

Examiners' Report November 2008

GCSE

360Science

GCSE Science (2101)

GCSE Additional Science (2103)

Internal Assessment Activities

(Units 5002-5004 and 5012-5014)

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Report on the Moderation of Internal Assessment Activities

To manage the transition from the old series 1 & 2 Internal Assessment Activities (IAAs) to the new series 3 IAAs, Edexcel offered a November moderation window for GCSE Science and GCSE Additional Science IAAs. As a result of the major changes to the style of internal assessment activities (IAAs) in May 2008 centres were given this final opportunity to have their internal assessments for “old style” series 1 & 2 IAAs to be externally moderated. There was a much larger entry than originally anticipated and centres must be commended for managing the change.

The consensus is that, overall, the standard of centre IAA submissions had improved markedly since summer 2008. Many centres marked very adeptly, and with great accuracy. Where there was discrepancy between centres and the moderating team this was due to teachers varying from the detailed marking schemes, without annotating accordingly. Conversely, it was good to see that some teachers were using abbreviations such as “OWTTE” correctly.

There was complete range of marks across the samples submitted. However, there were more marks awarded at the high end of the mark range than the low end, with a minority of candidates scoring in single figures. Those who scored fewer than 10 marks had generally just not attempted a large proportion of the questions. There were several examples of the first few questions being answered quite well with the remainder not attempted. There were a number of students who scored 29 and in some cases 30 (which is the maximum mark). These students should be congratulated on their achievements. The majority of students scored between 15 and 25 marks in each IAA.

In GCSE Science, the more popular topics were ‘Environment’ ‘Genes’, ‘Patterns in Properties’, ‘Making Changes’ and ‘You’re in Charge’. Whilst in GCSE Additional Science there was a greater range of topics submitted for moderation. As in summer 2008, Series 1 IAAs seemed more popular with centres than Series 2 for GCSE Science.

Most students scored highly on the first few questions, showing that they were accessible to the whole ability range and that the papers were able to differentiate. In general students found it easier to answer the short answer structured questions. The more open ended questions were often attempted and the first mark for the question was usually achieved, but questions with four marks were rarely correctly completed. Answers requiring some structured argument, or discussion in continuous prose, were generally not tackled well. It was not uncommon for students to repeat parts of the stem of the question in such instances. These questions were good indicators of whether students should be awarded 2 or 3 marks for Quality of Written Communication (QWC). In a number of cases it was evident that students with good recall and understanding of scientific facts and principles were not always able to express themselves clearly in writing.

The wide variety of graph questions found across all IAAs were answered well by the majority of candidates, although some Centre assessors were occasionally lenient in awarding marks for inaccurately plotted points and inaccurate lines/curves of best fit. Graph plotting and interpretation has improved from summer 2008. A number of candidates managed to score maximum marks on graphical questions. Lines of best fit seem to, at last, have been understood by most candidates. A few centres were generous when assessing poor quality graphical work; plotting was not always accurate, nor was drawing lines of best fit. This is an aspect of processing skills with considerable significance for the new series 3 IAAs.

Chemical equations, in words but particularly symbols, continue to challenge students. As in the written papers, students generally struggle with this concept.

A significant number of students lost marks by omitting units from calculations. Although calculations in general were well done, students seemed more confident when they were substituting into, and using, simple formulae.

Many students seemed unaware of the differences between “reliability”, “accuracy” and “fair testing” and many seemed unsure about why one repeats results, although nearly all knew that the repeating of readings was a good idea. There is still an apparent weakness in the understanding of the terms ‘accuracy’ or ‘reliability’ (especially when referring to repeats) which seems to apply to both staff and students which lead to the over generous awarding of some of the marks.

Very few students were able to achieve full marks for the experimental design questions. This type of question did not differentiate well, as less able students tended to leave them out all together probably because they had no idea how to answer such questions. Even the more able students rarely attained full marks for these more demanding questions.

The quality of annotation and styles of marking was variable. Not all Centre assessors had used a system of one tick for one mark (with ticks in the body of the text next to the marking point). The marking from a number of centres was hard to follow because they did not stick to the principle of one tick = one mark. It was not uncommon to find the mark available for a question (or part of a question) to simply be circled, with no ticks or crosses being used on a page. This led to clerical errors in some cases. Problems were sometimes compounded by the fact that internal moderation (which is to be commended) resulted in a second set of marks / ticks which were sometimes confused with those of the original marker.

Very few centres included any details about the internal standardisation process and it was very evident that a significant number of centres had not carried out internal moderation (as required by the Joint Council for Qualifications). Where it did happen, the addition of moderated marks to an already marked script occasionally confused the intended final mark and so made agreement harder to achieve. Centres are advised to use the three boxes on the front of the series 3 IAAs to show the teacher’s mark, the internal standardized marks as this is intended to help centres deal with this problem.

The marks for quality of written communication (QWC) were normally applied by centres in a consistent manner. A few centres were overly generous at the top end; however this was not very common. Overall the majority of centres judged marks for QWC correctly. On some occasions the maximum 3 marks were awarded for QWC when there were clear errors of grammar or spelling, quite often just above the space on the final page where the marks were awarded. Other candidates were sometimes awarded 1, or sometimes even 0 marks, when there were no major problems, or the when writing was a little untidy with perhaps the odd spelling error.

It is worth mentioning that, the new generic IAA criteria include marks for the quality of written communication (QWC), subsumed within the mark descriptors. Consequently, QWC marking will not be an issue for series 3 IAAs.

Raw Mark Grade Boundaries for GCSE Science and Additional Science Internal Assessment Units

5001	Max mark	A*	A	B	C	D	E	F	G
5011									
5024	18	16	14	12	11	9	7	5	3
5034									
5044									

5002	Max mark	A*	A	B	C	D	E	F	G
	30	27	24	21	18	14	11	8	5

5003	Max mark	A*	A	B	C	D	E	F	G
	30	27	24	21	18	14	11	8	5

5004	Max mark	A*	A	B	C	D	E	F	G
	30	26	23	20	17	14	11	8	5

5012	Max mark	A*	A	B	C	D	E	F	G
	30	26	23	20	18	14	11	8	5

5013	Max mark	A*	A	B	C	D	E	F	G
	30	25	22	19	16	13	10	7	4

5014	Max mark	A*	A	B	C	D	E	F	G
	30	26	23	20	17	13	10	7	4

Uniform Mark Grade Boundaries - All Units

Max UMS	A*	A	B	C	D	E	F	G
40	36	32	28	24	20	16	12	8

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