

SCIENCE

1113/01

Paper 1

October 2016

MARK SCHEME

Maximum Mark: 50

This document consists of 10 printed pages.

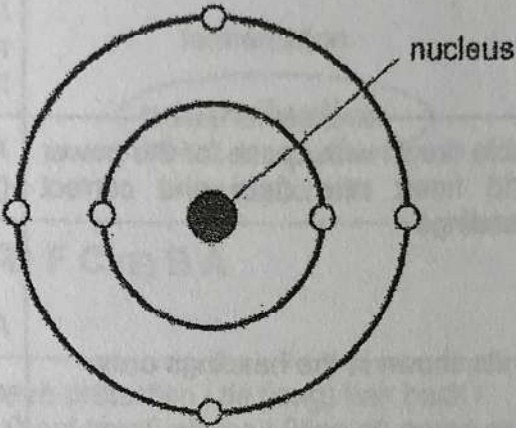


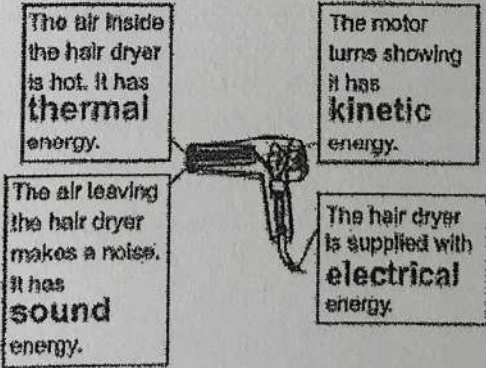
Question number	1		
Part	Mark	Answer	Further Information
	4	<p>organ</p> <p>life process</p>	<p>each correct link = 1 mark</p> <p>Ignore any links from muscle</p> <p>if more than one link for an organ = 0 marks for that organ</p>
Total	4		

Question number	2		
Part	Mark	Answer	Further Information
(a)	1	gravel	Accept bottom layer
(b)	1	10 (cm ³)	
(c)	1	clay and higher up (the measuring cylinder) / above silt	<p>must have both clay and explanation for one mark</p> <p>Accept larger particles nearer the bottom</p> <p>Accept clay (floats) on top (of silt)</p> <p>Accept reverse argument</p>
(d)	2	<p>Sandy soils have more sand particles than clay soils.</p> <p>Between the sand particles there are large air spaces.</p> <p>Sandy soils are less likely to become waterlogged.</p>	<p>all correct = 2 marks</p> <p>two correct = 1 mark</p> <p>one correct = 0 marks</p> <p>Accept other indication of correct answer e.g. ticking but circle takes precedence</p>
Total	5		

Question number	3		
Part	Mark	Answer	Further Information
(a)	1	A B C D E F	Accept other indications of correct answer e.g. underlining or ticking but circle takes precedence more than one letter circled = 0 marks
(b)	1	A B C D E F	Accept other indications of correct answer e.g. underlining or ticking but circle takes precedence more than one letter circled = 0 marks
(c)	1	A B C D E F	Accept other indications of correct answer e.g. underlining or ticking but circle takes precedence more than one letter circled = 0 marks
(d)	1	A B C D E F	Accept other indications of correct answer e.g. underlining or ticking but circle takes precedence more than one letter circled = 0 marks
Total	4		

Question number	4			
Part	Mark	Answer		Further Information
(a)	2	brown hair colour	✓	three correct ticks = 2 marks two correct ticks = 1 mark one correct tick = 0 marks three correct ticks and one incorrect = 1 mark two incorrect ticks = 0 marks Accept other indications of correct answer but ticks take precedence
		green eye colour	✓	
		her gender (female)	✓	
		playing the piano		
		speaking French and Italian		
(b) (i)	1	nucleus		Accept chromosomes / genes / DNA / RNA
(ii)	2	any two from egg / ovum sperm (idea of) fertilisation		Accept female gamete Do not accept ovule for egg Accept male gamete Accept when gametes / sex cells / reproductive cell = 1 mark fuse / join together / form zygote = 1 mark
Total	5			

