

The Good Guys

How Year 11s are giving something back

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cycling champion

Girl Power!
Chantal Nobs
writes about Karate

Doctors Who..
do amazing things.
Dr Lawrence and Dr
Colthurst explain
about their exciting
new ventures

Get Cooking
2 easy to follow
recipes that even a
boy can follow

and ...
much, much
More!

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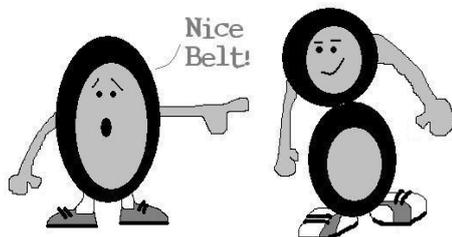
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If you would like to contribute to the next edition of Langton News, please email your article and/or photographs to

Susanbegg@thelangton.kent.sch.uk

We are especially interested in hearing about your favourite music, computer games, hobbies, movies, etc. Don't worry about layout - just write about things that interest you that you think would interest others.

Parents are also welcome to contribute if they wish.

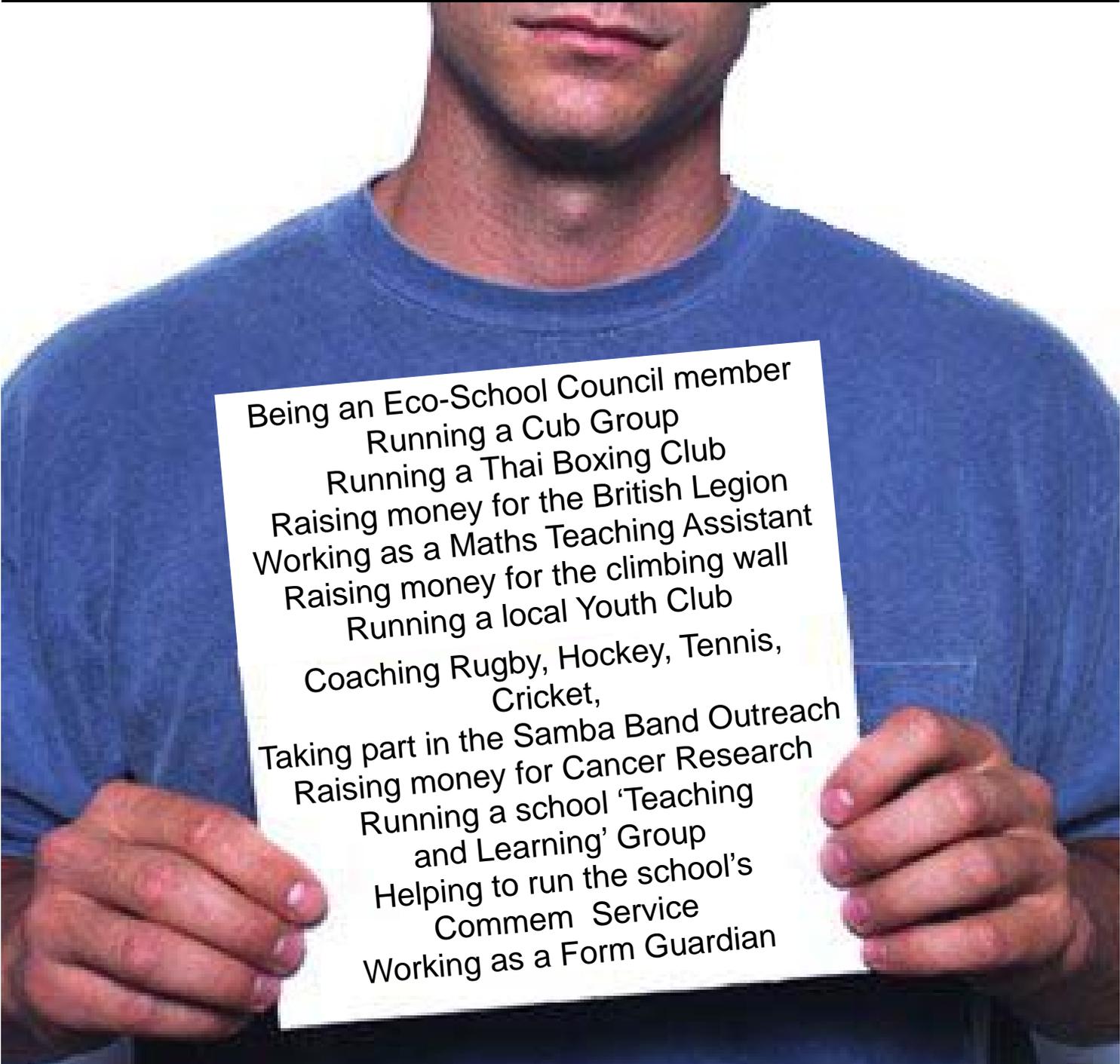
Year 11 Students are Giving Something Back

By Mr D Butler

Whilst the media and society at large fixate on the belief that young people are purely self-interested individuals, it is always pleasing to look at the myriad of things that our senior students do for others. These are just some of the activities reported on for just one year eleven group as part of their active participation coursework for their GCSE Citizenship course.

These actions are replicated in each class throughout the senior school and show that our students do give something back.

Well done guys!



