
SCIENCE

Paper 1

MARK SCHEME

Maximum Mark: 50

0846/01**April 2018**

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 **16** printed pages.



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	<table border="1"> <thead> <tr> <th>solid added to water</th> <th>does the solid dissolve?</th> </tr> </thead> <tbody> <tr> <td>iron</td> <td>(no)</td> </tr> <tr> <td>salt</td> <td>yes</td> </tr> <tr> <td>sand</td> <td>no</td> </tr> <tr> <td>silver</td> <td>no</td> </tr> <tr> <td>sugar</td> <td>yes</td> </tr> </tbody> </table>	solid added to water	does the solid dissolve?	iron	(no)	salt	yes	sand	no	silver	no	sugar	yes	2	<p>four correct = 2 marks</p> <p>two or three correct = 1 mark</p> <p>one correct = 0 marks</p>
solid added to water	does the solid dissolve?														
iron	(no)														
salt	yes														
sand	no														
silver	no														
sugar	yes														
Question	Answer	Marks	Further Information												
2	<p>Mass is measured in kilograms / kg / Kg.</p> <p>Force is measured in newtons / N.</p> <p>Weight is measured in newtons / N.</p>	2	<p>three correct = 2 marks</p> <p>one or two correct = 1 mark</p> <p>Do not accept n for newtons</p>												

Question	Answer	Marks	Further Information
3	<p>Food chains start with a producer.</p> <p>An animal that eats plants is called a consumer / herbivore.</p> <p>An animal that eats another animal is called a consumer / predator / carnivore.</p>	3	<p>each correct sentence = 1 mark</p> <p>Ignore plant for producer</p>
Question	Answer	Marks	Further Information
4(a)	The drum makes a higher pitch sound when the skin is (idea of) tighter / stretched / pulled .	1	answer must be comparative
4(b)	The drum makes a louder sound when (idea of) hit harder .	1	answer must be comparative


Question	Answer	Marks	Further Information
5(a)	condensation <input type="checkbox"/> evaporation <input type="checkbox"/> filtration <input type="checkbox"/> magnetic attraction <input checked="" type="checkbox"/>	1	more than one tick = 0 marks
5(b)	condensation <input type="checkbox"/> evaporation <input checked="" type="checkbox"/> filtration <input type="checkbox"/> magnetic attraction <input type="checkbox"/>	1	more than one tick = 0 marks
5(c)	condensation <input type="checkbox"/> evaporation <input type="checkbox"/> filtration <input checked="" type="checkbox"/> magnetic attraction <input type="checkbox"/>	1	more than one tick = 0 marks

5(d)	condensation <input type="checkbox"/> evaporation <input checked="" type="checkbox"/> filtration <input checked="" type="checkbox"/> magnetic attraction <input type="checkbox"/>	1	two correct ticks = 1 mark one tick or more than two ticks = 0 marks
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Question	Answer	Marks	Further Information
6(a)	A B C D E F	1	more than one answer circled = 0 marks
6(b)	A B C D E F	1	more than one answer circled = 0 marks
6(c)	A B C D E F or A B C D E F or A B C D E F	1	Accept B (instead of or as well as D) more than one answer circled other than B and D = 0 marks

Question	Answer	Marks	Further Information
7(a)	cable cover is plastic . wire is metal .	1	both required for 1 mark
7(b)	The cable cover is a good insulator (of electricity) .	1	

Question	Answer	Marks	Further Information
8	conducts electricity <input type="checkbox"/> conducts heat <input type="checkbox"/> insoluble in water <input checked="" type="checkbox"/> magnetic <input type="checkbox"/> melting point above 100°C <input checked="" type="checkbox"/> non-poisonous <input checked="" type="checkbox"/>	2	three correct = 2 marks one or two correct = 1 mark four boxes ticked with three correct = 1 mark four (with less than three correct), five or six ticked boxes = 0 marks

Question	Answer	Marks	Further Information
9(a)	When he opens the door he uses a pulling force. When he closes the door he uses a pushing force.	1	both correct for 1 mark
9(b)	add carpet under the door  make the door bigger make the door heavier put a mat in front of the door	1	more than one answer circled = 0 marks

Question	Answer	Marks	Further Information
10(a)	37 (°C)	1	
10(b)	17 (°C)	1	Accept ecf based on incorrect answer from (a)
10(c)	boils/turns into steam/stays at 100°C/stays at the same temperature	1	Accept the liquid becomes a gas / evaporates / turns into water vapour Accept it is at boiling point / (temperature) stops going any higher
10(d)	melted	1	Accept melting / melt(s)

