

UK Chemistry Olympiad 2025

Examiners' Report, Round 1

We would like to thank teachers for their support in promoting and administrating the Round 1 paper this year and encouraging students to participate in the competition. Again, the paper been written with upper sixth form students in mind, but we always encourage ambitious lower sixth form students to enter if they have been able to cover the required topics in their independent study.

This year we again asked for the paper to be administered on a fixed date, to try to maintain the integrity and security of the paper. 1502 schools registered for the paper in 2025 (an increase of 79 schools from 2024). We were delighted that a record of 16216 students' scores were submitted to the RSC, (an significant increase from 14915 in 2024).

The paper this year was out of 83 marks. It was excellent to see a correct response to every question during the moderation process. As we have said previously it is worth reminding students to attempt at least parts of each question set and therefore attempt some of the more accessible marks.

We were especially pleased to see that 125 schools participated in Round 1 for the first time, and we look forward to seeing them continue to participate in future years. 65% of schools entered were state schools and 35% were independent schools and colleges.

This year the proportion of Year 12 participating in the paper rose again to 62% of entrants, with 35% in year 13 or equivalent, lower than in previous competitions, and a small number in Year 11 or below participating. We encourage those Year 12 and 11 students to sit the C₃L₆ Cambridge Chemistry Challenge later in the year to further extend their knowledge and appreciation of chemistry.

The top moderated score was 81 out of 83. We have continued to try to add more accessible parts to the paper this year, so that most candidates were able to get some questions right and hence come away with a greater sense of satisfaction after taking the paper. The mark distribution indicates this was achieved. This year 34.6% of candidates scored from 0-8. We set these boundaries so that roughly similar percentages of students were awarded each category as in previous years. The gold threshold was 29 out of 83. The silver threshold was 16 out of 83, and bronze was 9 out of 83. The paper overall had a median of 12, mode of 7 and mean of 13.7.

50% of entries received were from male students and 49% from female students, with the remaining 1% other/blank/prefer not to say. Male students (median 14, mode 9, mean 15.9) performed better than female students (median 10, mode 7, mean 11.5) and other/blank/prefer not to say (median 11, mode 10, mean 12.9) overall. For Year 13 students, there was a median of 17, mode of 13, and mean of 19.0. For Year 12 students, there was a median of

10, mode of 7, and mean of 10.9. For Year 11 or below students, there was a median of 10, mode of 5, and mean of 12.4. 29 students were invited to participate in Round 2.

Members of the working group welcome comments and emails from teachers about the administration, content, and demand of the Round 1 paper and take on board this feedback, including making some alterations to the versions of the paper and mark scheme that will be put online for future use.

Feedback regarding the 2025 Round 1 paper indicated that it was generally more challenging than some previous years, and in addition to the increase in students participating who were from year 12, this was reflected in slightly lower scores.

The Working Group were very grateful to all the teachers for marking so accurately enabling moderation to run smoothly. It was particularly helpful to moderators where teachers marking their candidates' scripts had underlined/highlighted the student's answer so we could see where marks had or had not been awarded. The Working Group appreciate that the number of marks on the paper and the time for the paper maybe meant latter parts of questions were not attempted by all students. We recommend that candidates work through parts of paper they can do, to score marks and then go back to questions that they are less familiar with.

Question 1 was about clay pigeon shooting, written to celebrate the success of new mum Amber Rutter in the 2024 Summer Olympic games. During the moderation process it was observed parts (a)–(e) were well answered. Candidates would be advised to check the number of electrons when drawing dot and cross diagrams and show them clearly in answers on all atoms, not just the bonding electrons. Part (e) was more differentiating. Error from part (e) was allowed to be carried forward to part (f) which was well answered.

Question 2 was about BrAt. The question was well answered, with only trivial errors seen, although students were less familiar with interhalogen compounds.

Question 3 was about epoxides. This question was based on the trends of making wooden tables infused with epoxy and was used as an opportunity to test and extend some of the aromatic chemistry taught at A-level. From the scripts seen at moderation, the question was well answered. A common error seen was students miscounting the number of carbon atoms between the second and the third nitrogen atoms. It was noted that students were not familiar with the structure of the diazonium ion.