Question number	5		
Part	Mark	Answer	Further information
(a) (i)	1	F	Accept fluorine
(ii)	1	Li	Accept lithium
(iii)	1	Mg	Accept magnesium
(b)	2		<p>two electrons on inner ring = 1 mark</p> <p>four electrons on the outer ring = 1 mark</p> <p>Accept x or circles or e</p>
Total	5		

Question number	6		
Part	Mark	Answer	Further Information
	2		<p>four correct = 2 marks</p> <p>two or three correct = 1 mark</p> <p>one correct = 0 marks</p>
Total	2		

Question number	7		
Part	Mark	Answer	Further information
(a)	1	(body) mass / (body) temperature / distance / time (taken) / speed / recovery time / breathing rate	<p>Accept (body) weight / BMI</p> <p>Accept how fast she breathes / how long she cycles / volume of air she breathes / amount of oxygen taken in.</p> <p>breathing is not sufficient</p> <p>Ignore reference to calories / reference to energy / pulse rate / heart rate / body fat</p>
(b)	3	<p>table drawn with space for the power and heart rate data and correct headings</p> <p>units shown in the headings only</p> <p>all data entered correctly</p>	<p>Accept power and heart rate (per minute)</p> <p>Do not accept heart beats</p> <p>Accept watts / W</p> <p>Accept beats per min / bpm / heart rate per minute</p>
Total	4		

Question number	8		
Part	Mark	Answer	Further Information
(a) (i)	1	sulfuric (acid)	Accept H_2SO_4
(ii)	1	burning condensation fermentation neutralisation oxidation	Accept other ways of indicating correct answer e.g. ticking or underlining but circle takes precedence more than one answer circled = 0 marks
(b)	2	D F C (E) B A	DFC in correct place = 1 mark BA in correct place = 1 mark
(c)	1	eye protection / tie (long) hair back / (heat proof) gloves / (idea of) apron or lab coat / standing up / use clamps or equivalent to hold apparatus	Accept common names for eye protection
Total	5		

Question number	9		
Part	Mark	Answer	Further Information
(a)	1	9.8	
(b)	1	2.8 (4 th box in first row)	
(c)	1	air resistance increases with area.	Accept ora answer must be a trend or pattern linking air resistance and area e.g. increased area = stronger air resistance
Total	3		

Question number	10		
Part	Mark	Answer	Further Information
(a)	3	<p>fruit</p> <p>method of dispersal</p> <p>animal dispersal</p> <p>explosive self-dispersal</p> <p>water dispersal</p> <p>wind dispersal</p>	<p>all four lines correct = 3 marks</p> <p>two or three lines correct = 2 marks</p> <p>one line correct = 1 mark</p> <p>two lines from a fruit = 0 marks for that fruit</p>
(b)	1	prevent overcrowding / reduce competition / colonise new territory / allow it to spread	Accept so plants can grow in other places
Total	4		

Question number	11		
Part	Mark	Answer	Further Information
	1	water and oxygen	both correct for the mark, either order Accept correct formulae H ₂ O and O ₂ Do not accept air
Total	1		

Question number	12		
Part	Mark	Answer	Further Information
(a)	1	A (and) B	both required, either order Accept Venus and Mercury
(b)	1	(A) Mercury (D) Mars (F) Saturn	all correct = 1 mark
(c)	1	The planet that takes the shortest time to orbit the Sun is A .	more than one letter = 0 marks Accept Mercury Accept other ways of indicating the answer e.g. circling or ticking but the answer in the sentence takes precedence
Total	3		

Question number	13		
Part	Mark	Answer	Further Information
(a)	2	yes no no no yes	five correct = 2 marks three or four correct = 1 mark one or two correct = 0 marks
(b)	1	The Moon can be seen from the Earth because light from the Sun is reflected .	Accept reflecting / reflect Do not accept refracted
Total	3		

Question number	14		
Part	Mark	Answer	Further Information
(a)	1	non-renewable (energy)	Ignore unrenewable
(b)	1	biomass coal crude oil (petroleum) geothermal solar wind	both required = 1 mark any incorrect answer = 0 marks
Total	2		