Question	Answer	Marks	Further Information						
11(a)	C D A B	2	<p>four correct = 2 marks</p> <p>two or three correct =1 mark</p> <p>one correct = 0 marks</p>						
11(b)	<table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 50%;">8</td> <td style="text-align: center; width: 50%;">6</td> </tr> <tr> <td style="text-align: center;">↓</td> <td style="text-align: center;">↓</td> </tr> <tr> <td style="text-align: center;">spider</td> <td style="text-align: center;">insect</td> </tr> </table>	8	6	↓	↓	spider	insect	2	<p>each correct set of vertical answers = 1 mark either order</p> <p>Accept 8 and 6 for number of legs = 1 mark if no other marks awarded</p>
8	6								
↓	↓								
spider	insect								

Question	Answer	Marks	Further Information
12	A flower/petal B leaf/leaves C root/roots	1	all three correct = 1 mark

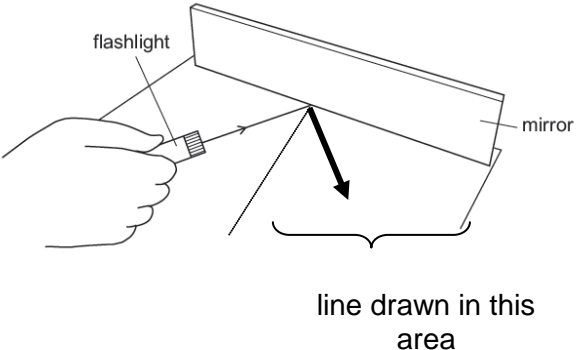
Question	Answer	Marks	Further Information
13	The Earth takes one year to orbit the Sun. The Earth spins on its axis as it orbits the Sun.	2	each correct answer = 1 mark Accept 365 days

Question	Answer	Marks	Further Information														
14	<table border="0" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 50%; border: none;">material</th> <th style="text-align: left; width: 50%; border: none;">description</th> </tr> </thead> <tbody> <tr> <td style="border: 1px solid black; padding: 5px;">gasoline</td> <td style="border: 1px solid black; padding: 5px;">flammable liquid</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">gold</td> <td style="border: 1px solid black; padding: 5px;">colourless gas</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">mercury</td> <td style="border: 1px solid black; padding: 5px;">green gas</td> </tr> <tr> <td style="border: 1px solid black; padding: 5px;">oxygen</td> <td style="border: 1px solid black; padding: 5px;">attracted to a magnet</td> </tr> <tr> <td style="border: none;"></td> <td style="border: 1px solid black; padding: 5px;">shiny solid</td> </tr> <tr> <td style="border: none;"></td> <td style="border: 1px solid black; padding: 5px;">silver liquid</td> </tr> </tbody> </table>	material	description	gasoline	flammable liquid	gold	colourless gas	mercury	green gas	oxygen	attracted to a magnet		shiny solid		silver liquid	4	<p>each correct line = 1 mark</p> <p>If two lines from a material then this is incorrect for this material</p>
material	description																
gasoline	flammable liquid																
gold	colourless gas																
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oxygen	attracted to a magnet																
	shiny solid																
	silver liquid																

Question	Answer	Marks	Further Information
15(a)	If the material is transparent I predict light will get out (of the hole) / light will pass through (the material).	1	Accept you will be able to see the light (from the flashlight)
15(b)	<p style="text-align: center;">light goes into our eyes</p> <p style="text-align: center;">light is reflected by our eyes</p> <p style="text-align: center;">light goes into the flashlight</p> <p style="text-align: center;">light is reflected by the flashlight</p>	1	more than one answer circled = 0 marks
Question	Answer	Marks	Further Information
16(a)	pollen (grain)	1	
16(b)	pollination	1	Ignore reproduction

Question	Answer	Marks	Further Information
17(a)	warmth/suitable temperature	1	Accept oxygen
17(b)	bar chart/(line or bar) graph/picture/drawing / diagram / photograph / poster	1	
17(c)	On day 4 the root and stem are the same (length). On day 5 the stem is longer or bigger than the root/the root is shorter or smaller than the stem.	2	answer must be comparative Accept on day 4 the root is 4 (cm) and the stem is 4 (cm) / root and stem are equal / root and stem are both 4 (cm) answer must be comparative Accept on day 5 the root is 5.6 (cm) and the stem is 5.9 (cm) / stem is 0.3 (cm) longer than the root

Question	Answer	Marks	Further Information
18(a)	In this position the magnets will repel . In this position the magnets will repel .	1	both correct for 1 mark
18(b)	south	1	Accept S
18(c)	aluminium comb copper pipe gold ring iron nail nickel coin steel paper clip	2	three correct = 2 marks two correct = 1 mark one correct = 0 marks four circled three correct = 1 mark four circled two or one correct = 0 marks five or six circled = 0 marks

Question	Answer	Marks	Further Information
19	 <p>flashlight</p> <p>mirror</p> <p>line drawn in this area</p>	1	<p>If any arrows drawn, they must point in the correct direction</p> <p>the line drawn must start at the mirror and original ray</p>