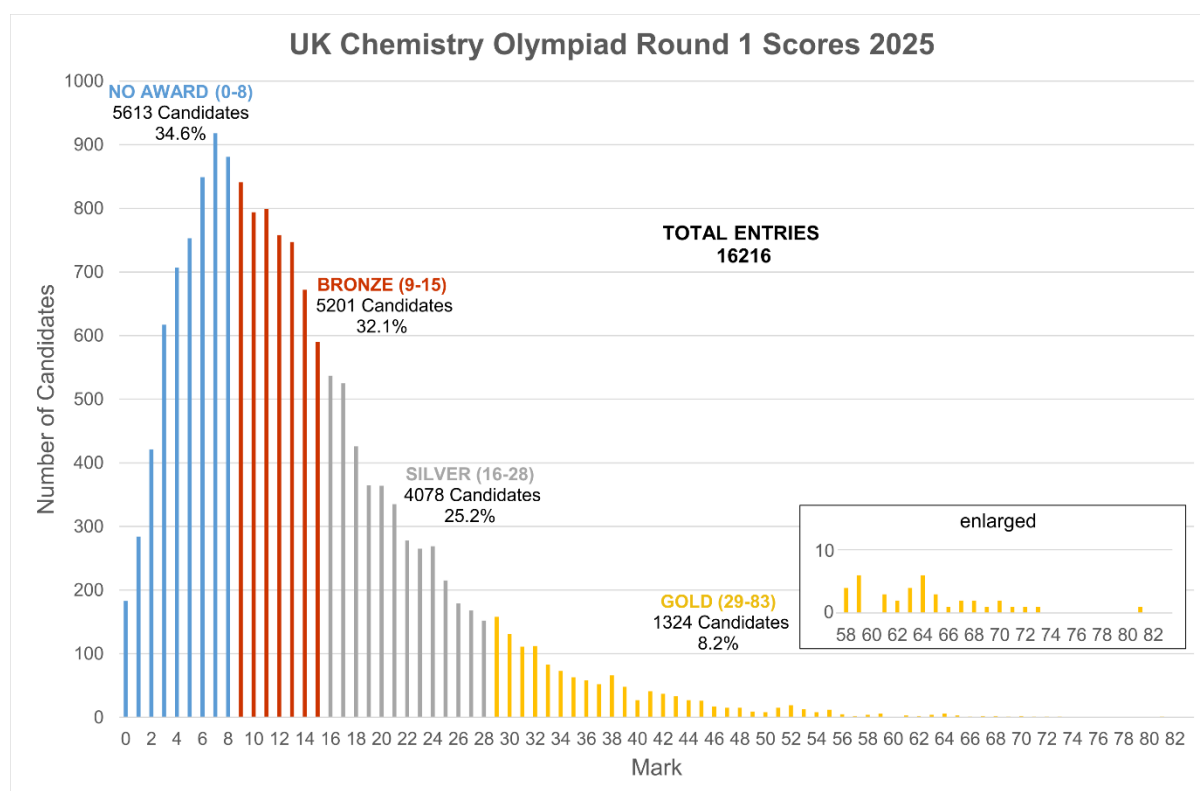
Question 4 was about carbon nanotubes and Raman spectroscopy. Parts (a)–(f) were generally well answered and students were able to convert units. Not many students were seen to make use of the graph paper for part (g) which was included to help with the question. It was not always clear where students were getting their values from which makes it difficult to carry errors forward. At moderation an error was noted in the mark scheme for (g)(iii), which hadn't been updated to match the most recent version of the

question. The updated mark scheme has been uploaded to the RSC website. Pleasingly, where students had made it this far, teachers had largely spotted the error and marked correct answers as correct.

