



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 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.

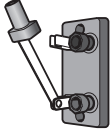
Annotations and abbreviations

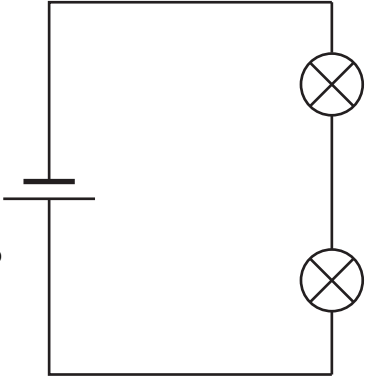
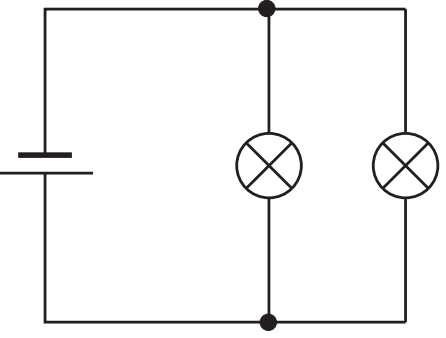
/ or	alternate responses for the same marking point
() brackets	the words or units in brackets do not need to be stated, for example, (recycles or releases or provides) minerals = minerals scores the mark
<u>Underline</u>	exact word is required
Accept	an acceptable response
Do not accept	indicates an 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)	kelp → (sea) urchin → fish → seal	1	correct order and arrows pointing in the correct direction for the mark Accept kelp → sea urchin → fish
1(b)	(sea) urchin or abalone	1	Accept sea urchin and abalone Do not accept additional answers e.g. kelp
1(c)	abalone/(sea) urchin eats the kelp (sea) otter eats the abalone/(sea) urchin	2	each correct answer = 1 mark Accept consume for eats Accept (idea that) the toxic substance is transferred to the abalone/(sea) urchin from the kelp or the toxic substance flows from kelp to abalone/(sea) urchin Accept consume or hunts for eats Do not accept (sea) otter eats the fish or references to the (sea) otter eating the kelp
1(d)	sun or sunlight	1	Accept light Do not accept additional answers, e.g. water or carbon dioxide or nutrients or kelp

Question	Answer	Marks	Further Information
2(a)	iron or copper sulfate	1	Accept iron and copper sulfate Ignore grey solid or blue solution Ignore just 'sulfate solution' Do not accept additional answers, e.g. copper
2(b)	any one from change in colour (solution) goes from blue to green (metal) goes from grey to pink it gets warmer	1	Do not accept incorrect colour changes, e.g. it goes from green to blue or metal goes green Accept changes to the colour of solution, e.g. (solution) changes to green Accept changes to the colour of the metal, e.g. (the iron) is covered in pink solid or (metal) goes pink Accept temperature change Ignore new substances made or chemical reaction takes place Do not accept gas made

Question	Answer	Marks	Further Information
2(c)	temperature	1	Accept temperature change or temperature before and temperature after Ignore just observations e.g. colour change or mixture gets warmer Ignore use a thermometer

Question	Answer			Marks	Further Information
3(a)	name	diagram	symbol	2	all four correct = 2 marks two or three correct = 1 mark one correct = 0 marks Do not accept battery symbol for cell symbol Do not accept closed switch
	cell				
	(open) switch				
	lamp				
	buzzer				

Question	Answer	Marks	Further Information
3(b)	correct diagram showing 2 lamps and 1 cell in a series circuit, e.g.  correct diagram showing 2 lamps and 1 cell in a parallel circuit, e.g. 	2	each correct answer = 1 mark Accept ecf from part (a) for the symbols if incorrect Do not accept extra symbols, e.g. a switch

Question	Answer	Marks	Further Information
3(c)	parallel and (idea that) the cell is not shared	1	both answers correct for the mark Accept any idea of electricity from cell not being shared, e.g. electricity is not shared or voltage is not shared Accept higher level answers, e.g. lamps in parallel both have the 1.5V of the connected cell

Question	Answer	Marks	Further Information
4(a)	rock type metamorphic description igneous a very hard rock formed when lava from volcanoes cools sedimentary a very hard rock formed from other rocks using heat and pressure formed when tiny pieces of rock are pressed together	1	all lines correct = 1 mark
4(b)	(B) (idea that) ammonite is covered by sediment or (idea that) ammonite is buried (D) weathering or erosion or ammonite is on the surface/top (of sediment)	2	each correct sentence = 1 mark Accept layers are formed over the ammonite Accept sediment is removed (above the ammonite) or sediment is washed away or rock breaks(down) or ammonite is not covered

