

MARK SCHEME for the May/June 2013 series

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 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 (c) Table of results for Experiments 1–4
- mass of solids correctly recorded (1)
 - initial and maximum temperature boxes correctly completed (1)
 - temperature differences correct (1)
 - temperature changes increasing (1) [4]
- (d) results for Experiment 5
- initial and final temperatures completed (1)
 - temperature change completed correctly **and** shown as negative (1) [2]
- (e) appropriate scale on y-axis which uses at least half of the grid (1)
- all points correctly plotted (2), –1 for any incorrect ignore: origin
 - best fit straight line graph drawn with a ruler (1) [4]
- (f) (i) value from graph (1) extrapolation shown clearly (1) [2]
- (ii) value from graph (1)
shown clearly (1) [2]
- (g) endothermic (1) [1]
- (h) lower temperature change (1)
- greater volume/more acid (1) [2]
 - note: halved = 2 marks
- (i) room temperature / initial temperature from table (1)
- reaction finished / owtte (1) [2]
- (j) advantage e.g. comparability of results/fair test (1)
- ignore: reference to accuracy or reliability
 - disadvantage e.g. reaction not finished / temperature still changing (1) [2]

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2 tests on liquid A

- (a) colourless (1) not: clear
and
 smells acidic/vinegar/sour/pungent/bitter/strong not: sweet [1]
 red/orange/yellow (1) pH = 3–6 (1) [2]
- (b) bubbles/fizzes/effervesces (1)
 lighted splint (1)
 pops (1) ignore: hydrogen [3]
- (c) slow/few (1)
 bubbles/effervescence/fizz (1) [2]
- (d) blue/green colour (1) not: precipitate [1]
 tests on liquid B
- (e) (i) yellow/orange (1)
 turns green (1)
 not: blue [2]
 (ii) pink/purple (1) turns colourless/decolourises (1)
 not: clear [2]
- (f) blue/yellow/orange (1)
 flame/catches fire/lights (1) [2]
- (g) ethanoic acid/vinegar (2) [2]
- (h) organic (1) fuel (1) not: flammable
 note: ethanol/alcohol = 2 [2]