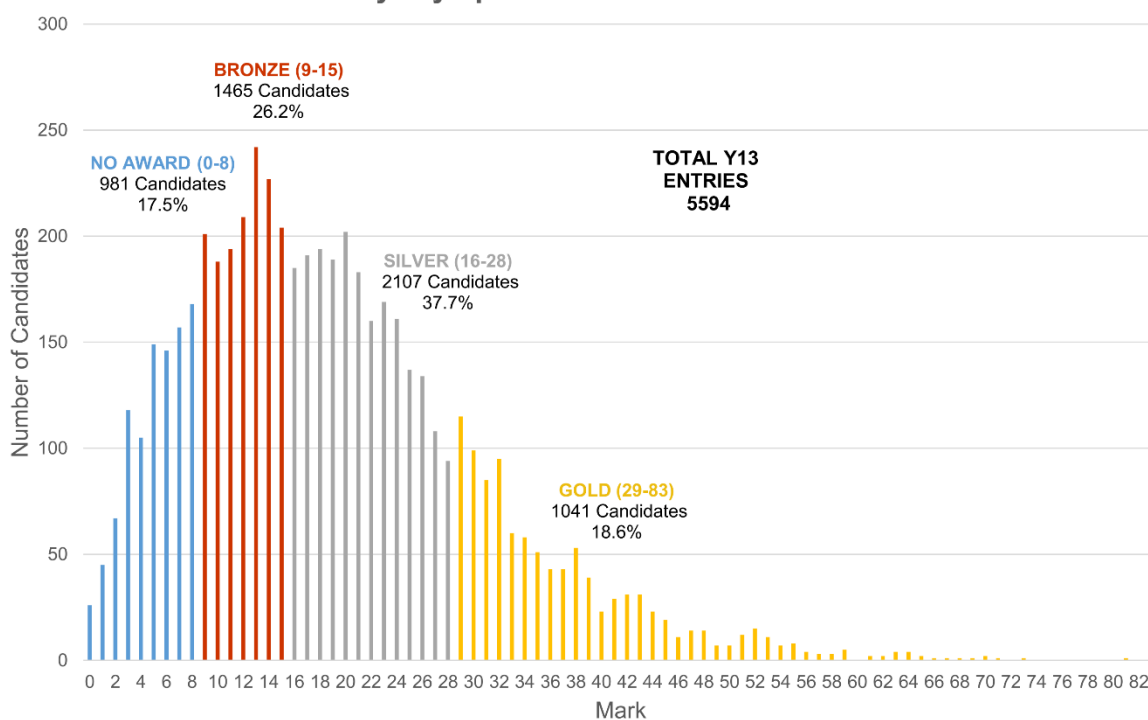
Question 5 was about agarwood. There were several opportunities to work backwards from different structures given in the question. A few of the latter transformations were shown earlier in the question but use of this information to help solve subsequent was only seen in the top scripts. Many students identified G with without identifying E and F.

Question 6 was about the iodination of ketones. For those students who had time to answer the question, their answers were generally well done. It was noted that most students did not finish the paper.

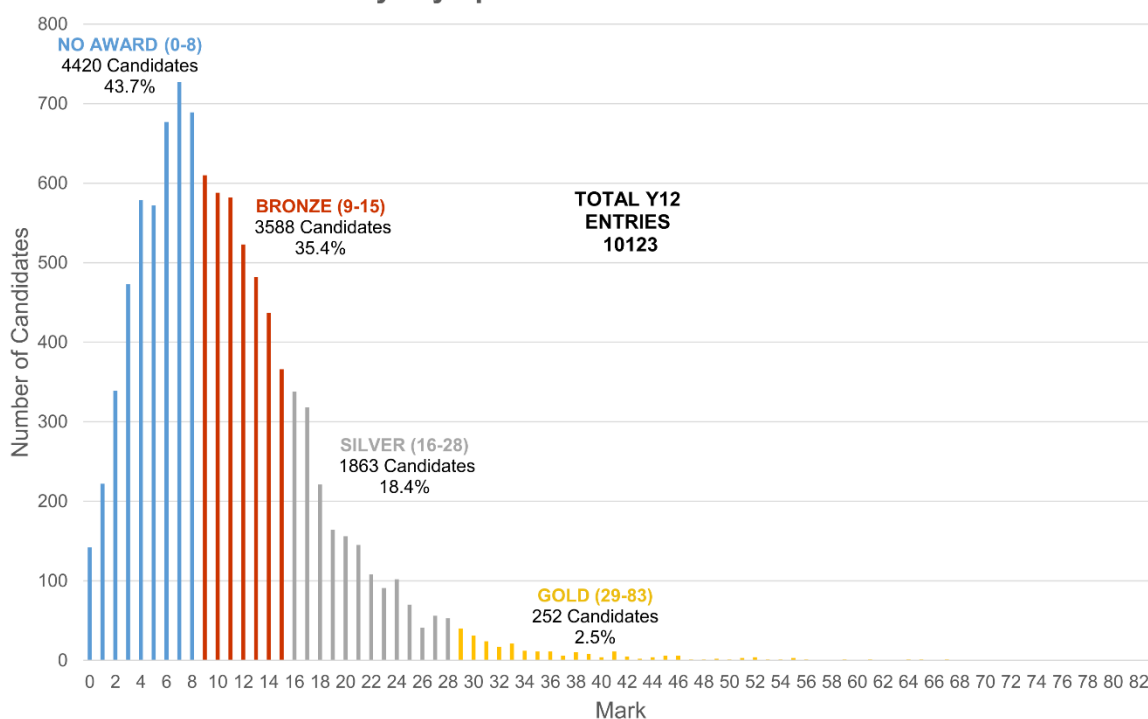
We hope that this feedback is helpful. The distribution of scores for Round 1 of the UK Olympiad is shown below:



