

Examiners' Report/ Principal Examiner Feedback

March 2010

GCSE

360Science

GCSE Science
Multiple Choice Paper C1b (5008)

GCSE Chemistry
Multiple Choice Paper C1b (5036)

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5008 Science/ 5036 Chemistry (C1b) Examiners' Report

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Foundation Tier

Knowledge of the Earth's atmosphere was weak. In question 2, 35% of candidates chose the correct answer but 43% thought that 78% of the Earth's atmosphere is oxygen and 20% that it is carbon dioxide. In question 3, 32% chose the correct answer with 37% thinking that the Earth's early atmosphere did not contain carbon dioxide. Whilst 82% of candidates knew that predictions about future global warming are made using computers, 46% of these candidates believed that these predictions are certain to happen. In question 16, 31% chose the correct answer with 48% thinking that ethanol does not produce carbon dioxide when burnt. Having been told that poly(ethene) is a hydrocarbon, only 17% of candidates knew that the products of complete combustion are carbon dioxide and water, 43% chose carbon and hydrogen, and 30% ethene and carbon dioxide. Whilst 42% of candidates knew that the salt most often present in food is sodium chloride, 34% thought that it is sodium carbonate. 40% knew that nitrogen is obtained from liquid air by fractional distillation with 28% choosing combustion and 22% reacting air with another substance. The word equation in question 23 proved challenging for candidates, only 11% chose the correct answer with 76% choosing options involving yeast as a reactant. 31% knew that desalination can be achieved by distillation with 53% believing that it can be achieved by filtration.

Higher Tier

As would be expected higher tier candidates performed better than foundation candidates on questions 17 to 24 but some of the weaknesses indicated above were still present especially in questions 19 (40% correct), 23 (12% correct) and question 24 (39% correct).

Whilst 47% of candidates knew the correct answer to question 25 a further 47% thought that sunscreens containing nanoparticles are made from smart materials. 30% knew that an atom of silicon is smaller than a nanoparticle with 64% believing that nanoparticles are smaller than atoms. Whilst 85% of candidates knew that the membrane in Gore-Tex fabric contains small holes, 66% of these candidates thought that water molecules cannot pass through the membrane. 16% of candidates chose the correct answer to question 31 with 28% believing that both statements were incorrect. 25% chose '1 only' and 32% '2 only'. Chemical equations continue to prove challenging for many candidates. In question 32, 24% chose the correct answer with 53% choosing A or C where hydrogen is shown as a product. 25%. In question 33, 35% knew the correct order of boiling points for the fractions with 22% thinking that fuel oil has the lowest boiling point. In question 35, 87% knew that ethanol produced from sugar cane is a bio-fuel but 38% of these candidates did not think that growing sugar cane removes carbon dioxide from the atmosphere. For question 38, 31% chose the correct answer with 32% choosing A showing monatomic oxygen and 25% B where the product is hydrogen peroxide. Whilst 41% knew the answer to questions 39, 32% thought that toxic products can be formed by the incomplete combustion of hydrogen.

Grade Boundaries - March 2010

Multiple Choice Papers - GCSE Science

Raw Mark Grade Boundaries

5005/5025	Max mark	A*	A	B	C	D	E	F	G
H	24	19	17	15	13	9	7		
F	24				16	13	10	8	6

5006/5026	Max mark	A*	A	B	C	D	E	F	G
H	24	18	16	14	12	9	7		
F	24				16	13	11	9	7

5007/5035	Max mark	A*	A	B	C	D	E	F	G
H	24	16	13	10	8	5	3		
F	24				16	13	10	8	6

5008/5036	Max mark	A*	A	B	C	D	E	F	G
H	24	18	15	12	10	6	4		
F	24				18	15	12	10	8

5009/5045	Max mark	A*	A	B	C	D	E	F	G
H	24	19	17	15	14	11	9		
F	24				19	16	14	12	10

5010/5046	Max mark	A*	A	B	C	D	E	F	G
H	24	18	16	14	12	8	6		
F	24				15	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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