



Cambridge Primary Checkpoint

SCIENCE

0097/01

Paper 1

October 2024

MARK SCHEME

Maximum Mark: 40

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 a 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 has **16** pages. Any blank pages are indicated.

General guidelines on marking

Many descriptive answers can be expressed in a variety of ways. Professional judgement can be used in these cases, providing it matches the marking points and further information in the mark scheme.

Answers may have words spelt incorrectly. Credit is normally given for phonetically correct answers, unless the word has a scientifically different meaning. For example, where the answer should be antennae, credit will be given for antenna but not for anthen (too close to anther).

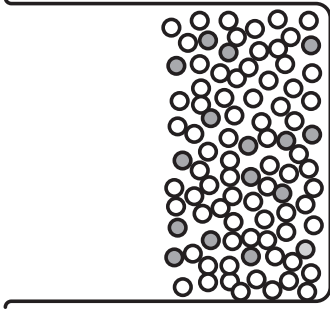
Only the science is being assessed so answers do not need to be grammatically correct. Significant figures will be indicated in the question or in the mark scheme.

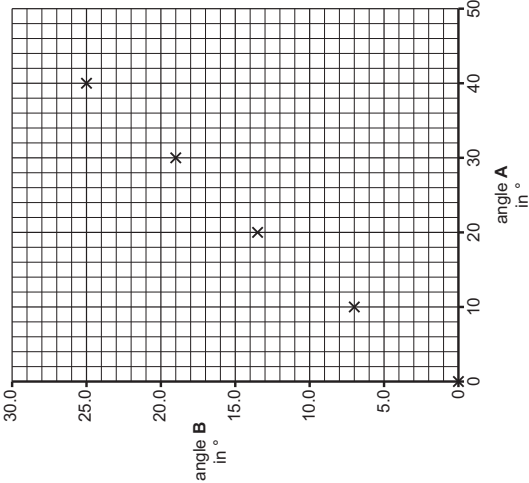
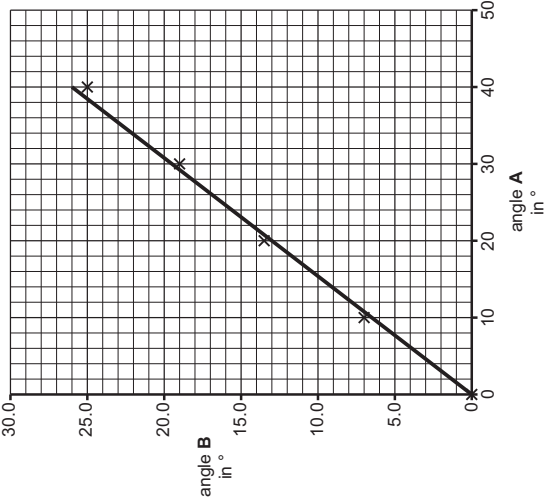
Unless specified all marking points are independent.

Annotations and abbreviations

/ or	alternate responses for the same marking point
() brackets	the words or units in brackets do not need to be stated, for example, (recycles or releases or provides) minerals = minerals scores the mark
<u>Underline</u>	exact word is required
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. Full marks can still be achieved even with answers that are ignored
Note	provides extra information when necessary
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; for example, as mass increases, volume increases could be written as mass decreases, volume decreases

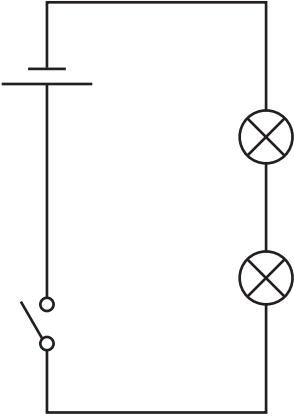
Question	Answer	Marks	Further Information
1(a)	lung(s)	1	Ignore alveoli
1(b)	oxygen	1	Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence more than one box ticked = 0 marks

Question	Answer	Marks	Further Information
2(a)	any one from reversible new product is not made it is a change of state	1	Accept (idea that) liquid can be changed back to a solid again Accept no new substance formed Ignore solid to liquid
2(b)	boiling	1	Do not accept evaporation / melting
2(c)	3rd box ticked 	1	Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence more than one box ticked = 0 marks
2(d)	any value in the inclusive range 1–37 (seconds)	1	Ignore any units

Question	Answer	Marks	Further Information
3(a)		1	all points plotted to $\pm$ one square Ignore bar chart
3(b)		1	straight line drawn through the points starting on the y-axis and continuing to at least 40° on the x-axis Accept 'dot to dot' drawn with straight lines between the dots Ignore extrapolation Accept ecf from plots in (a)

Question	Answer	Marks	Further Information
3(c)	16 (°)	1	Accept answers in the inclusive range 15.5 (°) – 16.5 (°) ecf from line on graph in (b) if answer outside the inclusive range
3(d)	bend or refract or change direction	1	Accept change in speed or change angle Ignore just ‘change’ or ‘move’ Do not accept reflect