Being an Eco-School Council member
 Running a Cub Group
 Running a Thai Boxing Club
 Raising money for the British Legion
 Working as a Maths Teaching Assistant
 Raising money for the climbing wall
 Running a local Youth Club
 Coaching Rugby, Hockey, Tennis,
 Cricket,
 Taking part in the Samba Band Outreach
 Raising money for Cancer Research
 Running a school 'Teaching
 and Learning' Group
 Helping to run the school's
 Commem Service
 Working as a Form Guardian



Media Magnets

In September scientists launched the new Large Hadron Collider at CERN, Switzerland in an attempt to discover more about the origins and nature of the Universe. Head of Physics, Dr Becky Parker, MBE and her elite team of Physics students were invited to a special 'Big Bang Breakfast' in Central Hall, Westminster. When the £5bn machine designed to smash particles together with "cataclysmic force" swung into action on the Swiss-French border, the Langton team joined members of the Science and Technology Facilities Council as they clustered around a live satellite feed.

It wasn't long before journalists from Teachers' TV, ITN and BBC Online were queuing up to interview Dr P and the Langton students and the day culminated with a live interview on the PM programme on Radio 4!



From the Head



In September the newly refurbished pool was opened and swimming has now become a successful addition to the range of sporting opportunities available to our students. During the next term all boys will have the opportunity to swim, either as part of their regular PE lessons or as one of the range of supervised lunchtime activities available to our students.

In the next few weeks we will establish a Langton swimming squad for more serious swimmers and those wishing to improve their technique and speed. Initially squad sessions will take place on Wednesdays after school and we will extend training time in the pool if there is sufficient demand.

During the coming months we will continue to improve our facilities and I am currently working with Local Authority officers to provide facilities enabling our students to learn basic cookery skills. I expect to make a firm announcement about this development early in the New Year.

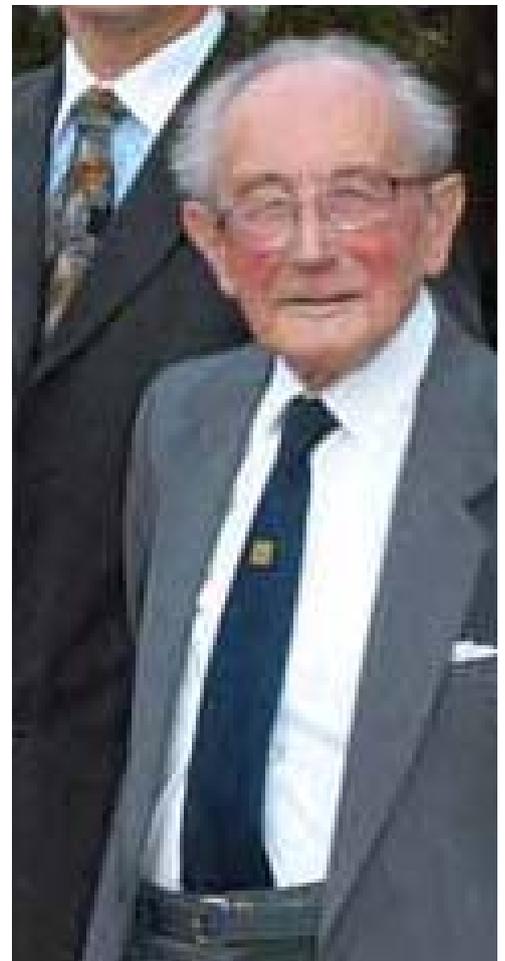
Kenneth Pinnock

The Langton has received the sad news of the death of Mr Kenneth Pinnock, a former student of the school. Mr

Pinnock was interviewed by Mrs Jayne for the last edition of Langton News in which he recalled his years at the school.

As well as being the author of many books on local history, including *The House of Light and Dark: A chronicle of life in Canterbury in the nineteen-twenties*, Mr Pinnock was awarded The Civic Award in 2006 in recognition of "his many years as a local teacher, historian, author and an enthusiastic activist in many voluntary organisations."

Mr Pinnock's son, Trevor, is the world renowned harpsichordist and conductor.



Langton Cyclist gets Gold!

The magnificent achievements of the British Cycling Team in the Beijing Olympics means that Cycling has become a hot topic, especially for Year 10 student Piers Benton who is a keen cyclist himself. In September he took part in the Brompton World Championships and reports below on his experience.



Piers was presented with his Gold Medal by Andrew Ritchie, Founder and Technical Director of Brompton

For those of you who don't know, Bromptons are small-wheeled folding bicycles that have been made in London for thirty years. They are recognised as the best commuter folder cycle because they fold/unfold in 20 seconds, are compact (55x55x27cms) and most importantly they ride well (for a small wheeler). Brompton is the second largest British bicycle manufacturer (after Raleigh). Over 260,000 of these bikes have been made.

On the 28th September this year the Brompton World Championships were held in the grounds of Blenheim Palace near Oxford. Although the majority of the 454 cyclists registered for the 2008 race were British, there were cyclists from America, Australia, Belgium, China, France, Germany, Holland, Japan, New Zealand and a very large contingent from Spain (last year's Brompton World Championship was held in Barcelona and won by a Spaniard - so a the large Spanish team came to defend their title). Because the bikes were made for commuters the race was designed to make people look like businessmen so competitors had to ride a Brompton bicycle wearing a jacket and tie and, of course, a cycle helmet.

