

Olympiad Teacher Voices

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Why do you take part in the Olympiad round 1?

We feel it gives the first year students in particular an opportunity to boost their resilience and thinking skills, and as such their confidence in their own skills, early in the course. We find that it has led to better performances in internal assessments as they get validation of their deductive skills etc.

What do you think your students get out of the competition?

As per above, a sense of confidence and realisation of the skills that they have but didn't recognise in themselves. An added bonus this year is the number of female students who also showed an interest (approximately 50:50 male/female interest so it also has helped the confidence of all students) – and this has had a knock-on effect on the take up of other chemistry enrichment activities and current UCAS choices by female chemists.

What role do the round 1 competition and Olympiad past paper questions play in your teaching and learning?

We search out chemistry Olympiad questions that are accessible topic-wise and put them onto cards alongside our resources box for that topic, so that students who fancy a challenge can try them as we go. I also try to do a YouTube clip of these as follow-up. We have found that even if not everyone goes on to try the paper, they enjoy the opportunity to try questions that are on accessible topics, e.g. enthalpy, redox, shapes of molecules etc.

How do you and your students prepare for round 1?

As the paper gets closer (January) myself and a colleague run lunchtime training sessions. We introduce as briefly as possible a topic, e.g. Hess' Law, NMR, unit cell etc. that may not have been taught yet and then get them started on a question. My colleague has prepared a booklet of questions and mark schemes linked to each topic which students can download from our VLE. I do a weekly after college session that is a bit longer (1 hour) as I run a chemistry enrichment session each week after college anyway. From each of the packs I will do two questions on YouTube, introducing new ideas (Year 1) where necessary (or a review for Year 2). The students can then go away and use this to self-coach and email either myself or my colleague or catch up with us in college.

What advice would you give to a school that is taking part in round 1 for the first time?

Definitely offer it to the first year students. This was actually my colleague's idea this year and we got over 50 trying it out of a cohort of around 280. This has created a culture that has spread through the cohort and it will be very interesting to see how many second years this year try it again! We also have contacted one of our alumni who is now a research chemist at Cambridge University and she's kindly come in and shared her experiences of the paper and trained our students with some tips.

My video clips were inspired by the quality of the RSC's own "bites" on the Learn Chemistry website and I thought I would try doing some of my own. If the RSC are considering doing some more of these they would be very welcome and we'd make good use of them.

You talk about the Olympiad boosting the students' confidence in their own skills and allowing them to realise skills they did not know they had - what would you say to teachers who are worried that their students might lose confidence if they do not do well in the paper?

We stress to them that it's entirely separate from their A-levels and that it's much more about demonstrating the willingness to take on something challenging. We do get a few who shy away but the vast majority don't. The participation certificate is also helpful for confidence.

You mention an increase in interest from female students; can you attribute this to anything you do that other schools could learn from to encourage more female students in their own schools to get involved in the competition?

We have quite a lot of students (about 280 in the first year and slightly fewer in the second) anyway; therefore it's more likely that among the female cohorts there are students that are ambitious and likely to respond positively to the opportunity to take something like the Olympiad. There are some girls who do pull back and could do it with more self-belief but we don't push them too hard, however, we do find that once one female student decides to have a go, it's quite possible to encourage a couple of her friends in the class to also do it. We also try to link attempting the paper to their aspirations (medicine, chemistry etc.) so they can see it as a benefit.

The Chemistry Olympiad is the leading chemistry competition for students in the UK. To find out more about this opportunity to challenge your chemistry students visit [rsc.li/olympiad](https://www.rsc.li/olympiad)

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Can you give any further detail on how you run your lunchtime and after school sessions? For example, how do you work through the questions with the students to prepare them?

We select a question that has some relevance to the syllabus (for instance we would not attempt unit cell straight away). We would also highlight whether the question is connected more to first or second year topics (the attendees will be mixed, e.g. some Year 1 and some Year 2). If it's about Hess's Law for example we'll briefly introduce this and then as we teach it, connect across to the question or maybe focus on a particular section of the question. If there is another part which requires a bit of unit conversions for example, the students can be left to work through that themselves. I will have prepared a YouTube clip on the same question (or one like it) which will also do some intro on the topic (Hess's Law, NMR etc.) and the students will be directed towards this. The after college sessions tend to be run by me and last an hour; in these ones we can go into more off-spec ideas such as unit cell, then link back to their basic maths via trigonometry or Pythagoras for example.

Related to your training sessions, how early would you recommend to a new school that they start prep work with the students?

We started last year in early January but this year we envisage starting in mid-November (basically as soon as they have done redox and can start to access some of the topics).

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