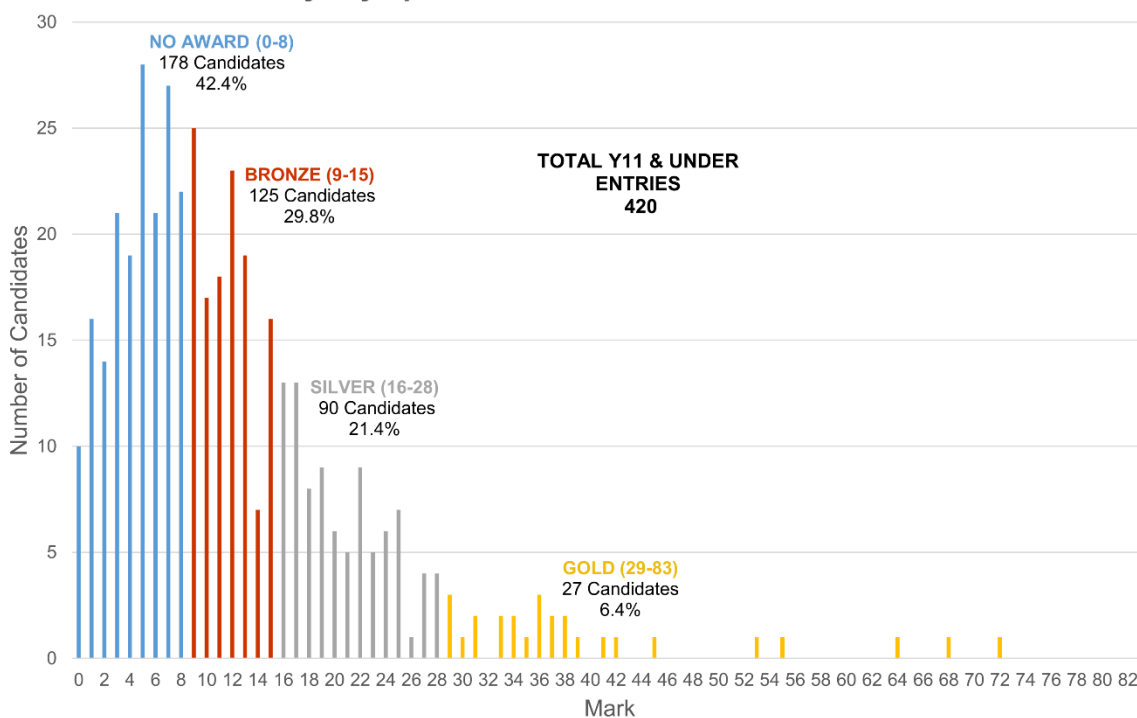
UK Chemistry Olympiad Round 1 Scores 2025 Year 13



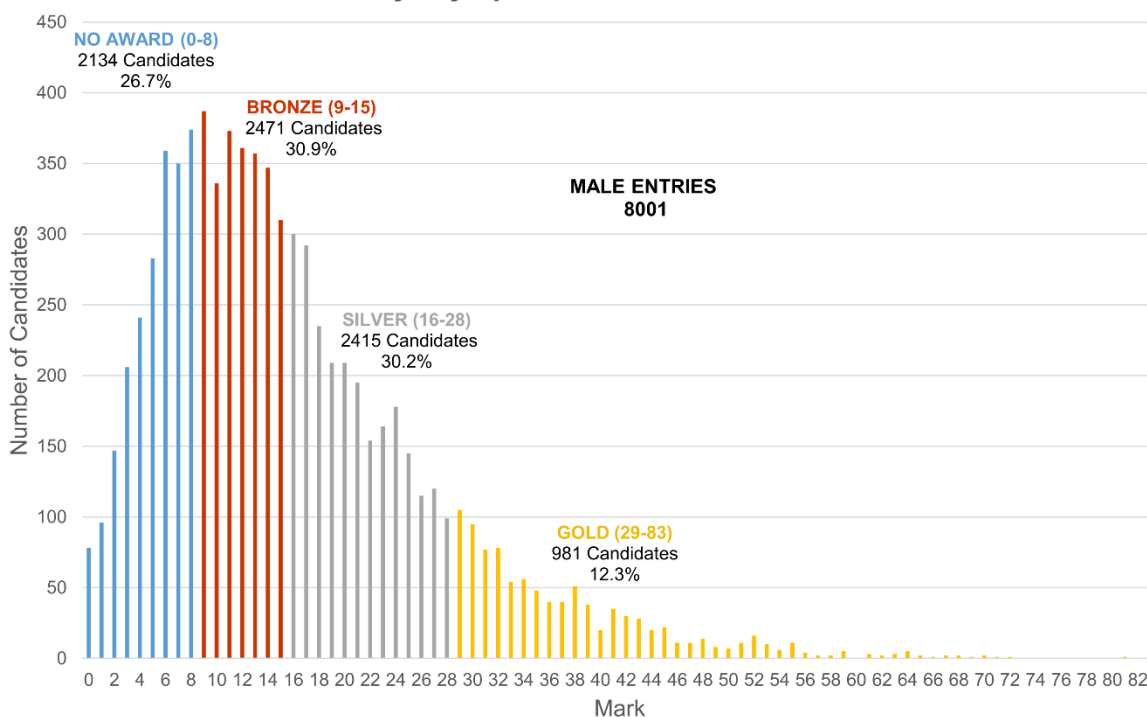
UK Chemistry Olympiad Round 1 Scores 2025 Year 12

