



Cambridge Assessment
International Education

Cambridge Primary Sample Test

For use with curriculum published in September 2020

Science Paper 2

Mark Scheme

Stage 6

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
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)	snake and wild cat	1	both needed for 1 mark Accept any order
1(b)	mouse, rabbit and goat	1	all three needed Accept any order
1(c)	grass → mouse → snake → kite	2	correct organisms in this or the reverse order = 1 mark arrows in the correct direction = 1 mark
1(d)	poison inside rabbit eaten by wild cat or jackal then eaten by lion	1	Accept poison moves through the food web or chain to the last animal

Question	Answer	Marks	Further Information
2(a)	A, C and E	2	all three correct = 2 marks two correct = 1 mark one incorrect = 1 mark maximum two incorrect = 0 marks Accept any order
2(b)	hydrogen / magnesium chloride	1	
2(c)	temperature change / releases heat	1	Accept colour change / gives off energy / makes a gas / it is irreversible / a new substance has been made, e.g. smoke, carbon dioxide

Question	Answer	Marks	Further Information
3(a)	weight	1	
3(b)	remains constant decreases increases	1	Accept any indication of the correct answer, e.g. underlining or ticking but circling takes precedence more than one answer circled = 0 marks
3(c)	weight and upthrust	1	either order

Question	Answer	Marks	Further Information
4(a)	melting is a reversible process because the liquid formed can be changed into a solid by cooling / freezing / reducing the temperature .	2	each correct answer = 1 mark
4(b)	both involve liquid changing into a gas or vapour	1	
4(c)	any two from evaporation takes place at all temperatures boiling only happens at one temperature / boiling only happens at the boiling point evaporation takes place at the surface of the liquid boiling takes place everywhere within the liquid	2	each correct answer = 1 mark

Question	Answer	Marks	Further Information																																				
5(a)	<table border="1"> <thead> <tr> <th>name of child</th><th>gender</th><th>age of child in years</th><th>heart rate in bpm</th></tr> </thead> <tbody> <tr> <td>Priya</td><td>female</td><td>11</td><td>67</td></tr> <tr> <td>Mia</td><td>female</td><td>11</td><td>70</td></tr> <tr> <td>Lily</td><td>female</td><td>10</td><td>73</td></tr> <tr> <td>Safia</td><td>female</td><td>10</td><td>72</td></tr> <tr> <td>Mike</td><td>male</td><td>11</td><td>78</td></tr> <tr> <td>Oliver</td><td>male</td><td>11</td><td>75</td></tr> <tr> <td>Chen</td><td>male</td><td>10</td><td>87</td></tr> <tr> <td>Ahmed</td><td>male</td><td>10</td><td>80</td></tr> </tbody> </table>	name of child	gender	age of child in years	heart rate in bpm	Priya	female	11	67	Mia	female	11	70	Lily	female	10	73	Safia	female	10	72	Mike	male	11	78	Oliver	male	11	75	Chen	male	10	87	Ahmed	male	10	80	3	heading for heart rate and units only in column heading and not in body of the table = 1 mark correct ages entered = 1 mark correct heart rates entered = 1 mark
name of child	gender	age of child in years	heart rate in bpm																																				
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5(b)	boys have a higher heart rate younger boys have a higher heart rate / younger girls have a higher heart rate	2	ora Accept ecf for trends from (a) ora Do not accept younger children have a higher heart rate																																				

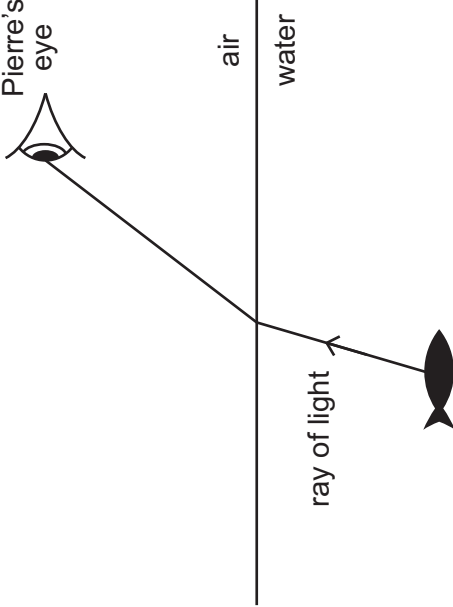
Question	Answer	Marks	Further Information
6(a)	humus	1	
6(b)	clay sand	2	each correct answer = 1 mark Accept loam or silt Accept air / rock or stones / (dead) animals Accept minerals / inorganic material

Question	Answer	Marks	Further Information
7(a)	balance	1	Accept scale(s) Ignore reference to electronic, lever arm or triple beam etc. Do not accept weighing balance or weighing scales
7(b)	no and the biggest / heaviest mass floats	1	
7(c)	make the cube hollow / make it boat shaped	1	Accept a diagram of the shape

Question	Answer	Marks	Further Information								
8(a)	use hot water / stir the mixture	1	Accept use heat Accept grind the salt up / use finer salt / use smaller grains of salt								
8(b)	<table><tr><td>particles of salt are not moving</td><td></td></tr><tr><td>water particles surround salt particles</td><td>✓</td></tr><tr><td>water particles are moving</td><td>✓</td></tr><tr><td>salt particles are in a regular pattern</td><td></td></tr></table>	particles of salt are not moving		water particles surround salt particles	✓	water particles are moving	✓	salt particles are in a regular pattern		2	each tick = 1 mark one incorrect tick = maximum 1 mark two incorrect ticks = 0 marks
particles of salt are not moving											
water particles surround salt particles	✓										
water particles are moving	✓										
salt particles are in a regular pattern											

Question	Answer	Marks	Further Information
9(a)	metamorphic igneous	2	each correct answer = 1 mark
9(b)	A and D	1	both needed in any order Accept other indications of the correct answer shown in the table but the answer line takes precedence any other letter = 0 mark
9(c)	any two from dead animals / dead plants trapped within sediment / buried by sediment soft parts decompose / soft parts rot away minerals replace the bones / mineralisation	2	each correct answer = 1 mark

Question	Answer	Marks	Further Information
10(a)	The percentage of carbon dioxide in exhaled air is greater / higher / more than in inhaled air. The percentage of water vapour in exhaled air is greater / higher / more than in inhaled air.	1	both sentences needed
10(b)	oxygen (in the lungs) has moved into the blood	1	Accept used in respiration

Question	Answer	Marks	Further Information
11(a)		1	straight line to the eye from the end of the first ray of light Note line should touch the eye Note any extra arrows shown in diagram must be correct
11(b)	condensation evaporation reflection refraction	1	Accept other ways of showing correct answer, e.g. underlining or ticking but circle takes precedence more than one answer circled = 0 marks

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