Cambridge Lower Secondary Checkpoint

SCIENCE	**1113/02**
Paper 2	**April 2021**
MARK SCHEME	

Maximum Mark: 50

Published

This mark scheme is published as an aid to teachers and learners, to indicate the requirements of the examination. However, we have not been able to adjust it to reflect the full range of answers that would have been seen as a part of the normal moderation and marking process, and it does not necessarily contain all the possible alternatives that might have arisen.
Cambridge will not enter into discussions about the mark scheme.

This document has **16** pages.

Question	Answer	Marks	Further Information
1(a)	growth / the fungus has increased in size	1	**Accept** reproduction / fungi have increased in number
1(b)	**any three from** irritability / responds to stimuli / sensitivity movement / locomotion nutrition / feeding excretion respiration	3	each correct answer = 1 mark **Accept** descriptions of the characteristics **Do not accept** breathing **Note** if more than one characteristic given in **(a) accept** the extra characteristics in **(b)** **Ignore** first characteristic given in **(a)** **Accept** growth or reproduction / breeding / produce offspring if not given in **(a)**

Question	Answer	Marks	Further Information
2(a)	Animals belonging to the same species are able to **breed / mate / reproduce** together to produce **fertile** offspring	**2**	each correct answer = 1 mark
2(b)	**any two from** (Siamese cats) have a (long) tail have smooth fur / sleek fur no stripes (on fur) have dark extremities (feet, ears, tail, faces) have more slender bodies / longer bodies	**2**	each correct answer = 1 mark **Note** assume the answer refers to Siamese cats if not specified **Accept ora** if Manx cat specified **Accept** tail length **Accept** smoothness of fur / density of fur **Accept (**fur) colour / different patterns (on fur) / darker (fur)

Question	Answer	Marks	Further Information
3(a)(i)	Burning a fuel in air is called **combustion**.	**1**	
3(a)(ii)	The reaction between an acid and an alkali is called **neutralisation**.	**1**	
3(b)	(calcium chloride) + **carbon dioxide** + **water**	**2**	each correct answer = 1 mark **Accept** either order

Question	Answer	Marks	Further Information
4	When white light enters a **prism** it is split into **seven** different colours. This process is known as **dispersion**. The coloured light is known as the colours of the **spectrum**.	**4**	each correct word = 1 mark

Question CSS01184	Answer	Marks	Further Information
5(a) 8Cp6 A	A (**B**) C D	1	more than **one** letter circled = 0 marks
5(b) 8Cp5 A	sodium chlori**de**	1	**Accept** $NaCl$ **Do not accept** sodium chlori**ne**

Question	Answer	Marks	Further Information
6(a)	ammeter	1	**Accept** ameter / ampmeter
6(b)	both 0.125 (A)	1	
6(c)	A_5 is 0.5 (A) A_6 is 0.75 (A)	2	each correct answer = 1 mark

Question	Answer	Marks	Further Information
7(a)	<table><tr><td>change in pulse rate in beats per minute</td></tr><tr><td>**30**</td></tr><tr><td>**33**</td></tr><tr><td>**29**</td></tr></table>	1	**all three** correct = 1 mark
7(b)	(no) he has **not** repeated them	1	if 'yes' box ticked = 0 marks
7(c)	**any two from** only tested three boys / has not tested all the boys in the school Mike has a high**er** pulse rate at the start than Oliver Mike has the high**est** pulse rate after exercise Mike has the high**est** change in pulse rate (the idea that) pulse rate and fitness are not (necessarily) linked	2	each correct answer = 1 mark **Accept** the sample size is very small / only tested his friends **Accept** cannot judge fitness by heart rate / pulse rate does **not** measure fitness

Question	Answer	Marks	Further Information
8(a)(i)	**D**	**1**	
8(a)(ii)	The reaction in experiment **B** is endothermic because **there is a temperature decrease**.	**1**	
8(b)	there is no reaction / no heat released **and** absorbed	**1**	**Accept** it is not exothermic **and** not endothermic **Accept** energy instead of heat

Question	Answer	Marks	Further Information
9(a)	34.5 (m)	1	**Note** any other value circled or two or more values circled = 0 marks for the question
9(b)(i)		3	*x*-axis labelled as time in s, sec or second(s) **and** *y*-axis labelled as distance in m or metre(s) = 1 mark other three points correct plotted within ½ small square = 1 mark smooth line of best fit = 1 mark **Note** if axes reversed = max 2 marks (points and line of best fit)
9(b)(ii)	20 (m)	1	**Accept** distance to within ±0.5 m **Accept ecf** from graph drawn

Question	Answer	Marks	Further Information
10	letter description of blood vessel A — artery taking deoxygenated blood to the lungs B ╳ artery taking oxygenated blood to the body C ╳ vein taking deoxygenated blood to the heart D ╳ vein taking oxygenated blood to the heart	3	**all four** correct = 3 marks **two** or **three** correct = 2 marks **one** correct =1 mark

Question	Answer	Marks	Further Information
11(a)	Na	1	**Accept** sodium
11(b)	Cu	1	**Accept** copper
11(c)	Zn	1	**Accept** zinc
11(d)	Cu	1	**Accept** copper

Question	Answer	Marks	Further Information
12(a)	**any two from** oil will decrease coal will decrease nuclear will increase	2	each correct answer = 1 mark
12(b)(i)	biomass / solar / wind / tidal / hydroelectric / geothermal / wave	1	**Accept** named biomass, e.g. wood / vegetable oil
12(b)(ii)	(idea that) we need to be more reliant on renewable energy	1	**Accept** reduce climate change **Accept** non-renewables are a finite source / non-renewables will run out / **ora**

Question	Answer	Marks	Further Information
13(a)	**any one from** measure the **distance** (the dye had) travelled up the stem find the change in **mass** of the jar and water / find the change in mass of the celery measure the change in **volume** of the liquid in the jar	1	**Accept** mass of jar and water will fall / mass of celery will increase **Note** measure amount of water before and after is **not** sufficient
13(b)	**any two from** amount of light / light intensity wind-speed / draughts humidity size of stick of celery (e.g. leaf area, mass or amount etc.)	2	each correct answer = 1 mark **Accept** as extra marking points • **starting** depth of water / **starting** volume of water / **starting** amount of water / amount of water put into the jar • the dye used • the time (celery left in coloured water)

Question	Answer	Marks	Further Information
14(a)	barium (sulfate) / calcium (sulfate) / lead (sulfate)	1	**Accept** Ba, Ca or Pb but name takes precedence
14(b)	(yes) potassium salts are soluble (in water) **or** only lead chloride and silver chloride are insoluble	1	'no' box ticked = 0 marks