About 30 minutes before the race I started felling nervous. Would I crash? Would I finish last?

Finally the horn sounded for the start of the race. In a Le Mans-style start, I ran with the other competitors (men, women, veterans, and juniors) to my bike that was in a folded position at the starting grids. I unfolded my bike (in a personal best time), put up the seat post, jumped on and . . . I was off! Only 13 kilometres to go! Round a corner, down the slope and over a bridge before a long climb, then a fast downhill in a tucked position. The circuit wound fluidly through the meadows before coming back along the home straight to the start/finish line for a second lap. I had already done half the course without even realising how painful my legs were. I was ready to drop but I knew I couldn't because I was so close to the finish. I took a second to compose myself before flying past about 6 people in a sprint finish, almost falling off my bike at the end. My legs had gone completely and I had to lean up against the railings to support myself. Someone I had met told me one of Lance Armstrong's sayings was "Pain is temporary, losing is permanent" but at that point I didn't care if I had won or not, I just wanted to sleep. I collected my shirt and drink then made my way back to the car. All my initial anxieties about "would I finish" had been swept away but I was completely exhausted.

Because of the staggered start and all categories being mixed up together on the course it was hard to know in what position I had finished, so I was surprised and happy to hear my name being called over the loudspeakers to come on the stage as winner of the Junior Brompton World Championships in a time of 0:31:52, having narrowly beaten a Spanish boy into second place.

The adult men's race was even more keenly contested. Roberto Heras (who won the Vuelta a España four times) was beaten by three seconds by Alistair Kay from York. The Spaniards won the team prize and left cheering with their prizes

I hope to defend my title next year in Japan.

LANGTON RIDE SAFELY GUIDE

Bicycle riding is fun, healthy, and a great way to be independent. But it is important to remember that a bicycle is not a toy; it's a vehicle! Follow these basic safety tips when you ride.

Wear a Properly Fitted Bicycle Helmet

Protect your brain, save your life.

Adjust Your Bicycle to Fit Stand over your bike.

There should be 1 to 2 inches between you and the top tube (bar) if using a road bike and 3 to 4 inches if a mountain bicycle. The seat should be level front to back. The seat height should be adjusted to allow a slight bend at the knee when the leg is fully extended. The handlebar height should be at the same level with the seat.

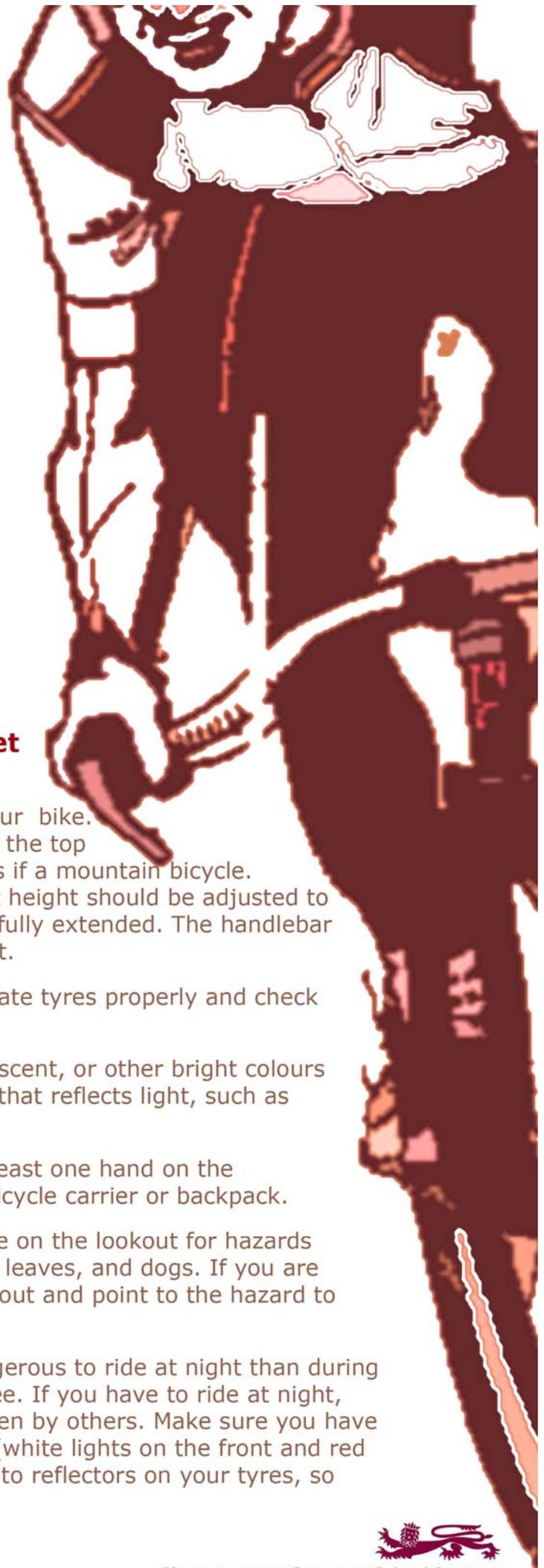
Check Your Equipment Before riding, inflate tyres properly and check that your brakes work.

See and Be Seen Always wear neon, fluorescent, or other bright colours when riding day or night. Also wear something that reflects light, such as reflective tape or markings, or flashing lights.

Control Your Bicycle Always ride with at least one hand on the handlebars. Carry books and other items in a bicycle carrier or backpack.