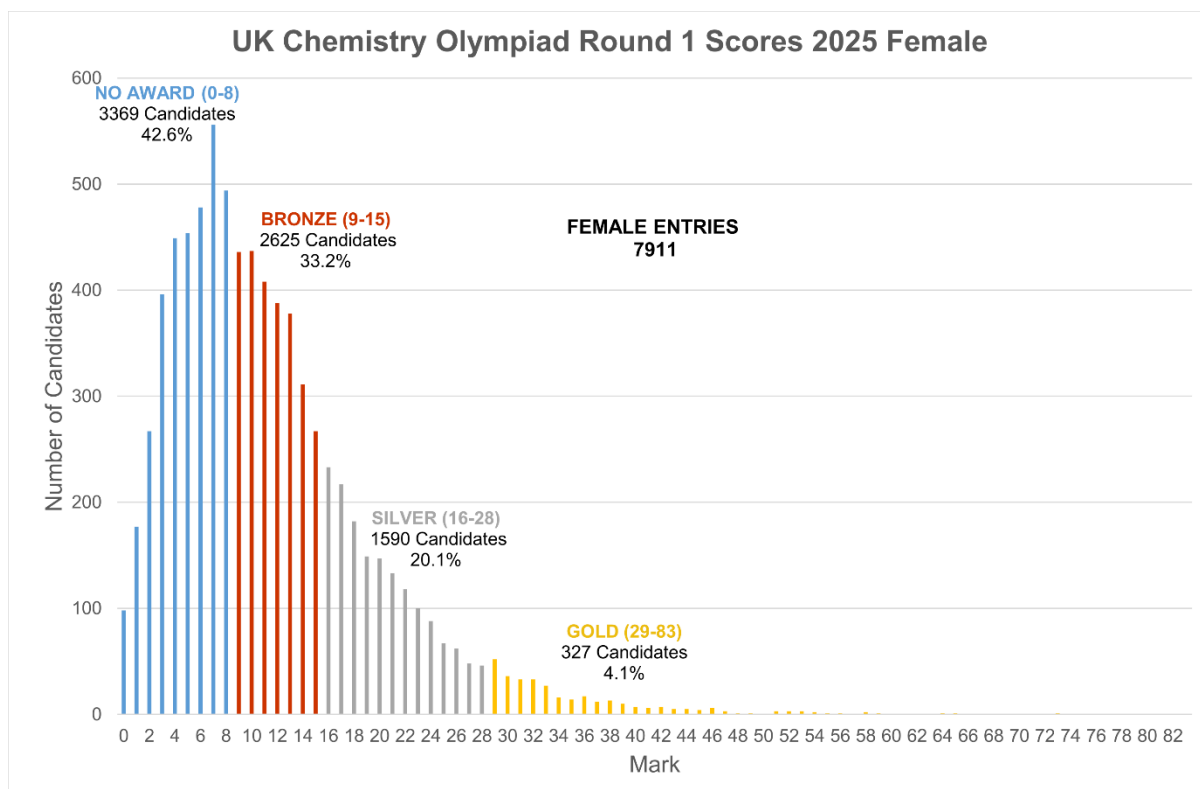


UK Chemistry Olympiad Round 1 Scores 2025 Year 11 & Under



UK Chemistry Olympiad Round 1 Scores 2025 Male





We look forward to seeing you in 2026!