, followed by several planets in order of increasing distance from the Sun. An 'X' is placed between the orbits of Mars and Jupiter, representing the asteroid belt. The planets shown include Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and Neptune.</p>	1	Accept X between the orbits of Mars and Jupiter even if touching one of the planets
5(b)(ii)	(idea that) asteroids formed when the planets formed	1	Accept asteroids are left over (rocks) when the planetary system was formed (so will be near the planets)
5(c)(i)	25 February in the year 1892	1	more than one answer ticked = 0 marks Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence
5(c)(ii)	Cybele1861E	1	

Question	Answer	Marks	Further Information
6(a)	<p>any two from</p> <p>(idea) that Mia has all the equipment required</p> <p>the number of turns can be increased</p> <p>there is one independent variable</p> <p>the number of paper clips can be counted</p> <p>there is one dependent variable</p> <p>(idea that) Mia has already pretested or the electromagnet attracts paper clips</p> <p>there are control variables or the cell remains the same</p>	2	each correct answer = 1 mark
6(b)	<p>any one from</p> <p>yes (ticked) and (explanation) because up to 8 turns the number of paper clips increases</p> <p>or</p> <p>no (ticked) and (explanation) because after 8 turns the number of paper clips remain the same</p>	1	

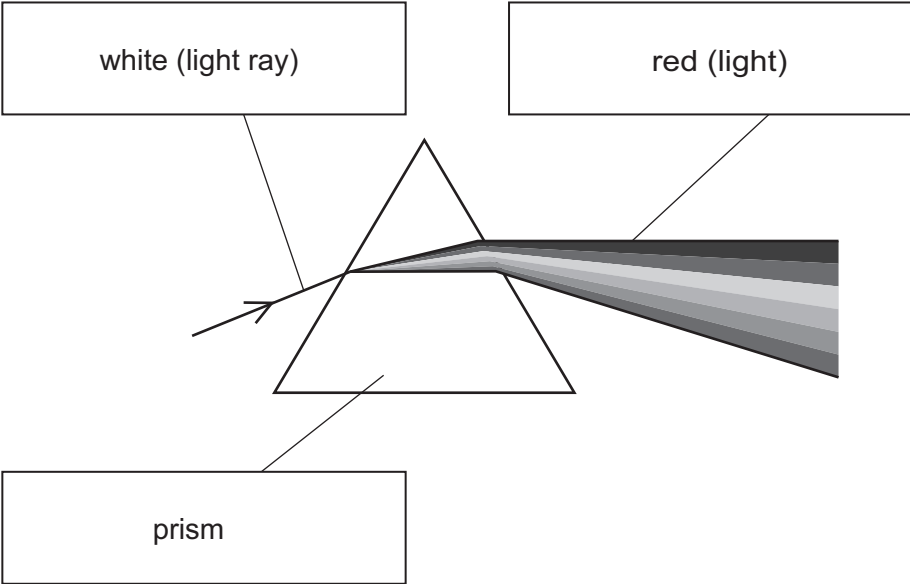
Question	Answer	Marks	Further Information
6(c)	current in the coil or number of cells material of the core/rod	2	each correct answer = 1 mark Accept if soft or hard magnetic material is used for the core/rod or if there is a core/rod
Question	Answer	Marks	Further Information
7(a)	A	1	Accept A circled in the question or in the table, but answer line takes precedence
7(b)	80 (°C)	1	

Question	Answer	Marks	Further Information
8(a)	oil, coal, (natural) gas and nuclear are non-renewable non-renewables make up 86%	2	each correct answer = 1 mark Accept correct named non-renewables add up to over 50% Accept oil, coal, (natural) gas and nuclear make up 86% = 2 marks Accept renewables is only 14% = 2 marks Accept renewables is 100% – 86% = 2 marks
8(b)(i)	any one from wind tidal	1	Accept other renewable resources, e.g. hydroelectric or bioenergy or biomass or ocean currents
8(b)(ii)	any one from generate electricity turn a turbine heating buildings bathing	1	Accept other suitable uses of the very hot water, e.g. cooling systems

Question	Answer	Marks	Further Information
9(a)	identifies hazards (of working with blood) and how to reduce (the hazards)	1	
9(b)	(person) C (explanation) red blood cell count is lower than normal or has the lowest red blood cell count	2	each correct answer =1 mark Ignore red blood cell count is not normal
9(c)	(component) plasma (function) carries (dissolved) nutrients or carries hormones or carries (dissolved) carbon dioxide	2	each correct answer = 1 mark Accept suitable alternative answers, e.g. platelets, clot blood to stop bleeding

Question	Answer	Marks	Further Information
10(a)	water	1	Ignore liquid
10(b)	only contains sodium chloride or only contains one substance or only contains one compound	1	Do not accept only contains one element

Question	Answer	Marks	Further Information
11(a)	A and C	1	more than one answer circled = 0 marks Accept any indication of the correct answer, e.g. ticking or underlining, but circling takes precedence
11(b)	angle of incidence = angle of reflection	1	Accept $i = r$ Accept angle between normal and incident ray = angle between normal and reflected ray
Question	Answer	Marks	Further Information
12	electrostatic attraction or positive nucleus attracts negative electron	1	Accept protons for nucleus Note protons attract electrons is not sufficient

Question	Answer	Marks	Further Information
13	 <p>The diagram shows a triangular prism with a light ray entering from the left. The ray is labeled 'white (light ray)'. As it passes through the prism, it is dispersed into a spectrum of colors. The top of the spectrum is labeled 'red (light)' and the bottom is labeled 'prism'.</p>	2	all three correct = 2 marks one or two correct = 1 mark
Question	Answer	Marks	Further Information
14(a)	stop-clock or stop-watch	1	Accept clock or timer
14(b)	exercise increases number of breaths in one minute	1	Accept breathing rate increases after exercise

Question	Answer	Marks	Further Information
15(a)(i)	blue and red	1	
15(a)(ii)	2	1	
15(a)(iii)	pencil	1	Do not accept pen Ignore ruler
15(b)	cannot see the 'dots' on the chromatography paper	1	

Question	Answer	Marks	Further Information
16(a)	yes ticked and (idea of) same moment on each side of the pivot	1	if no ticked = 0 marks for the question Accept evidence of a calculation, e.g. $3 \times 4 = 2 \times 6$
16(b)	no ticked and (idea of) the area is different	1	if yes ticked = 0 marks for the question Accept evidence of a calculation, e.g. $4000 \div 2000$ is not the same as $4000 \div 400$
16(c)	no ticked and (idea of) unbalanced forces	1	if yes ticked = 0 marks for the question Accept thrust is greater than air resistance or the aeroplane is accelerating