Watch for and Avoid Road Hazards Be on the lookout for hazards such as potholes, broken glass, gravel, puddles, leaves, and dogs. If you are riding with friends and you are in the lead, yell out and point to the hazard to alert the riders behind you.

Avoid Riding at Night It is far more dangerous to ride at night than during the day because you are harder for others to see. If you have to ride at night, wear something that makes you more easily seen by others. Make sure you have reflectors on the front and rear of your bicycle (white lights on the front and red rear reflectors are required by law), in addition to reflectors on your tyres, so others can see you





Report from The Chair – 2007/2008

Firstly I would like to mention Susan Thornton. She suffered with her illness, almost as soon as she relinquished her PA duties last year. I still find it incredible that she isn't around anymore. Sam and I were at her funeral, and Susan Foster, Lorraine Moore and Bob Crick were there from the School. Flowers were given from the Parents Association and from my family, and it was a very interesting and inspiring service. Her family have our best wishes.

Our Year

After a seemingly successful New Parent's Evening in 07, we had quite a lot of initial interest in helpers, but unfortunately a lack of new Committee Members .

Our first event of last year was the **Bullying Awareness Evening**. As you would expect the majority of the audience were parents of new Year 7 boys, and once we had seen Mr Raines's presentation which included a sample of the videos shown to new boys in PSHE, a few parents had questions for the team.

One of the main points to come out of the meeting, which not only majored on 'traditional' forms of bullying, but on the increasing problem of so-called

Cyber Bullying – (mobile phones and computers), was that the new intake could benefit from earlier exposure to the section of the PSHE education that concentrates on bullying and how they should handle the problem if it arises. This has been instigated.

In March 08 we also presented an evening on **Drugs Awareness** with Dr Duncan Mackay, Deputy Head (Pastoral Care), Andy Raines and Angela Scully presenting the School's policies and the care systems in place, along with *The School Drugs Education Co-ordinator*, Anne Lord, who provided an informative presentation and the opportunity for Q&A.

The new **Langton Boys Quiz Team**, made their debut in October 07. The evening was a success, even if some of the questions were a little on the hard (and obscure) side, and the arrangements on the boy's side a little last minute!

We made a reasonable profit from this, their first venture, and immediately booked them for another event in March. The 08 event, although less profitable due to poorer attendance, did have the benefit of easier questions!

The largest event co-organised in 08 was undoubtedly the **Burns Night**. My particular thanks go to Bob Crick for his tireless efforts in co-ordinating the event, The Scottish Dancing 'training' provided by the school in the few weeks prior to it really made a difference on the night as did John McCrae as President for the evening, Ken Moffat reading Burns' poetry, Mrs Temel singing and James Laraman piping in the Haggis.

It was wonderful to see everybody enjoying themselves in such a 'traditional' way – the formal dinner certainly didn't faze any of the students, and the dancing was a pleasure to watch. There has been good deal of interest in adding this to the school calendar, and I think

Bob would hope to stage it again in January of next year if there is enough student interest.

As for planned events that didn't materialise, the Jazz Event was felt unlikely to succeed. With a depleted Jazz Orchestra and difficulty in finding suitable times when all would be available, it was left off of our events list again unfortunately. The First Aid Skills Evening for parents had little support, but would be easy enough to reinstate.

The next co-organised event that we were involved in (you'll see a pattern emerging here) was the **Family Fun Evening** in the Summer linked again to the Induction day for new boys and their families. We provided refreshments, (soft drinks and cakes kindly baked by Committee Members), bagged sweets and a Raffle, along with a sealed bid auction for a donated Leisure Centre Membership.

This was a joint school and sports dept event with Darren Watson organising various events and boys performing music and displays. Proceeds were jointly divided between Sports Kit and towards a new system of fencing for the playground area to include integral sports equipment for various team sports.

I would like to thank Vanessa Bonthuys for her help this year, both as Treasurer and at all the events. She has had to resign as Treasurer due to pressure of work.

And to all of you PA members who have made these things happen, thank you, and to say, on my retirement, that it has been a fun and very interesting seven years.

Phil Day

Parents of Year 11 Students

Applications to Sixth Forms in Canterbury are changing. Your son will now have to apply online to join any School's Sixth Form.

What choices are available?

What opportunities await Post 16?

In addition to the Sixth Form Open Evening on February 11th the Langton invites you to an informal event at which we hope all your questions on Post 16 education in the area will be answered.

IMPORTANT

6th Form Entry
Information Evening
2nd December
7.00 pm
Year 11's also welcome

www.thelangton.org.uk

Download Langton News in Full Colour



空手

Year 13 student, **Chantal Nobs** has been training in the ancient art of Karate since she was 11 years old and, as she explains below, there is a lot more to it than most people realise.

Karate is an art, like the tea ceremony or calligraphy writing in Japan. Karate is studied for a lifetime, and is centred on the 'perfection of ones character' meaning that one has to train the body and mind equally. Karate has evolved in such a way that it lends itself to self defence and the causes of justice.

Gichin Funakoshi (The founder of modern karate) was a writer as well as a karate master and he wrote the famous words 'Karate no sente nashi', which translated literally means 'there is no first attack in karate'. This is widely seen as written confirmation of the ideal of karate.

