

MARK SCHEME for the May/June 2010 question paper
for the guidance of teachers

0653 COMBINED SCIENCE

0653/51

Paper 51 (Practical Test), maximum raw mark 30

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.

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- 1 (a) (i) 2 drawings with sun leaf smaller;
shows some detail rather than simple outline e.g. veins; [2]
- (ii) accurate measurement of length of sun leaf from diagram +/- 2mm;
accurate measurement of length of shade leaf from diagram +/- 2mm;
(these values should be the maximum possible lengths)
only ONE mark if in cm [2]
- (b) larger area for greater absorption of light (for photosynthesis);
needs to say more than just more photosynthesis [1]
- (c) (i) table constructed correctly with correct headings;
correct comparison of leaf thickness;
correct comparison of numbers of palisade cells;
correct comparison of size of air spaces;
answers may be in words or figures [4]
- (ii) prevents too much water (vapour) loss due to transpiration; [1]
- [Total: 10]**
- 2 (a) suitable figures for both (refer to SV);
(do not give this mark if in cm)
use of figures correctly;
answer; [3]
- (b) (iv) table
5 readings;
all decreasing;
 d_2 values all less than d_1 ;
if only 4 readings, lose 1st mark
if only 3 readings lose 1st and 2nd mark [3]
- (c) graph
S suitable scale;
P 4 points plotted correctly;
L best straight line; [3]
- (d) correct evaluation; [1]
- [Total: 10]**

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- 3 (a) volume of drop between 0.03 and 0.1 cm³ (inc); [1]
- (b) number of drops for **X** is between 20 and 30;
values decrease;
number of drops approximately halves going down; [3]
- (c) **X** is most concentrated because needs most drops (ecf); [1]
- (d) does not relight/extinguish;
pops;
hydrogen (stands alone); [3]
- (e) white ppt;
hydrochloric; [2]

[Total: 10]