



Science

Stage 6

Paper 2

Mark Scheme

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)	any two from virus bacteria parasites fungi	2	each correct answer = 1 mark Ignore named organisms
1(b)	any two from wash hands cook food thoroughly do not leave cooked food near uncooked food disinfect food surfaces	2	each correct answer = 1 mark Accept any suitable suggestion
1(c)	stomach acid	1	Ignore skin and mucus

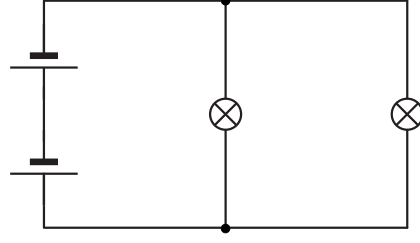
Question	Answer	Marks	Further Information
2(a)	liquid to gas	1	Accept vapour for gas
2(b)	can be reversed (by cooling) / can be reversed (by condensation)	1	Accept no new substance is made
2(c)	any one from boiling happens at one temperature boiling only happens at the boiling point boiling takes place everywhere within the liquid and any one from evaporation happens at all temperatures evaporation takes place at the surface of the liquid	2	correct statement about boiling = 1 mark Accept boiling of water only happens at 100 °C correct statement about evaporation = 1 mark

Question	Answer	Marks	Further Information
3(a)	gas is made / fizzes / carbon dioxide is made new substances are made	2	each correct answer = 1 mark Ignore colour change / temperature change Accept cannot be reversed as an extra marking point
3(b)	has a mass / (low) melting point / (low) boiling point	1	Accept any correct property of carbon dioxide, e.g. does not conduct heat / does not conduct electricity / it is a gas / turns limewater milky / low density / it sinks in air / it is light weight / it has a weight
Question	Answer	Marks	Further Information
4(a)	kilograms / grams	1	Accept kg / g Do not accept incorrect units, e.g. N
4(b)	gravity is different on the Moon	1	Accept smaller gravity on the Moon
4(c)	newton	1	Accept N Do not accept n Do not accept incorrect units, e.g. kg / g
4(d)	weight is smaller / gravity is less no air resistance	2	each correct answer = 1 mark Note assume answers refer to the Moon unless otherwise specified Accept ora if the Earth is specified

Question	Answer	Marks	Further Information
5(a)	B F	2	each correct answer = 1 mark Accept either order
5(b)	rock is metamorphic formed by action of heat and pressure (which will distort any fossils)	2	each correct answer = 1 mark
5(c)	cooling of magma / cooling of lava / cooling of liquid rock	1	Accept solidification instead of cooling
5(d)	(idea that) no living organisms will be able to live near the lava or magma / rock formed before living organisms appeared on the Earth	1	Accept correct suggestion, e.g. living organisms would have burnt

Question	Answer	Marks	Further Information
6(a)	(breathing rate) will increase after running (idea that) they need more oxygen	2	each correct answer = 1 mark Accept (breathing rate) will be faster Accept ora
6(b)	results table with row or heading for (name of) friend/person = 1 mark breathing rate while sitting/resting and unit = 1 mark breathing rate after exercise/running and unit = 1 mark	3	Note the unit for breathing rate only needs to be shown once for maximum marks Note if units for breathing rate missing = maximum 2 marks Note the rows and columns do not need to be drawn with a ruler Accept bpm for breaths per minute

Question	Answer	Marks	Further Information
7(a)	6 or 7	1	Accept 3 lamps or 4 lamps circled Accept any indication of the correct answer, e.g. ticking, underlining or written answer next to the question, but circling takes precedence more than one answer circled = 0 marks
7(b)	repeat the experiment (with 3 lamps/4 lamps again)	1	
7(c)	lamps need to be a control variable	1	Accept to keep the test fair Accept different lamps may draw different current
7(d)	two lamps shown = 1 mark two cells and no gaps = 1 mark parallel circuit drawn with one lamp on each branch = 1 mark	3	Ignore other components added to the circuit Accept only one cell drawn Ignore symbols for junctions



Question	Answer	Marks	Further Information
8(a)	any two from water (particles) surround the salt (particles) salt (particles) spread out salt (particles and water particles) move around	2	each correct answer = 1 mark
8(b)	can be reversed by evaporating off the water	2	Do not accept the salt particles disappear each correct answer = 1 mark
Question	Answer	Marks	Further Information
9(a)	voice deepens / Adam's apple develops / facial hair	1	Accept growth of testicles/penis / more muscular body
9(b)	hips widen / breasts develop	1	Accept menstruation starts

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