
SCIENCE

0846/01

Paper 1

April 2019

MARK SCHEME

Maximum Mark: 50

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Markers were instructed to award marks. It does not indicate the details of the discussions that took place at an Markers' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the End of Series Report. Cambridge will not enter into discussions about these mark schemes.

This document consists of **12** printed pages.

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Annotations and abbreviations

/ OR alternate responses for the same marking point

() the words or units in brackets do not need to be stated

Accept an acceptable response

Do not accept indicates an incorrect response that would contradict another otherwise correct alternative

Ignore indicates an irrelevant answer that is not creditworthy, however, full marks can still be achieved even with the answers that are ignored

ecf error carried forward, marks are awarded if an incorrect response has been carried forward from earlier working, provided the subsequent working is correct

ora or reverse argument

note provides extra information when necessary

Question	Answer	Marks	Further Information
1	I hear with my ear(s) . I see with my eye(s) . I smell with my nose . I taste with my tongue / taste buds .	1	all correct = 1 mark

Question	Answer	Marks	Further Information
2(a)	water can be cooled to make ice / water can be frozen (again)	1	answers must have the idea of freezing or cooling
2(b)	The melting point of ice is 0 (°C). The boiling point of water is 100 (°C).	2	each correct answer = 1 mark

Question	Answer	Marks	Further Information
3	any two from smooth clothes / tight clothes / streamline / aerodynamic hand/arm behind back low down / crouch down / bend the knees idea of one skater behind the other	2	each correct answer = 1 mark

Question	Answer	Marks	Further Information
4(a)	brain intestines liver lung stomach	1	more than one answer circled = 0 marks
4(b)	brain intestines liver lung stomach	1	more than one answer circled = 0 marks
4(c)	A B C D	1	more than one answer circled = 0 marks
Question	Answer	Marks	Guidance
5	any two from tuning fork moves / tuning fork vibrates (this makes) the water move / (this makes) the water vibrate / (this makes) waves in the water sound travels through/in water	2	
Question	Answer	Marks	Further Information
6	any two from needs to be flexible / (idea that) bones would stop it bending / easier to move the trunk (idea of) so it can drink water / suck water / pick up food / so it can take food / get food / pick up logs idea of no organs inside trunk to protect	2	

Question	Answer	Marks	Further Information
7(a)	7 (kg)	1	
7(b)	bar for D drawn for 5 kg	1	Accept + or – ½ small square tolerance
7(c)	any one from idea of best recycling campaign idea of most recycling facilities / different types of bins use more recyclable materials	1	Accept know about the importance of recycling / children or school care more about recycling
Question	Answer	Marks	Further Information
8(a)	the temperature at which a solid becomes a liquid	2	each correct answer = 1 mark
8(b)	A B C D E F	1	more than one answer circled = 0 marks



Question	Answer	Marks	Further Information
9(a)	A and B A and C B and D C and D	1	more than one answer circled = 0 marks
9(b)	correct temperature / heat / warm(th)	1	Accept oxygen
Question	Answer	Marks	Guidance
10(a)	A shadow is made because Blessy's head block(s) / stop(s) / obstructs the light. Blessy's head makes a shadow because it is made of opaque material.	2	each correct answer = 1 mark
10(b)	increases / gets bigger	1	
Question	Answer	Marks	Further Information
11(a)	heating/boiling	1	Accept evaporation
11(b)	cooling/condensing / condensation	1	
11(c)	salt or other substances dissolve in water/because the salt is in the solution	1	Accept salt is soluble / still bacteria in the water

Question	Answer	Marks	Further Information
12(a)	<p>any one from</p> <p>arrow between impala and grass circled</p> <p>arrow between impala and grass circled and impala circled</p> <p>impala circled</p> <p>grass and arrow and impala circled</p> <p>grass and arrow between impala and grass circled</p>	1	<p>If other organisms circled = 0 marks</p> <p>just grass circled = 0</p>
12(b)	it uses energy from the Sun	1	<p>Accept it makes its own food / produces food / can photosynthesise</p>
12(c)	it hunts/chases its food	1	

Question	Answer	Marks	Further Information
13(a)	<p>any two from</p> <p>Sun in different positions at different times (of the day)</p> <p>Sun moves from East to West / Sun moves from right to left</p> <p>Sun is highest at midday</p> <p>Sun rises in the morning / the Sun rises in the East</p> <p>Sun sets or Sun goes down in the evening / the Sun sets or Sun goes down in the West</p> <p>the Earth is rotating or spinning or turning or revolves (on its axis)</p>	2	
13(b)	<p>the Earth rotates / the Earth spins / the Earth turns / the Earth revolves (on its axis)</p>	1	

Question	Answer	Marks	Further Information
14(a)	carbon dioxide	1	more than one substance = 0 marks Accept CO₂
14(b)	<p>any two from</p> <ul style="list-style-type: none"> non-toxic / non-poisonous low density / makes a light container / lightweight malleable / can be made into correct shape insoluble / doesn't dissolve waterproof strong / unbreakable / not brittle / durable / hard high melting point / does not melt easily unreactive opaque / sunlight cannot get in recyclable 	2	

Question	Answer	Marks	Further Information
15(a)	(investigation number) 4 idea that number of books is lower / lower than the average	1	both correct = 1 mark
15(b)	any one from idea that books are different sizes idea that egg shells are not the same / she uses different egg shells each time	1	Accept books are different masses / books are different weight

Question	Answer	Marks	Further Information
16(a)		1	Accept 
16(b)	lights up	1	Accept any idea of the lamp working e.g. it will turn on
16(c)	paper plastic rubber silver wood	1	more than one answer circled = 0 marks

Question	Answer				Marks	Further Information
17(a)	temperature in °C	volume of water in beaker at start in cm ³	volume of water after 24 hours in cm ³	volume of water evaporated in cm ³	1	all volumes correct = 1 mark
30	50	45	5			
40	50	40	10			
50	50	30	20			
60	50	10	40			
70	50	0	50			
17(b)	yes and some use of the data from the table to show less water in the beaker				1	yes on its own or no = 0 marks Ignore general trends which do include data e.g. as it gets hotter the volume gets less
Question	Answer		Marks	Further Information		
18(a)	smaller / less height / no flowers / stems bend down / wilted / fewer stems		1	assume answer is about plant B unless stated e.g. plant A has flowers = 1 mark note answer must have comparison		
18(b)	take in light / take in energy		1	Accept photosynthesis / to make food / give the plant food / gas exchange		

Question	Answer	Marks	Further Information
19(a)	(causes) littering / disease / water pollution / destroy habitats / takes up space / attracts rats or insects	1	Accept descriptions of water pollution / harm marine life / washed into the sea / kills animals that eat it
19(b)	(some) metals are magnetic / (some) metals are attracted to a magnet / iron is attracted to a magnet / steel is attracted to a magnet / some of the rubbish is magnetic	1	Do not accept all metals are magnetic / all metals are attracted to a magnet / magnets will pull all metals Do not accept named non-magnetic metal attracted to magnet e.g. it attracts the aluminum
19(c)	air pollution / may kill animals / may kill plants	1	Accept higher level answers e.g. acid rain and (increased) greenhouse effect / global warming
Question	Answer	Marks	Further Information
20(a)	chalk and gasoline	1	both substances in either order = 1 mark any other substances = 0 marks
20(b)	gasoline floating on top of the water	1	Accept water floating on gasoline / two liquids / two layers