There are four main styles of Karate in Japan: Shotokan Karate, Wadu-Ryu Karate, Goju-Ryu Karate, Shito-Ryu Karate, Kenpo Karate. It is from these four main styles that all others have evolved. Shotokan Karate was founded by Gichin Funakoshi in 1922. This is the time when, invited to Japan from his native Okinawa Funakoshi demonstrated his art to the Emperor. Funakoshi never returned to Okinawa, preferring to stay and spread his style of karate throughout Japan. The style of karate practiced and taught by Funakoshi was named 'Shotokan' by his students—'Shoto' from his pen name for writing and 'Kan' simply meaning house. As most training took place at his house it seemed a natural name and it has stuck to this day.

Shotokan training is split into three areas Kihon (*basics*), Kata (*set forms*) and Kumite (*sparring*). Shotokan Karate is usually characterised as a 'hard' martial art as this is how it is taught to beginners with the focus on power and speed. It is not until brown and black belt are achieved that fluidity and pace are introduced. The reason for the 'hard' training is to turn the body into a stronger, more supple organism than when beginning training. Once this level has been achieved a student is better equipped to defend against an attack and is also able to deliver the strikes and blows that characterise karate with great efficiency and power.

In 1955 the Japan Karate Association (*JKA*) was developed with Funakoshi as Chief Instructor. This amalgamation of schools and recognition by the authorities throughout Japan in the post war era

gave rise to the very first 'international' karate instructors. The JKA was the first karate organisation to have 'official' karate and is still the largest single style karate organisation in the world.

The first style I trained in was Jutsu-Kai at the age of 11, which is not a mainstream style but it did give me the opportunity to try Kickboxing. After four years I decided I wanted to train in a mainstream style and found a local Shotokan Karate Dojo (place where Karate is practiced). I have been training in this style for two years under the instruction of two sensei (teachers), Sensei John McQuarrie, and Sensei Geoff Luker. I am currently a 1st Kyu, (student rank) which is a brown belt and means that the next grade I take will be my 1st Dan (black belt). I hope to achieve this by the end of 2008. It is commonly thought that black belt is the highest level that can be obtained, however there are further grades known as Dan grades, the highest being a 9th Dan. (To achieve this rank would take a minimum of 60 - 70 years of constant training) To date only very few 9th Dans have ever been achieved. It is often an honorary grade given after death to the most senior instructors of the day.

During the holidays I train three times a week in my Dojo. In term time I reduce this to two lessons a week (4 hours). I also train at home and attend a number of special training courses throughout the year. (These special courses are under the instruction of the best Sensei in the world and are attended by more than 500 people, from all over Europe, each day.)

I have also recently begun training with the England Squad due to my recent tournament successes and I have also been chosen as a 'kenshusei' (trainee instructor) within my dojo.

I take part in National and International competitions

annually. Competitions form a small part of my training, but they are proper, measured ways to test ability. For the last two years I have achieved third place in the Nationals, the first year for Kata (*Set forms*) and the second year for Kumite (*sparring*). In all competitions I enter both individual and team events in Kumite and Kata. Team and individual events greatly differ in their demand and difficulty. In an individual event for Kata you are required to convey accurate timing throughout, strength and focus at all the right times. However, when competing in a team for Kata you are required to reduce the pace in order to keep synchronicity and sustain power and focus.

For all competitions and gradings you are required to wear a white unmarked Gi (*Karate suit*) which consists of a jacket which must cover the hips and sleeves must not be longer than the wrist or shorter than half way down the

forearm, and must not be folded, and trousers which must cover two thirds of your shin. Hair must be clean and either cut or tied up. Nails must be short and no metallic objects may be worn. Gum shields, boxes (for men) and chest protectors (for women) are the only form of protection allowed. It is also compulsory to own and present a licence (*a licence is a record of your achievements or grades to date and your insurance policy against injury*) when wanting to compete or grade.

If you have any further questions feel free to come and find me, or why not send your questions to our club group on Facebook by searching SESKA. Alternatively, visit www.jkakarate.co.uk for further details, or better still why not come along to a lesson, you can find all the lesson details and contact numbers on the website. Everyone is welcome no matter age, height, weight, fitness or experience



We would rather click on



than send you all this

If you haven't already signed up to receive school communications via email, please do so by sending an email to

office@thelangton.kent.sch.uk

with the heading
'email registration'.

In the main body of the email please include your son's name and year group.



**HELP US TO SAVE TREES, SAVE MONEY
& IMPROVE COMMUNICATION**



Parents of Year 10 students should have received the first edition of the Newsletter either via email or 'boy post'. If you haven't received it and would like a copy, please contact Mr Fox. The Year 11 Newsletter should be ready for publication shortly.

Year 10 Newsletter

Term 1 2008

Need to

You can talk to Samaritans anytime of the day or night

Talk to someone?

SAMARITANS

By phone: 08457 90 90 90
By email: jo@samaritans.org
In person: 32 Northgate,
Canterbury

**whatever your worry, it's
better out than in**



day or night



**Not sending him to school
because of illness?**

We need to know.

If your son is too ill to come to school please make sure that you telephone us to let us know. Dial 01227 463567 then press 1



SCHOOL SHOES

Shoe: *noun* Stiff outer covering for foot usually made of leather with a stiff sole and usually not reaching above the ankle

NOT

Trainers, Trainer-style, Pumps, Plimsols, Sport Shoes, Athletic Shoes or anything else that isn't a conventional

SHOE!

