Cambridge Assessment International Education

Cambridge Primary Checkpoint

SCIENCE **0097/01**

Paper 1

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.

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 antena 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
Underline	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)	*string* (idea of) wraps **string** around **balloon/circumference** **or** marking **circumference** on **string** **or** cutting **string** to the **circumference** *ruler* 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

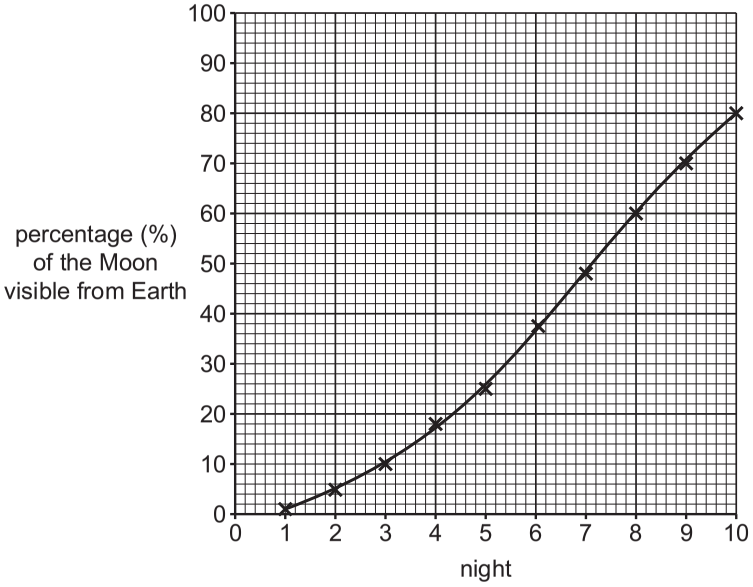
Question	Answer	Marks	Further Information
7	B B	**1**	**both** answers correct for the mark

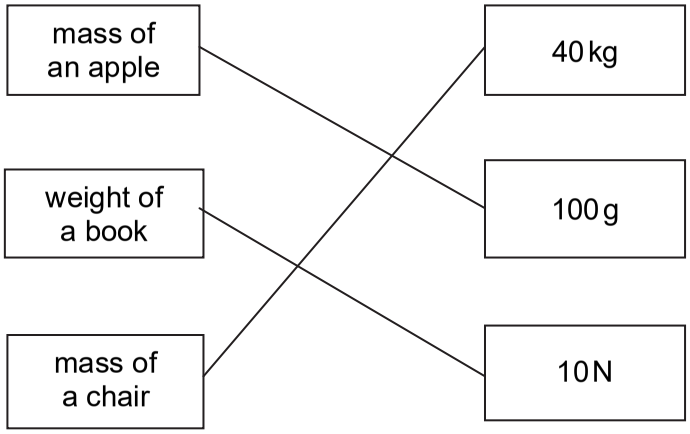
Question	Answer	Marks	Further Information
8(a)	circle **or** ellipse drawn around Earth	**1**	**Accept** circle around Earth with one or more Moons drawn **Do not accept** circles drawn around any other planets
8(b)	Uranus (and) Neptune	**1**	**both** needed in any order for the mark **Do not accept** 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)		**2**	**all four** points correctly plotted = 1 mark tolerance of ± ½ 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

BLANK PAGE