

Cambridge IGCSE™

COMBINED SCIENCE**0653/62**

Paper 6 Alternative to Practical

October/November 2025

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 Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' 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 Principal Examiner Report for Teachers.

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Question	Answer	Marks
1(a)(i)	115 ; 119 ;	2
1(a)(ii)	9 AND 4 ;	1
1(b)	as light <u>intensity</u> decreases, the <u>rate</u> (of photosynthesis) decreases / ORA ;	1
1(c)	equilibration / to allow constant (rate of) photosynthesis/oxygen/gas production (at new distance) / AW ;	1
1(d)(i)	26 <u>0</u> ;	1
1(d)(ii)	any one from: use a glass shield / beaker of water in front of lamp AW ; change lamp to a LED ; use a greater volume of water in beaker ;	1

Question	Answer	Marks
2	one from each section and any other two marks 1 apparatus balance ; stop-watch / stop-clock / timer ; 2 method method described clearly such that another student could use it to obtain suitable results e.g. measure <u>mass</u> of at least 2 different coloured leaves before and after leaving them for a measured time/specified time ; 3 measurements initial <u>mass</u> (of leaf) ; final <u>mass</u> of leaf (after specified time) ; at least 5 different coloured leaves ; 4 control variables same temperature ; same humidity / wind speed / fan speed / distance from fan ; same/similar surface area / size of leaves ; 5 processing results and conclusions subtract final <u>mass</u> from initial (to find <u>mass decrease/change</u>) ; calculate rate (of water loss) ; plot bar chart / graph of colour vs rate (of water loss) ;	7

Question	Answer	Marks
3(a)(i)	5.39 ; 6.77 ; 6.49 ;	3
3(a)(ii)	1.38 ;	1
3(a)(iii)	1.10 ;	1
3(a)(iv)	79.71 ; 80 ;	2
3(a)(v)	<u>flammable</u> gas and idea of causing (an accidental) fire ;	1
3(a)(vi)	(blue flame is a) hotter flame ;	1
3(a)(vii)	idea of preventing burns to hands ;	1
3(b)	heat and measure the mass again / re-weigh ; reaction complete if mass constant / reaction incomplete if mass changes / copper oxide remains if mass changes ;	2
3(c)	idea of reducing the effect of any errors related to the balance/mass ;	1

Question	Answer	Marks
4(a)(i)	44.8 ;	1
4(a)(ii)	5.2 ;	1
4(b)(i)	horizontal axis labelled 'a/cm' AND vertical axis labelled 'b/cm' ; correct plots to $\pm 1/2$ small square ;	2
4(b)(ii)	suitable straight line of best fit ;	1
4(b)(iii)	extrapolation to determine intercept ; correct read-off to $\pm 1/2$ small square ;	2
4(b)(iv)	correct calculation of M ;	1
4(c)(i)	correct reading of one edge on rule, <u>65.5</u> OR <u>68.5</u> cm ; 67 ;	2
4(c)(ii)	33 ;	1
4(d)	Advantage gives a single value/reading / gives a exact value/reading does not obscure/hide/cover the numbers or readings on ruler ; Disadvantage strings slip along the rule / moves / idea of masses moving / string affects mass/balance point ;	2