

Science

Stage 6

Paper 1

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.

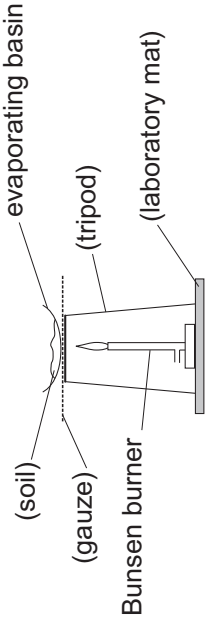
Annotations and abbreviations

/ 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)	hawk and fox and thrush and vole	1	all four correct = 1 mark Do not accept any other organism
1(b)	(sun)light	1	Accept Sun
1(c)	(idea that) organisms feed on one another	1	
1(d)	grass → rabbit → fox or grass → grasshopper → vole → fox	1	Note arrows must be in the correct direction
1(e)	(idea of) vole eats grasshopper, so toxic substance passes to the vole (and kills the vole)	1	

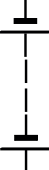
Question	Answer	Marks	Further Information
2(a)	(name of reactants) vinegar and washing soda (name of products) carbon dioxide and water and sodium ethanoate	2	both reactants correct in either order = 1 mark all three products correct in any order = 1 mark
2(b)	bubbling or fizzing or effervescing	1	
2(c)	colour change temperature change	2	each correct answer = 1 mark Accept changes from white to colourless Accept gets warmer or gets cooler

Question	Answer	Marks	Further Information
3(a)	hips widen or breasts develop	1	Accept periods or menstruation
3(b)	facial hair or gets more muscular or shoulders get wider or voice deepens	1	
3(c)	pubic hair or body hair or growth spurt	1	Accept hair under the armpits Ignore get taller

Question	Answer	Marks	Further Information
4(a)	(top pan, lever arm or electronic) balance	1	Accept scales Ignore weighing
4(b)		2	each correct label = 1 mark Accept basin Accept burner or any other heat sources
4(c)	5.10 (g)	1	Accept 5.1
4(d)	water is lost (as a gas) or water is evaporated	1	

Question	Answer	Marks	Further Information
5(a)	mass – grams or g or kilograms or kg weight – newtons or N or kN	2	each correct answer = 1 mark Accept mg or Mg or tonnes etc. Accept MN etc. Do not accept n Accept any indication of correct answer, e.g. written next to question, but answers in the table take precedence
5(b)	any one from mass does not change (when gravity changes) or weight changes (when gravity changes) weight is a force mass is the amount of stuff (an object has)	1	Ignore they have different units
5(c)	20	1	Ignore units Accept any indication of correct answer, e.g. written next to question, but answers in the table take precedence
5(d)	100	1	Ignore units Accept any indication of correct answer, e.g. written next to question, but answers in the table take precedence

Question	Answer	Marks	Further Information
6(a)	(idea of) cool(ing)	1	
6(b)	condensation or condensing	1	
6(c)	liquid (to) gas or liquid (to) vapour	1	Ignore water for liquid
6(d)	boiling happens at one temperature or evaporation happens at all temperatures boiling happens throughout the liquid or evaporation only happens at the surface (of the liquid)	2	each correct answer = 1 mark
6(e)	melting or freezing or dissolving	1	Accept sublimation or any other physical change

Question	Answer	Marks	Further Information																			
7(a)	<table><tr><th rowspan="2">circuit</th><th colspan="4">number of components</th></tr><tr><th>buzzers</th><th>closed switches</th><th>open switches</th><th>lamps</th></tr><tr><td>A</td><td>1</td><td>2</td><td>0</td><td>1</td></tr><tr><td>B</td><td>1</td><td>1</td><td>1</td><td>2</td></tr></table>	circuit	number of components				buzzers	closed switches	open switches	lamps	A	1	2	0	1	B	1	1	1	2	2	all eight correct = 2 marks four, five, six or seven correct = 1 mark
circuit	number of components																					
	buzzers	closed switches	open switches	lamps																		
A	1	2	0	1																		
B	1	1	1	2																		
7(b)	(idea that) can see the actual connections between components	1	Accept everybody would make the same circuit or cannot tell if parallel or series circuit Accept (idea that) it is clearer to see the circuit																			
7(c)	(idea that) circuit C contains symbol for one single cell	1	Accept (idea that) symbol is not  (like in circuit B)																			

Question	Answer	Marks	Further Information
8(a)	fungi	1	
8(b)	cholera or tetanus	1	
8(c)	any two from use insect repellent cover up skin do not go out at night (sleep) under insect netting	2	each correct answer = 1 mark Accept other suitable examples, e.g. use anti-malarial drugs

Question	Answer	Marks	Further Information
9(a)	arrows are the same size	1	Accept the car is not moving upwards or downwards
9(b)	driving force is greater than the friction and air resistance	1	Accept arrow for driving force is bigger (and in opposite direction) than that of arrow for friction and air resistance
9(c)	arrow shown on diagram horizontal and pointing to the right 	1	Accept any arrow drawn horizontally and pointing to the right at any position on diagram Accept arrow drawn horizontally and pointing to right next to the question but any arrow in diagram takes precedence Ignore size of arrow