Question	Answer	Marks	Further Information
4(a)	type of scientific enquiry research fair testing observing over time identifying and classifying pattern seeking example identify all the soils that absorb water look at the soils every day for a month use the internet to find out the names of different soils use the same amount of soil for each experiment group soils by colour	2	all four correct = 2 marks two or three correct = 1 mark one correct = 0 marks if more than one line drawn from a type of scientific enquiry to example then this is incorrect for that type of scientific enquiry Ignore any lines drawn from pattern seeking
4(b)	clay	1	Accept silt or water or air

Question	Answer	Marks	Further Information
5(a)	parallel (open) switch and cell and lamp(s)	2	each correct answer = 1 mark Ignore light Ignore wires Do not accept closed switch for switch Do not accept battery for cell Do not accept buzzers or any other incorrect components
5(b)		1	all correct components in a series circuit in any order = 1 mark Do not accept closed switch for switch

Question	Answer	Marks	Further Information
6(a)	any one from viruses fungi parasites	1	Accept pathogens Ignore named examples of bacteria or viruses or fungi or parasites Ignore insects or methods of transmission e.g. not washing hands
6(b)	thermometer	1	
6(c)	fish 5 60	1	all three correct for the mark Do not accept –5
6(d)	stomach acid	1	Accept hydrochloric acid or acid in stomach Ignore just ‘acid’ Do not accept tears or skin or mucus or methods of transmission e.g. not washing hands
6(e)	512	1	

Question	Answer	Marks	Further Information
6(f)	any one from isolate or stay away (from people) or quarantine do not prepare food/drinks for others do not swim in public pool/share baths wash hands do not share towels disinfect surfaces	1	Accept avoid physical contact Accept do not share food or do not share water bottles Ignore keep food covered or wash food Accept wear gloves or sanitise hands Accept wear a mask or cover mouth when coughing/sneezing Ignore just 'good hygiene' Ignore take medicine or get vaccinated

Question	Answer	Marks	Further Information
7(a)	(idea that) it moves down(wards)	1	Ignore position changes
7(b)	(gases have) mass	1	Accept weight or density
7(c)	prediction get close(r) together reason there is space between gas particles or gas particles are not touching	2	each correct answer = 1 mark Accept compressed or squeezed (together) or become (tightly) packed Accept collide more Accept (idea that gas) turns into a liquid or condenses Do not accept (particles) change size Accept gases can be compressed Accept they are far apart or they have (a lot of) space or are spread apart Note (idea that) particles are compressed because gases are compressible = 1 mark

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Question	Answer	Marks	Further Information
8(a)	cm or centimetres	1	Do not accept other units, e.g. m or meters or inches or feet
8(b)	142.5 (cm)	1	Ignore units
8(c)	(no) (idea that) the tallest person/Priya has the low(est)/slowest heart rate or (idea that) the smallest person/Mia has the high(est)/fastest heart rate	1	if yes = 0 marks Accept as the height increases the heart rate gets lower/slower/decreases Accept (idea that) some girls are tall and have slow heart rates Accept as the height decreases the heart rate gets higher/faster/increases Accept (idea that) some girls are short and have high heart rates Accept correct use of data to illustrate answer, e.g. Priya is 152 in height and heart rate is 60

Question	Answer	Marks	Further Information
9	pressure erosion sedimentation	2	all three correct = 2 marks one or two correct = 1 mark Ignore heat

Question	Answer	Marks	Further Information
10(a)	98	1	
10(b)	77	1	Ignore 147 – 70
10(c)	heat	1	Ignore thermal or temperature Do not accept electricity

Question	Answer	Marks	Further Information																		
11(a)	<table><tr><th>planet</th><th>distance in cm</th></tr><tr><td>Earth</td><td>(9.3)</td></tr><tr><td>Jupiter</td><td>48.4</td></tr><tr><td>Mars</td><td>14.2</td></tr><tr><td>Mercury</td><td>3.5</td></tr><tr><td>Neptune</td><td>(288.0)</td></tr><tr><td>Saturn</td><td>(88.9)</td></tr><tr><td>Uranus</td><td>179.0</td></tr><tr><td>Venus</td><td>6.7</td></tr></table>	planet	distance in cm	Earth	(9.3)	Jupiter	48.4	Mars	14.2	Mercury	3.5	Neptune	(288.0)	Saturn	(88.9)	Uranus	179.0	Venus	6.7	2	all five correct = 2 marks three or four correct = 1 mark one or two correct = 0 marks Accept 179
planet	distance in cm																				
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11(b)	0.02 cm	1	Accept any indication of the correct answer, e.g. ticking or underlining, but circling takes precedence more than one distance circled = 0 marks																		

Question	Answer	Marks	Further Information
12	any two from changes direction changes shape changes how fast it is moving gets hotter	1	Accept description of changing direction Ignore just 'moves' Accept changes speed Ignore just 'moves' Accept gains energy

Question	Answer	Marks	Further Information
13	false true true true true	2	all five correct = 2 marks three or four correct = 1 mark one or two correct = 0 marks

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