

Examiners' Report/ Principal Examiner Feedback

June 2010

GCSE

360Science

GCSE Science
Multiple Choice Paper C1a (5007)

GCSE Chemistry
Multiple Choice Paper C1a (5035)

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5007 Science/ 5035 Chemistry Examiners' Report
Multiple Choice paper C1a
June 2010

Foundation tier

The first seven questions were generally well answered. Candidates showed a clear understanding of chemical and hazard symbols, being able to recognise the correct symbol for lithium and recognising the appropriate hazard symbol for a corrosive substance.

Candidates found it difficult to apply their knowledge of flame tests, and their use to test for metals, to a new situation, with only 36% understanding that flame tests could be used to differentiate between three different metal salts.

Baking powder, its use and composition are well understood but only 39% of candidates showed an understanding that the cooking process causes a chemical change.

Candidates showed a good understanding of the uses of metals and could recall the fact that least reactive metals, in this case gold, are found un-combined in the Earth's crust. Candidates were less sure of the method of extracting metals which occur as their oxides from their ore, with only 33% being able to explain that the ore should be heated with carbon.

Questions 19-24 proved difficult for candidates, just 30% of candidates could link the atomic number of an element to the number of protons that it contains. Only 37% could recall the charges on an electron, proton and neutron.

Candidates did not show a sound understanding that heating a metal carbonate e.g. calcium carbonate, strongly would bring about thermal decomposition.

Higher tier

The first section of the paper was well answered with candidates showing a good understanding of the periodic table, 73% were able to identify the position of a noble gas and 82% were able to identify the position of a transition metal. Candidates were less sure about the fact that a solution of calcium hydroxide (limewater) is used to test for carbon dioxide.

Whilst candidates showed a good understanding of the how to collect a gas with unknown properties, the test for ammonia and the formula of a molecule of ammonia, they were not so sure about the use of ammonia with 36% believing that ammonia is not used to make nitric acid. 55% of candidates believe that ammonia is more dense than air and is collected by downward delivery.

Questions 34 and 35 proved challenging, with 33% selecting the incorrect answer for Question 34 believing that the halogens increase in reactivity with increasing atomic number and that the halogens exist as diatomic molecules. In question 35 the balanced equation for the displacement of reaction of chlorine with potassium

bromide caused problems and was very poorly answered with only 22% of candidates selecting the correct answer.

Grade Boundaries - June 2010

Multiple Choice Papers - GCSE Science

Raw Mark Grade Boundaries

| | | | | | | | | | |
|-----------|----------|----|----|----|----|----|----|---|---|
| 5005/5025 | Max mark | A* | A | B | C | D | E | F | G |
| H | 24 | 20 | 18 | 15 | 12 | 9 | 7 | | |
| F | 24 | | | | 16 | 13 | 10 | 7 | 4 |

| | | | | | | | | | |
|-----------|----------|----|----|----|----|----|----|---|---|
| 5006/5026 | Max mark | A* | A | B | C | D | E | F | G |
| H | 24 | 20 | 17 | 14 | 12 | 9 | 7 | | |
| F | 24 | | | | 15 | 13 | 11 | 9 | 7 |

| | | | | | | | | | |
|-----------|----------|----|----|----|----|----|----|---|---|
| 5007/5035 | Max mark | A* | A | B | C | D | E | F | G |
| H | 24 | 20 | 17 | 14 | 11 | 8 | 6 | | |
| F | 24 | | | | 16 | 13 | 10 | 8 | 6 |

| | | | | | | | | | |
|-----------|----------|----|----|----|----|----|----|---|---|
| 5008/5036 | Max mark | A* | A | B | C | D | E | F | G |
| H | 24 | 19 | 17 | 14 | 12 | 9 | 7 | | |
| F | 24 | | | | 16 | 13 | 10 | 8 | 6 |

| | | | | | | | | | |
|-----------|----------|----|----|----|----|----|----|---|---|
| 5009/5045 | Max mark | A* | A | B | C | D | E | F | G |
| H | 24 | 16 | 14 | 12 | 11 | 8 | 6 | | |
| F | 24 | | | | 14 | 12 | 10 | 8 | 6 |

| | | | | | | | | | |
|-----------|----------|----|----|----|----|----|----|---|---|
| 5010/5046 | Max mark | A* | A | B | C | D | E | F | G |
| H | 24 | 19 | 17 | 14 | 12 | 8 | 6 | | |
| F | 24 | | | | 14 | 12 | 10 | 8 | 6 |

Uniform Mark Grade Boundaries for these units

| | | | | | | | | | |
|---|---------|----|----|----|----|----|----|----|---|
| | Max UMS | A* | A | B | C | D | E | F | G |
| H | 40 | 36 | 32 | 28 | 24 | 20 | 18 | | |
| F | 27 | | | | 24 | 20 | 16 | 12 | 8 |

Note: On higher tier papers, the "allowed" grade E is calculated as half a grade width

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