



Cambridge Primary Checkpoint

SCIENCE

0097/01

Paper 1

October 2023

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 **14** 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)	grass → shrimp → minnow → otter or grass → shrimp → minnow → gull	1	correct order and arrows pointing in the correct direction for the mark
1(b)	minnow or otter or gull or crab or terrapin	1	Ignore additional correct answers Do not accept periwinkle or shrimp or grass
1(c)	gull	1	Note more than one response = 0 marks

Question	Answer	Marks	Further Information
2(a)	bubbles or fizzes or gas (made) temperature decreases	2	each correct answer = 1 mark Ignore new substances made or carbon dioxide (made) or water (made) or product is formed Accept temperature changes Ignore just 'temperature' Ignore colour change or a solution is made or colourless solution made or change of state
2(b)	vinegar and baking soda	1	both needed in any order for the mark
2(c)	water	1	

Question	Answer	Marks	Further Information
3(a)	(ray of light) changes direction	1	Accept goes in opposite direction or goes in another direction Ignore just 'bounces'
3(b)	2 or two 3 or three	1	both answers correct for the mark
3(c)	any one from (idea of) increase size of mirror(s) move the mirrors closer together change the angle of the light/ray add another light source or add more light	1	Ignore just 'make the mirrors the same size' or change the size of the mirror(s) Do not accept move the mirrors further apart Accept change the direction of the light ray Ignore change the angle of the mirrors Ignore make the mirrors shinier or make the light brighter

Question	Answer	Marks	Further Information
4(a)	A and C	1	both needed in any order for the mark Ignore 10.2 and 15.2
4(b)	C (idea that) it cooled (very) quick(ly)	2	each correct answer = 1 mark Ignore grey or the biggest crystals or intrusive rock or named rock, e.g. granite Accept it was in contact with the atmosphere when being formed or it is an extrusive rock or it did not form underground Ignore named rock, e.g. basalt Ignore conditions were not correct for crystal formation

Question	Answer	Marks	Further Information
5(a)	<i>string</i> (idea of) wraps string around balloon/circumference or marking circumference on string or cutting string to the circumference <i>ruler</i> uses ruler to measure length of string (that goes around balloon)	2	string = 1 mark ruler = 1 mark Ignore just 'measure the balloon with the string' Ignore references to diameter or radius Do not accept wrap string around bottle or mark circumference of the bottle on string Ignore use a ruler to measure the balloon Ignore just 'measure the string'
5(b)	no unit for time or has not put min(utes) in heading (idea that) unit (for circumference) in body of table or cm in body of table	2	each correct answer = 1 mark Accept did not specify if the time was in hours/minutes/seconds or didn't write what time is measured in Accept unit (for circumference) next to numbers or cm next to numbers
5(c)	stomach	1	

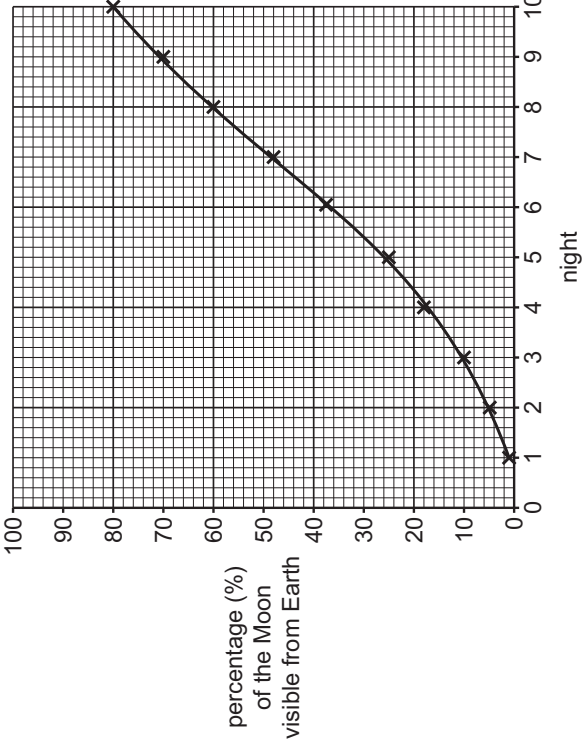
Question	Answer	Marks	Further Information
6(a)	any two from mass flows easily easy to compress fills (volume of a closed) container does not have a fixed shape low boiling point low melting point low density	2	each correct answer = 1 mark Accept has matter Accept it can flow Accept it can be squashed Accept does not have a fixed volume or fills up the space (in the container) Ignore other general statements, e.g. transparent or colour or odour or cannot be seen or cannot be touched or flammable or conductor or harmful
6(b)	chlorine is (pale) green	1	Accept one gas/chlorine is not colourless
Question	Answer	Marks	Further Information
7	B B	1	both answers correct for the mark

Question	Answer	Marks	Further Information
8(a)	circle or ellipse drawn around Earth	1	Accept circle around Earth with one or more Moons drawn Do not accept circles drawn around any other planets
8(b)	Uranus (and) Neptune	1	both needed in any order for the mark Do not accept Pluto

Question	Answer	Marks	Further Information
9(a)	heart	1	Ignore pump or any parts of the heart e.g. left ventricle
9(b)	artery or capillary	1	Accept arteries or capillaries or arterioles or venules Ignore vein
9(c)	transport waste	1	more than one box ticked = 0 marks Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence

Question	Answer	Marks	Further Information
10(a)	from solid to liquid	1	Ignore ice to water
10(b)	temperature at which a liquid becomes a gas/vapour	1	Ignore evaporates Ignore temperature at which a liquid boils
10(c)	liquid because (room) temperature/it/25°C is higher than the melting point and lower than the boiling point	2	liquid = 1 mark explanation = 1 mark Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence Accept (room) temperature/it is between the melting point and boiling point

Question	Answer	Marks	Further Information
11(a)	forces cannot be seen the arrow shows the direction of the force	2	each correct answer = 1 mark Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence three ticked and two correct = 1 mark three ticked and one correct = 0 marks more than three ticked = 0 marks
11(b)	(the box moves) to the right or box moves → (because) there is more force to the right or there is more force on one side or there is less force to the left or the forces are different or the forces are not balanced	2	each correct answer = 1 mark Accept (the box moves) in the direction of the bigger arrow = 2 marks Accept descriptions of arrow or line for force, e.g. larger arrow/line or line/arrow is longer Accept ideas of unbalanced forces e.g. applied force is greater (than friction) or thrust is greater (than air resistance) Ignore references to force of gravity

Question	Answer	Marks	Further Information
12(a)	 percentage (%) of the Moon visible from Earth night	2	all four points correctly plotted = 1 mark tolerance of $\pm \frac{1}{2}$ small square line through all the points by eye = 1 mark Accept ecf for line through all the points by eye from the plotted points shown on candidate's graph:
12(b)	(idea that) the percentage (of the Moon visible from Earth) increases	1	Accept moon is more visible or visibility of the moon increases

Question	Answer	Marks	Further Information
13(a)		1	all three correct = 1 mark if two lines from one description and one is incorrect = 0 marks
13(b)	stays the same increases	1	both answers correct for the mark

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