

# KEHS News

October 2007

## Keeping Exams Hugely Successful

Many parents will have seen our external examination results from summer 2007 on the website.

We were delighted that again girls did very well nationally and produced the best results in the West Midlands. The number of A and B grades at Advanced Level was over 90% with 42 out of 77 girls gaining 4 or more A grades, and girls achieving top marks in the country awards in Religious Studies, Economics and Business Studies, German and Geography this year. At GCSE, the girls also achieved stellar top grades with over 93.5% being at A and A\*, top in the country marks in modern languages and 54 out of 78 girls achieving all As and A\*s, grades that are the all important markers for when the girls want to apply for highly competitive courses at highly competitive universities.

A new year means the cycle starts all over again and we are at pains to explain to the girls that it is not mere attendance at KEHS that brings these world-class results – a lot is required of them too! My teaching colleagues are particularly keen at this

time of year to encourage the girls to establish good patterns of homework and organisation. To this end we are really emphasising the importance of deadlines and time management when it comes to homework and hope parents will help us to reinforce this!

As we so often hear in the media, excellent examination results are not enough to ensure young people realise their dreams in an environment

where A grades are increasingly common. We ensure in school that the girls have opportunities to learn much that is outside any examination syllabus. Important learning experiences are on

offer that has nothing to do with the academic life, such as our outdoor education opportunities, but we are also very keen to fire the girls' enthusiasm for matters academic by out of classroom events. Just look at what has been happening in the Physics department elsewhere in this newsletter, which is mirrored in every other department of the

school. We want girls to find their own areas of fascinating intellectual interest.



### I love to go a wandering.....



Summer 2007 saw KEHS run three separate Duke of Edinburgh expeditions. At the beginning of the holiday twenty-two girls went to the Ullswater area of the Lake District. In the last week of August



twenty-five girls explored the Yorkshire Dales around Ingleton and the first weekend of term saw two groups being tested for Bronze and Silver in the countryside near Stratford. We were lucky with the weather, everybody passed and the photos show some of the teams in action.

# Mathematics at KEHS

October 2007

## THE DEPARTMENT

The department consists of five full time teachers (Dr B. Ashfield, Miss C. Brown, Mrs C. Hosty, Mr H. Kavanagh, Mr R. Sheppard) and one part-time teacher (Mrs J. Mahon)

### The Curriculum

Mathematics is a creative discipline. It can stimulate moments of pleasure and wonder when a pupil solves a problem for the first time, discovers a more elegant solution to that problem, or suddenly sees hidden connections.' (The National Curriculum – QCA 1999)

We are committed to developing the girls' interest in, and enthusiasm for, Mathematics. We encourage them to see the subject as a creative one, in which insight and an intuitive approach are as valuable as logic and structure. Throughout their Mathematics lessons we aim to develop their confidence and enjoyment in the subject, their ability to think mathematically, to appreciate the place of mathematics in society and to understand and communicate mathematical ideas through working independently and co-operatively. Throughout the first five years girls study a variety of Mathematical Applications and Topics, building on them as they progress through the school.

We offer a curriculum that encourages 'a higher level of technique in, a greater depth of understanding of, and a willingness to reflect on standard curriculum material' (Acceleration and Enrichment? – Serving the needs of the top 10% in school mathematics UKMT 2000) through the use of enrichment activities and topics. For this reason we now offer the International IGCSE (Edexcel 4400H <http://www.edexcel-international.org/quals/igcse/4400/>) which all the girls take at Higher level. This course is more mathematical and a better preparation for Mathematics in the Sixth Form and beyond. We also offer girls the opportunity to study Additional Mathematics, a Free Standing Mathematical Qualification (OCR 6993). [http://www.ocr.org.uk/qualifications/freestandingmathsquals/additional\\_mathematics/index.html](http://www.ocr.org.uk/qualifications/freestandingmathsquals/additional_mathematics/index.html)). This is an extension qualification covering topics from the A Level syllabus. 26 girls went on to sit the examination and 15 gained an A grade. They gave up their own time to develop their mathematical knowledge and understanding and we are very proud of all of them.

