
SCIENCE

0846/01

Paper 1

October 2018

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.

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

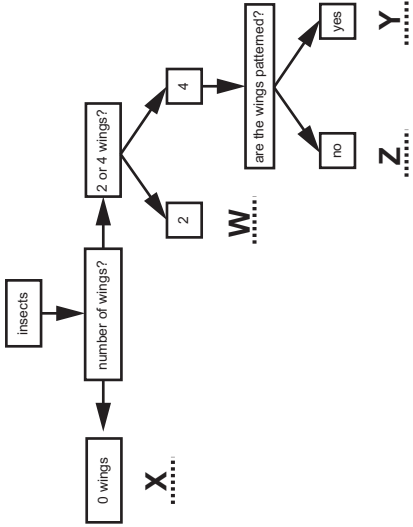
Do not accept indicates an incorrect response that would contradict another otherwise correct alternative

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(a)	 <pre> graph TD Insects[Insects] --> Wings[number of wings?] Wings --> Zero[0 wings] Wings --> TwoOrFour[2 or 4 wings?] Zero --- X[X.....] TwoOrFour --> Two[2] TwoOrFour --> Four[4] Two --- W[W.....] Four --> Patterned[are the wings patterned?] Patterned --> No[no] Patterned --> Yes[yes] No --- Z[Z.....] Yes --- Y[Y.....] </pre>	2	<p>all correct = 2 marks</p> <p>two or three correct = 1 mark</p> <p>one correct = 0 marks</p>
1(b)	<p>Does it have an eye?</p> <p>Does it have four legs?</p> <p>Does it have a mouth?</p> <p>Does it have a patterned body?</p> <p>Does it have a tail?</p>	1	<p>more than one circled = 0 marks</p>

Question	Answer	Marks	Further Information
2(a)	steel	1	
2(b)	transparent / to see through	1	
2(c)	strong	1	Accept hard Accept malleable
2(d)	irreversible reversible (idea that) you cannot unburn gasoline	1	both needed for a mark

Question	Answer	Marks	Further Information
3	any two of items collected can be recycled / made into something else reused reduces energy use / saves resources prevents or reduces pollution / reduces the amount of litter at landfill sites	2	

Question	Answer	Marks	Further Information
4	pollination fertilisation	2	any order each correct answer = 1 mark Accept growth

Question	Answer	Marks	Further Information
5(a)	sound (level) meter	1	Accept decibel meter
5(b)	The volume of sound is measured in decibels .	1	
5(c)	A high sound and a low sound are different in pitch .	1	

Question	Answer	Marks	Further Information
6(a)	(no) any two of seeds in B will (also) germinate (because) seeds need water or moisture to germinate (but) seeds do not need light to germinate	2	no mark for answer no, but needs to be correct for marks to be awarded Accept grow for germinate
6(b)	(idea that) seeds need warmth to germinate / it is (too) cold (in winter)	1	Accept seeds need the right or suitable temperature to germinate Do not accept there is less (sun)light / no (sun)light

Question	Answer	Marks	Further Information
7(a)	melting	1	
7(b)	(liquid wax) can be cooled (back into solid wax)	1	Ignore it can be reversed
7(c)	evaporation / boiling	1	


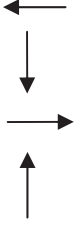
Question	Answer	Marks	Further Information
8(a)	turn one around / put the N(orth) and S(outh) together	1	
8(b)	any two of magnet not strong enough / magnet is weak paper clips not near to the magnet paper clips not made of magnetic material / paper clip material is not attracted to magnets / some of the paperclips are not magnetic / made of plastic / made of different materials / made from different metals / made out of a different named material e.g. aluminium	2	each correct answer = 1 mark

