**UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**International General Certificate of Secondary Education**

# MARK SCHEME for the May / June 2012 question paper

# for the guidance of teachers

## 0620 CHEMISTRY

**0620 / 51** 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 must be read in conjunction with the question papers and the report on the examination.

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**1** **(a)** Table of results

volume of aqueous potassium chloride boxes completed correctly (1)
1,2,4,5, 6 and 7
heights of solid boxes completed (1) in mm (1)
ascending order / last 2 level out (1) [4]

**(b)** all points correctly plotted including origin (2), –1 for any incorrect
appropriate scale for y axis(at least half of grid) (1)
best fit straight line graph drawn with a ruler(1) [4]

**(c)** value from graph (1) unit (1) shown clearly (1) [3]

**(d)** precipitation / double decomposition (1) [1]

**(e)** height increases(1) levels off (1) [2]

**(f)** same heights owtte (1)

` all lead nitrate reacted / / reaction finished / excess potassium chloride (1) [2]

**(g)** yellow precipitate / solid (1) [1]

**(h)** improvement (1)

e.g. use burette or pipette / leave solid to settle longer / repeat /
wider range of volumes for KCl
explanation (1)

e.g. instead of a measuring cylinder / heights more accurate / take average /
more reliable / accurate [2]

**2** **(a)** white (1) [1]

**(b)** **(i)** condensation / drops of liquid / water / steam (1)
solid is still white no (colour) change (1) [2]
fizzes / effervescence (1) lighted splint extinguished / owtte (1) [2]

**(ii)** fizz / bubbles / effervescence (1) limewater(1)
milky / cloudy / white precipitate (1) [3]

**(iii)** effervescence / fizz / bubbles (1)
darkens / turns black / green (1) ignore: blue [2]

**(iv)** description of smell of ammonia / sublimate (1)
pH paper turns blue / green or pH > 7 (1) **allow**: litmus goes blue [2]

**(c)** initial temperature recorded (1) $^{o}C$ (1)
final temperature recorded and lower (1) [3]
pH > 7 (1) [1]

**(d)** carbon dioxide (1) [1]

**(e)** ammonia (1) **not**: ammonium [1]

**(f)** endothermic (1) [1]

**(g)** hydrogencarbonate / carbonate (1) alkaline (1) **not**: sodium hydroxide
non transition metal (1) max 2 [2]