### A Successful Department

The Mathematics Department is successful both in terms of examination results and take up of the subject into the Sixth Form. In 2007 95% of the Upper Fifth were awarded an A or A\* at IGCSE, 70% of the Lower Sixth Mathematicians were awarded an A at AS Level and 80% of the Upper Sixth were awarded an A at A2. We are very pleased that so many of the Sixth Form recognise the importance of studying Mathematics, currently 48 of the Lower Sixth are studying Mathematics with 12 Further Mathematicians amongst them. In the Upper Sixth we have 35 Mathematicians with 9 Further Mathematicians.

We also regularly take part in the United Kingdom Mathematics Trust Mathematics Challenges at which the girls do very well. Congratulations should be given to Gabrielle Chan of L5A who was awarded a Distinction, putting her in the top 50 in the country, on the Intermediate Olympiad paper. Eleanor Davidson of L5A, Rebecca Bowen, Abida Siddiqua and Catherine Solari of U5C were awarded certificate of Merit in the same competition.

### Opportunities for Enrichment

'It is a rare teacher and a rare school that have the time and capacity to give their pupils more than the system requires' (Jenni Russell, writing in The Guardian 25/09/07).



On Monday 10th September we hosted the third Thirds Maths Fun Morning. The Thirds were given the opportunity to take part in three mathematical activities. Origami is the ancient Japanese art of paper folding, ('ori' meaning 'to fold' and 'kami' meaning 'paper'). Origami only uses a small number of different folds, but they can be combined in a variety of ways to make intricate designs. 3A, B and C created a bird by folding a square of paper. Held in the correct way, the birds all flapped their wings! If you are interested in creating your own origami design there are websites that cater

for all abilities, including [origami-club.com/en](http://origami-club.com/en).



both staff and pupils.

We also enter girls for the UKMT Team Mathematics Competition. Previously just for the Lower and Upper Fourth (Years 8 and 9), it has this year expanded to include a Senior Team Competition for the Sixth Form run in conjunction with the Further Mathematics Network. We are very much looking forward to entering this new competition.

The following are some reflections from our Team Competition team of 2005 (Alison Hobbs, Rachel Dunstan, Shruti Chaudhri, Katie Harrison) who won the regional final and went on to the National Final in the Guildhall in London (Shruti was unable to attend and so was replaced by Claire Wallace). These give a flavour of the day and the challenge facing our team.

'I have to admit I was initially a little surprised at the number of people who had turned up for a day of maths, but I soon realised why they all had.'

'Final round is the relay which, while being quite chaotic, is also GREAT fun, about 80 pairs of people all running up and down the hall, solving questions against the clock.'

'We proudly handed in our poster, which had attracted many an eye as we had been making it. Later on in the day it was announced that we had come third in the poster competition, which we were very pleased with, since there were over 60 teams present.'

Finally we moved on to the terrifying and intimidating sequence round. You could feel the tension looking around the room, seeing people struggling to see that all you had to do to these numbers to get the right answer was square it, minus three, divide by the largest factor and then add the

number you started with...'

'All in all, we had a really fun day and we arrived home that night exhausted but eager to relate our successes to our families and to explain to them all of the mathematical riddles that we had faced during the day, just in case they felt left out of all the fun.'



Winners of the regional final, with our poster – the one at the bottom

## Physics – Autumn Term 2007

**1.** In the third week of term, the lower and upper sixth physics girls performed some field work at Alton Towers! Using hand-held accelerometers, electronic sensors and camcorders, extensive measurements of speeds and accelerations of some of the rides were performed. Data was analysed to complement their studies of mechanics in the Advancing Physics course. Of course, fun was had by all!

