



KING'S MATHS SCHOOL

AUTUMN TERM 2015

DOUBLING IN SIZE

This term KCLMS has doubled in size! We now have over 130 students. We are delighted that our new intake is very happy with the choice that they made to come to KCLMS. According to our anonymous end of term student survey, 98% of our new students are enjoying school, and 100% think that they are learning a lot in lessons.

UCAS

University applications have been a massive focus for our year 13 students this term. We are delighted that between them our students are already holding 97 offers from Sutton Trust 30 universities, with more coming in every day. 26 students have put in applications to either Oxford or Cambridge, and many are being interviewed this week: we wish them the best of luck and look forward to hearing how they fared.

CLUBS AND SOCIETIES

This term saw a re-launch of KCLMS' clubs and societies, many of which have this term been set up by our pioneering students. The roll out of the programme was marked with a bang with a clubs fair held on 11 November, at which a student representative promoted each club at their own stall, attempting to persuade their fellow students to sign up.

There are various clubs that indulge mathematical, scientific and computational endeavours, such as the student run series of seminars on the Haskell programming language and there is also a drama, debating and magic club to name but a few.

COMPETITIONS

With what are fast becoming firm fixtures on our school calendar, students have been very busy this

term with participation in a number of national competitions.

This year's Senior Team Maths Challenge took place on the 3rd of December, where KCLMS impressively finished joint top in the regional heats against 40 other schools, qualifying for the National Finals on 2 February. Congratulations to Andrew Dean, Iain Wright, Thomas Wilkinson and Cameron Croucher.

The Senior Maths Challenge is a bit of an event at KCLMS. This year gold, silver and bronze medals were split in approximately equal proportions, and 13 students did well enough to qualify for the British Mathematical Olympiad.

In the Mathematical Olympiad for Girls, a tough extension paper, an impressive six of our students earned Certificates of Distinction, which are awarded to the top 25% of participants nationwide. Well

done to Emma King, Phoebe Linane, Jinlei Chen, Alice Collier, Ursula Shaw and Kirsty Land. Kirsty deserves a special mention as she attained full marks.

ECONOMICS

KCLMS has a new subject! This year 19 students are studying Economics, and they think the subject and the teaching are ace (100% of the students report that the quality of teaching is outstanding, and that they feel challenged and engaged in lessons). The sole teacher is Gayle Saundry, who somehow manages this on top of being Deputy Head.

ENRICHMENT

Our enrichment programme for year 10 and 11 pupils had over 500 applicants this year, and since September over 200 pupils from 90 different schools have been visiting us once a fortnight for enrichment activities. Many of these pupils will go on to sit a GCSE in Further Maths. Of those who did so last year, the vast majority achieved an A* or even an A⁺ in the qualification. Many of these pupils are now studying Further Mathematics in their own Sixth Forms, and some of them have joined us in year 12 at KCLMS.

PHYSICS TRIP

On 6 November, 21 year 12 physicists attended an Open Day at the Diamond Synchrotron near Didcot, one of the top five synchrotron radiation facilities in the world. This huge x-ray machine hosts a very large number of research groups that require the radiation it generates to study matter on the atomic scale. After a

general talk about the facility, small groups of students were given an extensive tour of the complex by an Engineer, Scientist or both.

The areas studied range from cancer research to a project to reduce the size of computer memory units. Happily the synchrotron was switched off during the tour: the beams of x-rays are millions of times more intense than any found in a hospital.

EXTENDED PROJECTS

This term has marked the end point for many year 13 students' extended projects. One of the most interesting, and certainly the most popular at open evenings, has been the creation of a remote controlled quadcopter (a drone) by a team of year 13 students: Saqib Jahangir, Marcus Waller and Riu Kawashima. Congratulations to them and to others who have completed; some students are now seeing a direct benefit through reduced university offers.

THE SHOULDERS OF GIANTS

The annual King's-Exeter Mathematics Competition this year focused on the work of six outstanding mathematicians: Al-Kwarizmi, Descartes, Kovalevskaya, Nightingale, Perrin and Ramanujan. The winning team from All Saints Catholic School, who made a delightfully illustrated video about the work of René Descartes, were awarded their prizes at the Bank of England by Andy Haldane, Chief Economist at the bank.

MODERN LANGUAGES

This term every year 12 student completed a 10 week taster course

in a modern foreign language: one of Mandarin, Japanese, Spanish, German, and French. Feedback from the students has been very positive. The best thing about it? "Getting to do something that's not maths-y at the end of the week!"

WEEKLY MATHS CHALLENGE

The weekly maths challenge has continued to be published on our website. Since September its author has been James Robson, mathematician and KCLMS mathematics teacher, who has here put his instantly recognisable creativity to good use. You can follow the problems @sevendaymaths but here is a recent favourite:

In the Nosbor Model of Particle Physics there are three types of fundamental particle of equal size: the woozleino, the turnipo, and the bulchon.

When two different particles collide, the Nosbor Model says that they will turn into two particles of the third type. If two particles of the same type collide, they produce two particles of the other two types.

In a particle colliding machine, there are 30 particles in all: 15 woozleinos, 7 turnipos, and 8 bulchons. The particles are left to collide. Can there be at any point 30 woozleinos in the machine?

From what starting conditions could you at some point have 30 woozleinos in the machine?

HAPPY CHRISTMAS AND SEASONAL GREETINGS TO ONE AND ALL!