Black or Dark Brown Only

HOMEWORK CLUB

**EVERYDAY
UNTIL
5.00 PM**

KS4

With Mr Connolly in
Room B3

KS5

With Mrs Taylor in
Room E34

KS3 students please note that the library is open for private study until 4.30 Monday – Thursday. In addition D1 is available until 5.00pm every day. A last bus to Canterbury Bus Station pulls into the playground @ 5.10pm each day. In addition, students and parents picking them up by car from the playground can see one another from the windows of D1.

MBP² - a very personal perspective on science

By Dr D Colthurst



A year ago I knew almost nothing about Multiple Sclerosis; now I consider myself something of an expert on its symptoms, treatments, support and the research into new therapies. So what brought about this transformation?

I'm not very good about remembering dates, but the one I do remember is 31st October 2007 – this was the day my wife received her diagnosis of MS. News like that takes a while to adjust to and it changes your perspective quite drastically. It also gives you the incentive to find out as much as possible, about the disease.

We talked with various health professionals, we were appointed to a specialist MS nurse and we visited the Kent MS Therapy

Centre, which is located just across the field from the Boys' Langton. This gave us answers to most of our questions about what we could expect of the next few months and years – but one frustrating aspect of MS is that it is totally unpredictable, every patient's MS is their own unique variant – different symptoms, progression, emotions and the whole disease can only be diagnosed retrospectively!

In a former incarnation, before I became a teacher, I was a research biochemist and so I started to look at some of the root causes of MS. I identified a protein that appeared to have a role in triggering the break-down of the myelin sheath. Myelin Basic Protein therefore became my personal therapeutic target – the next question was how could I

fund a research project and who could I get to carry it out?

It quickly became very evident that no school had ever tried to set up a project like this before, since my telephone requests for information were invariably met with a flat refusal. The only serious possibility was the Wellcome Trust. Founded by the estate of Henry Wellcome, it is the largest non-government source of funding for biomedical research in the UK and they have a number of programmes to encourage public engagement in Biosciences. On this basis I made an application for a People Award. Mr Holloway, our Head of Biology and Mrs Earley, our Biology Technician were co-applicants and I enlisted the support of Professor Mick Tuite, my former PhD supervisor at the University of Kent and his colleague Prof. Martin Warren.

Three months later, just before the end of the Summer term last year, we heard that the proposal had been successful – we had been awarded a £30,000 People Award. The Wellcome Trust wanted to send a team to visit the school to see exactly how we intended to run the project. They confessed that, while the awards committee were very excited by our proposal, they were also very nervous about a School's ability to produce the kind of results we were looking for. After meeting Dr Baxter, discussing the project with myself and Dr Poole and then visiting the University and meeting all of the academics involved in the project, they went away convinced that we could indeed "deliver the goods" and asking what we were planning as the next phase – not bad since the official start date of the project was still one month away!

The Summer holiday included some more meetings with Mick Tuite to finalise some aspects of how the project should run and exactly how the Biosciences department could help us. So we arrived at the start of term – September 1st, the official start date of our two year project.

In the first two weeks of term, I visited all of the Year 12 and 13 Biology groups and told them about the project. I explained that we were going to build six teams of students to cover different aspects of the project and that each team would have a student team leader who would supervise that team. They were then asked to select which of the teams they wanted to be in and anyone wanting to be team leader had to produce a short application for the position.

We now have sixty students split into the six groups, each of which is linked to a member of the Biology teaching staff –

- 1 Yeast growth and transformation
- 2 *E.coli* growth and transformation
- 3 Protein purification and analysis
- 4 Western blot analysis
- 5 DNA purification and preparation
- 6 Bioinformatics

So what are we going to be doing? We will be studying the human protein Myelin Basic Protein (MBP). This is one of the main proteins found in the myelin sheath, the insulating material found wrapped round every nerve cell in the central nervous system. As a protein, it is quite unusual. It has a very loose structure and when phosphate groups are added to it, it basically falls apart. This is bad news, because the body regards denatured proteins as a problem and there is an autoimmune response which then kicks in to break down the MBP. This in turn causes the myelin sheath to be broken down and this prevents nerve impulses being transmitted through the nerves. This is what

happens in Multiple Sclerosis – a sclerosis is an area of damage in the myelin sheath (sometimes called a plaque) and when you get lots of them, you have MS.

We will be taking the human gene for MBP and putting it into *E. coli*. From here, we will engineer it into the yeast *Saccharomyces cerevisiae*, normal brewer's and baker's yeast. Yeast cells have almost the same biochemical pathways as humans – so we expect the human MBP to be treated by the yeast cells in exactly the same way as it would be in a human cell. Specifically what we are looking for, are phosphorylation events which might affect the structure of MBP and which we can follow using antibodies and a technique called western blotting.

The types of techniques we will be using are standard first and second year undergraduate techniques. They are all taught in the AS and A2 biology schemes of work, but until very recently, we have only been able to teach them as theory lessons. We will now be able to let students carry out these practicals as part of their lessons.

“This is a technically very challenging project “

This is a technically very challenging project and it is only because of the close collaboration with the Biosciences Department at UKC, that we have been able to shape initial ideas into a workable project. Postgraduate and post-doctoral workers from the Labs have already given up their time to help train some of our students in some of the techniques we intend to use. This will continue over the next few weeks as we get all of the teams familiar with their experiments and give us a flying start to the project, we may even be able to start working with MBP shortly after Christmas!