Question	Answer	Marks	Further Information
4(c)	(Soil A) clay and (because idea that) it is pressed together or sticky or makes a lump (Soil B) sand or organic matter and (because idea that) falls through fingers or pours	2	each correct sentence = 1 mark Do not accept sand or organic matter Do not accept clay

Question	Answer	Marks	Further Information
5	any two from menstruation or periods or menstrual cycle starts acne or spots hips widen breasts develop body hair grows	2	each correct answer = 1 mark Accept (ovaries) start to release eggs Accept pimples or body odour or oily (skin) Accept bigger hips Accept grow pubic hair or hair under arms Ignore height increases Do not accept male changes, e.g. deep voice or facial hair

Question	Answer	Marks	Further Information
6(a)	27	1	
6(b)	measuring cylinder stop-watch or stop-clock	2	each correct answer = 1 mark Accept graduated pipette or burette Do not accept beaker or measuring cup Accept watch with a second hand or clock with a second hand or chronometer
6(c)	(idea that she) repeats the (same) experiment	1	Accept (repeat and) calculate/find the mean Do not accept fair test
6(d)	(water) particles move faster or (water) particles hit the tablet with more force	1	Note answer must be about the particles Accept higher level answers, e.g. particles have more (kinetic/heat) energy or particles have more collisions

Question	Answer	Marks	Further Information
7(a)	any two from has eight planets planets are in order shows size/shape of planets see all the planets at the same time or lets us see something that is too big to see (at the same time) lets us see something that is too far away to see	2	each correct answer = 1 mark Accept to show how many planets there are Accept shows how the planets are arranged or has all the planets in the correct places Accept to show smallest/biggest planet or to show which planets have rings or what the planets look like Accept need a telescope to see the planets
7(b)	any one from no Sun no Moon(s) not correctly spaced apart or all in a straight line not 3D or is 2D or planets are flat or planets are not ball-shaped no orbits visible does not move or does not show relative movement of planets not to scale or (idea that) planets are not in proportion	1	Accept does not show rotation Ignore just 'size' or just 'all small'

Question	Answer	Marks	Further Information
8(a)	(N is used because it measures) a force (kg is not used because it measures) mass	2	each correct answer = 1 mark Accept weight or named force, e.g. friction or gravity Do not accept mass Do not accept weight
8(b)	(idea that) the children do not move or the children stand still or the rope stays in the same place	1	
8(c)	(description) the children move (to the left) (explanation) the force to the left is greater (than the force to the right) or ora	2	each correct answer = 1 mark Accept the rope moves (to the left) Accept 300 N is greater (than 200 N) or the children on the left will pull more Ignore just 'one team is 300 N and the other is 200 N' or just 'the forces are not balanced' Ignore references to weight

Question	Answer	Marks	Further Information
9(a)	0.9 (g)	1	
9(b)	(idea that) gas escapes or gas leaves	1	Accept vapour for gas Accept mass of gas is lost or gas is made Do not accept it evaporates or condensation or melts
9(c)	any one from low boiling point easy to compress fill their container exert a pressure	1	Accept easy to squash Accept does not have a fixed shape or does not have a fixed volume Accept other properties of some gases e.g. low density or smell or colourless Ignore has mass

Question	Answer	Marks	Further Information
10(a)	Does washing hands stop the growth of mould?	1	more than one answer ticked = 0 marks Accept any indication of the correct answer, e.g. circling or underlining, but ticking takes precedence
10(b)	any two from size of the slices of bread bread from same loaf temperature (amount of) time (left for) type of bag	2	each correct answer = 1 mark Accept amount of bread or mass of bread or size of bread Accept type of bread or type of food Accept (idea of where the) place bread is kept, e.g. same room or same environment Accept 3 days or how long the bread is left or day observation made Accept material of bag or size of bag or transparent bag or waterproof bag Accept any reasonable answer, e.g. amount of moisture or amount of air in the bag or size of bag or seals/closes the bag Do not accept how the bread is prepared
10(c)	mould causes diseases	1	Accept it causes an allergic reaction or (idea that) it is harmful