

## **MARK SCHEME for the May/June 2014 series**

### **0620 CHEMISTRY**

**0620/52**

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.

Cambridge will not enter into discussions about these mark schemes.

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**1** Experiment 1

Table of Results

initial temperature boxes all completed (1)

final temperature boxes all completed and final > initial (1)

temperature changes completed correctly (1)

temp change increases as length Mg increases (1)

comparable to Supervisor's, highest temp change within  $\pm 5^{\circ}\text{C}$  (1) [5]

**(f)** horizontal scale completed correctly (2 cm = 1 cm magnesium ribbon) (1)

all points plotted correctly (2), 4 points correct (1), 3 or fewer correct (0)

straight line of best fit drawn with a rule (1) [4]

**(g)** value from graph  $\pm$  half a small square (1)

tie line/indication shown (1) [2]

**(h)** any **two** from: [2]

fizzing/bubbles/effervescence (1)

magnesium/solid gets smaller/disappears (ignore dissolves) (1)

gets hot/warm (1)

**(i)** experiment 5 / 7cm (1)

more/most magnesium (1) [2]

**(j)** temperature change/reaction faster (1)

bigger surface area (1) [2]

|               |                              |                 |              |
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- (k) shows gas collected over water (1)  
in labelled measuring cylinder/graduations shown on collection vessel (1)

**OR**

- shows gas collected in a gas syringe (1)  
labelled gas syringe/graduations shown (1) [2]

- (l) heat loss/use of measuring cylinder/measurement of volume of acid (1)

insulate/use pipette or burette (1)

**note:** improvement must match error [2]

[Total: 21]

- 2 (a) white (solid/powder) (1) [1]

- (b) any **three** from: [3]

pH paper turns blue/dark(er) green (1)

pH>7/alkaline (1)

solid on sides of tube/white smoke (1)

reference to smell (1)

- (c) (i) paper turns blue/pH > 7/alkaline (1) [1]

- (ii) white precipitate (1) [1]

- (d) fizz/bubbles/effervescence (1)

limewater milky/cloudy (1) [2]

- (e) (i) white (1) precipitate (1)

dissolves/disappears/clears (1) only if indication that a solid was made. [3]

- (ii) white precipitate (1) **not** slight or faint precipitate

dissolves/disappears/clears (1) only if indication that a solid was made. [2]

|               |                              |                 |              |
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- (f) ammonia/alkaline gas (1)  
decomposes/sublimes (1) [2]
- (g) ammonium (1) chloride (1) [2]
- (h) zinc (1) carbonate (1) [2]
- [Total: 19]