**2.** Dr Diane Aston of the Institute of Materials, Minerals & Mining visited the school in September to give a talk to L6 physics girls on the properties and uses of materials, an area of study in the Advancing Physics AS course. It was a very interesting presentation, particularly the discussion of 'smart' materials.

**3.** Sixth form physics students are building a seismometer system to detect large earthquakes that occur around the world. Measurements will be shared with schools across the country in an initiative organised by the British Geological Survey. Although earthquakes are not specifically on the physics specification, the understanding of Earthquakes and their detection require a range of concepts from the AS and A2 courses.

**4.** Girls now have the opportunity of studying for a GCSE in Astronomy. Almost fifty girls have started the course that involves (guided) independent study. Substantial learning resources are available and girls are able to attend a lesson each week as an extra-curricular activity.

**5.** Ten sixth form girls attended the first of a series of evening physics lectures held by the Institute of Physics and the West Midland Physics Teachers Centre at Birmingham University. The talk on nuclear physics described the physics of generating electricity by nuclear fission, but also convincing arguments were put forward for building nuclear power stations in the future.

## Sports News

The following girls have been selected to represent the county at hockey: **U17** Anna Fawcett, Katie Harrison & Alex Bleasdale. **U15** Shivani Aggawal.

**U14** Emma Harrison, Felicity Yule, Antonia Wood & Saumya George.

The following girls have been selected to represent the county at netball: **U14** Emma Harrison, Antonia Wood, Lauren Fahy, Natalie Tran & Saumya George.

**U13** Philippa Stacey & Alice Sadler.

**U15 Nestle Tennis Tournament:** The girls won the 1st round last summer (2007). The next round was played on Tuesday 2nd October where the team beat Alcester Grammar School. They then went on to win the next round, against Tudor Grange School, and will play in the quarter finals on November 19th.

**U18 County Netball Tournament:** The girls played superbly well and were placed 3rd in Birmingham.

**U16 Hockey:** Congratulations to our team who were placed first in the Birmingham County Tournament.

**U16 Netball:** The girls came 2nd in the County Tournament and will now represent Birmingham at the West Midlands tournament in January 2008.

**U14 Hockey:** Our team was placed 3rd in the County Tournament.

## Giving it all away

This is the time of year in which those involved in Community Service in school send off the fruits of their labours to various good causes. Funds raised in the academic year 2006-7 have been sent to the charities selected by girls and staff.

Over £5000 has been sent by individual forms and year groups to the charities of their choice. 10% of this total has been sent to our school charity, Link Community Development, to sponsor the Kitongozi Primary School in the Masindi province of Uganda. The sum of just over £500 was boosted to just over £700 by the efforts of Safia Mir in L5c who did some fundraising at home during the summer and donated it to our school charity; well done, Safia!



A further number of cheques have been sent from school recently. These represent the profit made at our successful Summer Fete. Some of the funds raised will be used for the party for the elderly at Christmas time and a party for children too, and some has already been used for a farm trip for those same children. But we had plenty left over, and we were delighted to be able to send £200 each to many local charities.

## New classroom

Here are some extracts from a recent letter received from the charity Link Community Development:

"We were so pleased when we received your cheque for £707.20 and we are delighted that pupils at King

Edward VI are so committed to fundraising and helping children in Uganda. Congratulations on such successful fundraising, you must be experts!"

".....we now have an opportunity for a special

project at Kitongozi. The project aims to build classrooms in each of four schools in the Masindi district. We will put forward your donations totalling £1,087.48 to this project which will enable a new classroom to be built at Kitongozi. We will be able to send you feedback reports with photos so you can see when the classroom is built."



## Dates for your Diary

**29th October:** U5th mocks

**31st October:** 3rds Residential Trip to Cleobury Mortimer

**7th November:** 3rds At Home

**13th November:** L4th At Home

**27th November:** U6th At Home

**5th December:** L6th At Home

**10th & 11th December:** Xmas Concerts

**14th December:** Carol Service