Another aspect of this project is an outreach programme. We have formed a link with the Kent MS Therapy Centre and a number of our students will be visiting the centre to talk with patients, help with some routine office duties and organise fund-raising activities. The centre is 25 years old this year and is housed in a collection of pre-fabricated buildings which had an original life-expectancy of 15 years. One aim of the Centre's work is to raise £1.5 million to construct a carefully designed brick building to house the patients and staff that use the centre.

The centre receives no money from government or the local authority, all its funding comes from individuals using the centre and charitable donations. Many of the tutor groups in the Sixth form (and my own Yr 10 class) have adopted the MS centre as their charity for the sponsored walk this year. We also have a very enthusiastic group of girls in Year 12 who are determined to provide a number of fund-raising activities throughout this year.

We intend to run a number of workshops for teaching colleagues across Kent. They would come to our Labs and gain hands-on experience of running some of the practicals and our students will run these workshops. We will then run similar workshops for Sixth form students from our neighbouring schools to allow them to gain a greater appreciation of the techniques involved. We would also like to invite patients from the Therapy Centre into the school to see the type of work we will be doing.

So there it is. MBP² – the Myelin Basic Protein Project. An eventful year and a very exciting project made possible by a grant from the Wellcome Trust, the support of the University of Kent Biosciences Department, a collaboration with the Kent MS Therapy Centre and the unbounded enthusiasm of our Sixth form students and Biology staff who are always ready for a challenge at the very highest level.

UP UP AND AWAY!

by Peter Hatfield

The Langton Satellite Team has finally achieved their goal – on Friday the 3rd of October, Surrey Satellite Technology offered us space on one of their satellites to launch our experiment into orbit. In 2010 the LUCID detector, designed by students, will be launched into space and will provide valuable data for Langtonians to work with until at least 2016.

The Journey

The experiment was first conceived almost a year ago, shortly after our visit to CERN in Geneva. Our design uses Medipix technology from the centre of the ALICE detector in the LHC to detect cosmic rays, but back then we only had a vague idea of how Medipix worked and what cosmic rays were. We did some research and made an initial submission to Surrey Satellite Technology Ltd. (SSTL) for their competition to launch an experiment into space and were delighted in January when they told us that we were one of six final teams being considered. We then started turning our rough submission into a full specification and design. Our main considerations were how to prove that our experiment fell within the design limitations, and demonstrating that it will provide new and useful information. We went to the SSTL labs and received a brief from Dr Stuart Eves, a leading figure in the company, about the experiment and also got to see where it would be built if we were successful. First priority after this was to contact the Medipix collaboration and find more information about their chips. We visited Dr Michael Campbell, Head of the Medipix Collaboration, in his lab in Geneva and spent more than three hours with him discussing the capabilities of the chips and how best to use them. Professor Pinski, NASA

expert on astronaut dosimetry, also expressed an interest in the project and met with us as well while we were in Geneva. Once back in the UK, we made a journey to the Open University in Milton Keynes to consult Professor John Zarnecki, Principal Investigator on the Huygens probe, about testing and calibrating our experiment. As part of this link with SSTL we were also invited to Farnborough air show to demonstrate our ideas to the public, a very interesting experience especially as we got to meet Buzz Aldrin! After a lot more work we eventually produced a 10,000-word submission and sent it off to Stuart Eves. Eventually October came and we made our way to the "International Astronautical Congress", a meeting of the world's space agencies and organisations. After a tense day of waiting, we were eventu-

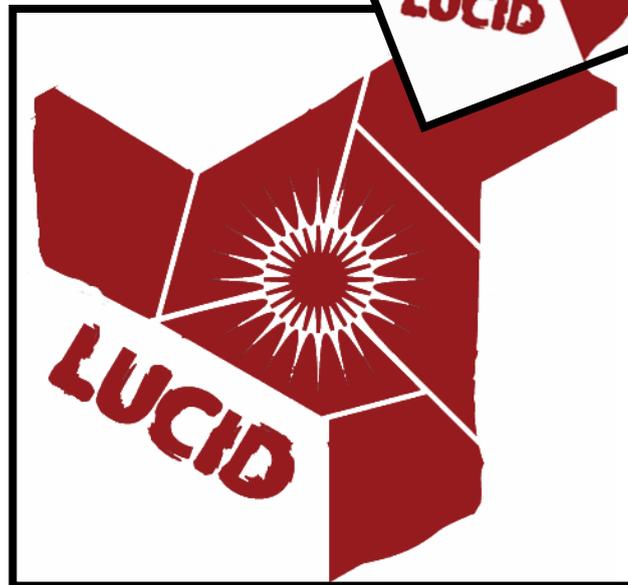
and at some point in 2010 it will be launched on one of their satellites, probably from a launch site in either Southern France or Eastern Kazakhstan. It will operate either until our experiment stops working or the whole satellite stops working (whichever is first), which will probably be in around 2016. Therefore every boy in the school at the moment (from Y7 to Y13) will have the opportunity to work on controlling and maintaining the

experiment if they get involved in the Star Centre. The data and information from the

experiment will be new; it will tell us things that were not known before and Langton students will be able to publish original research on the data.

