

MARK SCHEME for the May/June 2014 series

0620 CHEMISTRY

0620/53

Paper 5 (Practical), maximum raw mark 40

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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Page 2	Mark Scheme	Syllabus	Paper
	IGCSE – May/June 2014	0620	53

- 1 (a)** Table of results for Experiment 1
- all temperature boxes completed (1)
- comparable to supervisors: max temp change $\pm 3^{\circ}\text{C}$ of supervisor (1) [2]
- (b)** Table of results for Experiment 2
- all temperature boxes completed (1)
- comparable to supervisors: max temp change $\pm 3^{\circ}\text{C}$ of supervisor (1) [2]
- (c)** bubbles/fizz/effervescence (1) [1]
- (d)** all points correctly plotted (3) $\pm$ half small square, –1 for any incorrect
smooth line graphs (2)
labels (1) [6]
- (e) (i)** value from graph $\pm$ half small square (1) shown clearly on graph (1) [2]
- (ii)** value from graph $\pm$ half small square (1) shown clearly on graph (1) [2]
- (f)** endothermic (1) [1]
- (g)** M is a carbonate/hydrogen carbonate/carbon dioxide given off (1) [1]
- (h)** lower temperature changes (1)
- temp change is half experiment 1 (1) [2]
- (i)** room temperature or initial temperature from table (1)
- reaction finished/exchange of heat energy with surroundings (1) [2]
- (j)** more readings/points (1) [1]

[Total: 22]

Page 3	Mark Scheme	Syllabus	Paper
	IGCSE – May/June 2014	0620	53

2 tests on solid P

(a) black (solid / powder) see part **(d)**

(b) (i) (turns) blue (solution) (1) [1]

(ii) blue (1) precipitate(1) [2]

(iii) brown (1) white / cream precipitate(1) [2]

(c) green (1) (allow blue / green but not just blue) [1]

blue precipitate (1) dark / royal / deep blue (1)

solution / soluble / dissolves(1) [3]

tests on solid **Q**

(d) brown / red (solid / powder) (1) must have **(a)** and **(d)** correct [1]

(e) (i) blue solution (1) red / brown solid (1) [2]

(ii) blue precipitate (1) [1]

(iii) deep blue (1) solution (1) [2]

(f) copper (1) oxide (1) [2]

(g) copper (1) [1]

[Total: 18]