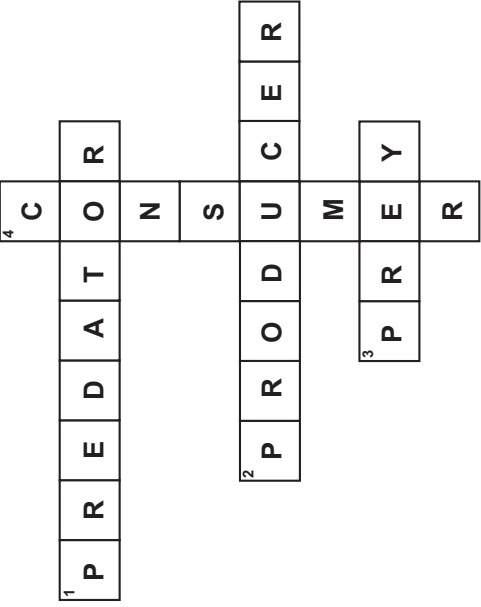
Question	Answer	Marks	Further Information
9(a)	light is blocked / sun(light) is blocked / Pierre or Mike is in the way of the light	1	Accept Pierre or Mike does not let the light through / Pierre is or Mike is opaque
9(b)	shadow A is shorter / shadow B is longer shadows are in different positions	2	Accept (the shadows are different) lengths / sizes / widths / thicknesses Accept (the shadows are in different) directions
9(c)	(idea that) made at different times in the day / the Earth has spun on its axis / the Earth spins on its axis	1	Accept the Earth rotates (on its axis)

Question	Answer	Marks	Further Information
10(a)	A heart B lung(s) (C) liver D stomach E brain F kidney(s)	2	five correct = 2 marks four correct = 1 mark one or two or three correct = 0 marks
10(b)	A B D E F	1	more than one answer circled = 0 marks

Question	Answer	Marks	Further Information
11	<p>any two from</p> <p>support</p> <p>protects</p> <p>grows</p> <p>idea of movement</p>	2	each correct answer = 1 mark

Question	Answer	Marks	Further Information
12(a)	<p>from top to bottom</p> <p>filter paper / filtering paper</p> <p>(filter) funnel</p> <p>beaker</p>	3	<p>each correctly labelled apparatus = 1 mark</p> <p>Do not accept just paper / just filter</p>
12(b)	chalk (and water)	1	Do not accept iron sulphate / magnesium sulphate
12(c)	iron sulfate and magnesium sulfate (solution and water)	1	<p>Accept iron and magnesium sulfate / magnesium and iron sulfate</p> <p>Do not accept chalk</p>

Question	Answer	Marks	Further Information
13	(idea of) orbit the green balloon (around the yellow balloon) / spin the green balloon keep the yellow balloon still / do not move the yellow balloon / keep the yellow balloon in (its) place	2	Accept Earth for green balloon Accept Sun for yellow balloon / keeps her left hand still Ignore she moves them around in circles / the Sun rotates on its own axis
Question	Answer	Marks	Further Information
14(a)	 not move	1	more than one answer circled = 0 marks
14(b)	 not move	1	more than one answer circled = 0 marks
14(c)	friction gravity kilogram mass newton	1	more than one answer circled = 0 marks

Question	Answer	Marks	Further Information
15	 <p>The crossword puzzle grid contains the following words:</p> <ul style="list-style-type: none"> 1. PREDATOR (horizontal) 2. PREDODUCER (vertical) 3. PREDARY (vertical) 4. CARNIVORE (vertical) 	3	<p>four correct = 3 marks</p> <p>two or three correct = 2 marks</p> <p>one correct = 1 mark</p> <p>Accept carnivore for clue 1</p>

Question	Answer	Marks	Further Information
16(a)	used different masses or different amounts of substances	1	
16(b)	salt	1	Accept 2 g of salt
16(c)	45 (seconds)	1	Do not accept incorrect units e.g. 45 minutes
16(d)	<p>mass of aspirin <input type="checkbox"/></p> <p>speed of stirring <input checked="" type="checkbox"/></p> <p>temperature of water <input checked="" type="checkbox"/></p> <p>time to dissolve <input type="checkbox"/></p> <p>volume of water <input checked="" type="checkbox"/></p>	2	<p>all three ticks correct = 2 marks</p> <p>two ticks correct = 1 mark</p> <p>one tick correct = 0 marks</p> <p>four ticks 3 correct = 1 mark</p> <p>four ticks 2 correct = 0 marks</p> <p>five ticks = 0 marks</p>