To give a bit of background, the Earth is surrounded by "clouds" (called the Van Allen belts) of protons and electrons travelling at close to the speed of light around the earth. These "cosmic rays" are held in place by the earth's magnetic field and behave a bit like weather on earth; they are extremely unpredictable and you can get storms and other complex phenomena occurring. This is extremely important to understand – astronauts and cosmonauts in space can get seriously hurt by these

potentially life-risking radiation events. Also important is the risk to electronics in space – satellites that provide things like GPS, television and disaster monitoring for emergencies like tsunamis are often knocked out action by bad cosmic ray storms. Our experiment will hopefully help



ally approached by Stuart Eves who informed us that they wanted to put our experiment in space!

The Experiment

Over the next year we will be working with SSTL engineers to actually build the LUCID detector

work out how to forecast these surges in activity and how best to avoid them. It will also provide some information of general scientific interest, for example it will be able to investigate neutron backscatter, a not yet fully understood effect in which cosmic rays hitting the upper atmosphere fire neutrons back up into outer space, and study how the earth's magnetic fields affect the direction the particles are moving in.

The main components of LUCID are four Timepix chips (which is a type of Medipix chip). These chips can detect what particles passed through them, at what angle, with what energy and at what time. To regulate the heat of our experiment we are using an Optical Surface Reflector, which will reflect most of the glare of the sun, and radiate any excess energy produced by our experiment. Data is sent from the chips (which are on the outside of the satellite) to a USB memory device (in the centre of the satellite) where it will wait until the satellite passes over the UK and can download information. The satellite will orbit the earth 14 times a day, and will cover the whole of the earth's surface daily, including the South Atlantic Anomaly, where a particularly strong cosmic ray storm exists because of how the earth's magnetic fields are mis-aligned.

The Grid

We are now looking to take the whole experiment a step further; we are linking up schools across the country to collaborate information on cosmic rays in the same way CERN has *its* Grid to process the huge amounts of data. We have 20 schools in Kent, 40 schools nationally and more than half a dozen schools on the continent signed up already. We are developing a cosmic ray detector for each school to have that will be a miniature version of the main LUCID detector in space – it will have one Timepix chip (identical to used in the LHC) and will be able to work off a normal PC. Students will then be able to

use these detectors to measure the cosmic rays near their own school, and perform many other radiation experiments. LUCID has a high enough time resolution to actually track the particles in space and the associated secondaries on earth which will be very exciting. We are setting up a server to link all these schools together online and hopefully this will get more students interested in CERN and more studying Physics!

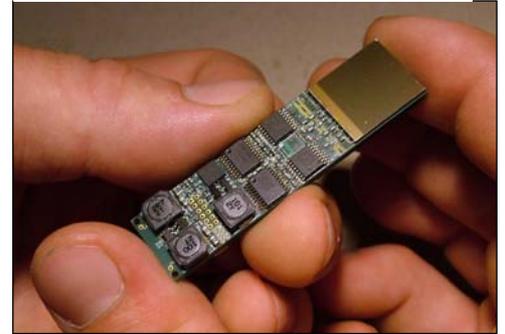
We need to of course thank SSTL for giving us this opportunity, and the British National Space Centre for helping fund it. We would also like to thank Mr Pledger who helped us quite a bit over the course of our work, but a MASSIVE thank you to Mrs Parker who has driven us across the country several times, offered loads of help and is actually the reason why we can do things like launch satellites at the school, so thank you very much Mrs Parker!

The LUCID Experiment really is a fantastic opportunity for anyone within the school to get involved with over their time at the

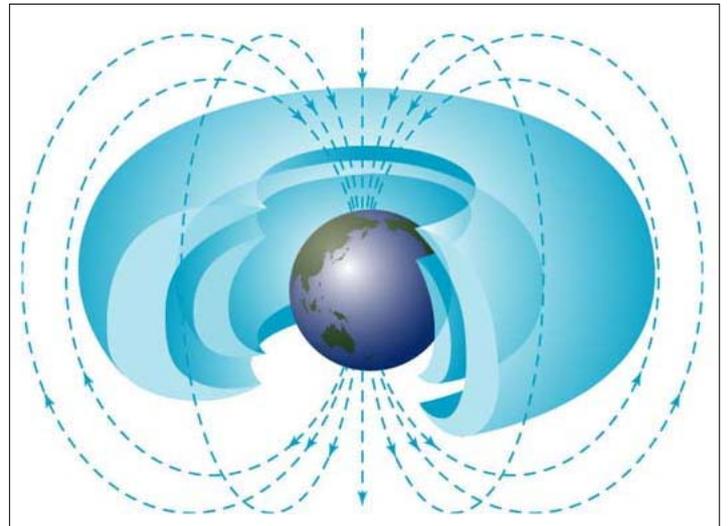
Langton, but the Star Centre has many other projects as well. Several Langton students have published original research on Plasma Physics with Imperial College and we are just starting the next stage of the project so anyone interested in discovering things that were genuinely not known before needs to get involved now! We have also got several interesting projects lined up with the Faulkes telescope, including Exoplanets and Cepheid variables – anyone in the school can just turn up to sessions so look out for the next booking. We are also running several "Langton Guide to the Universe" evenings at the school for students or parents who are interested. If you

want to get involved or would like to find out more, talk to Mrs Parker or one of the sixth formers from the Star Centre, and check us out online at www.thelangtonstarcentre.org.

Below: A Timepix chip

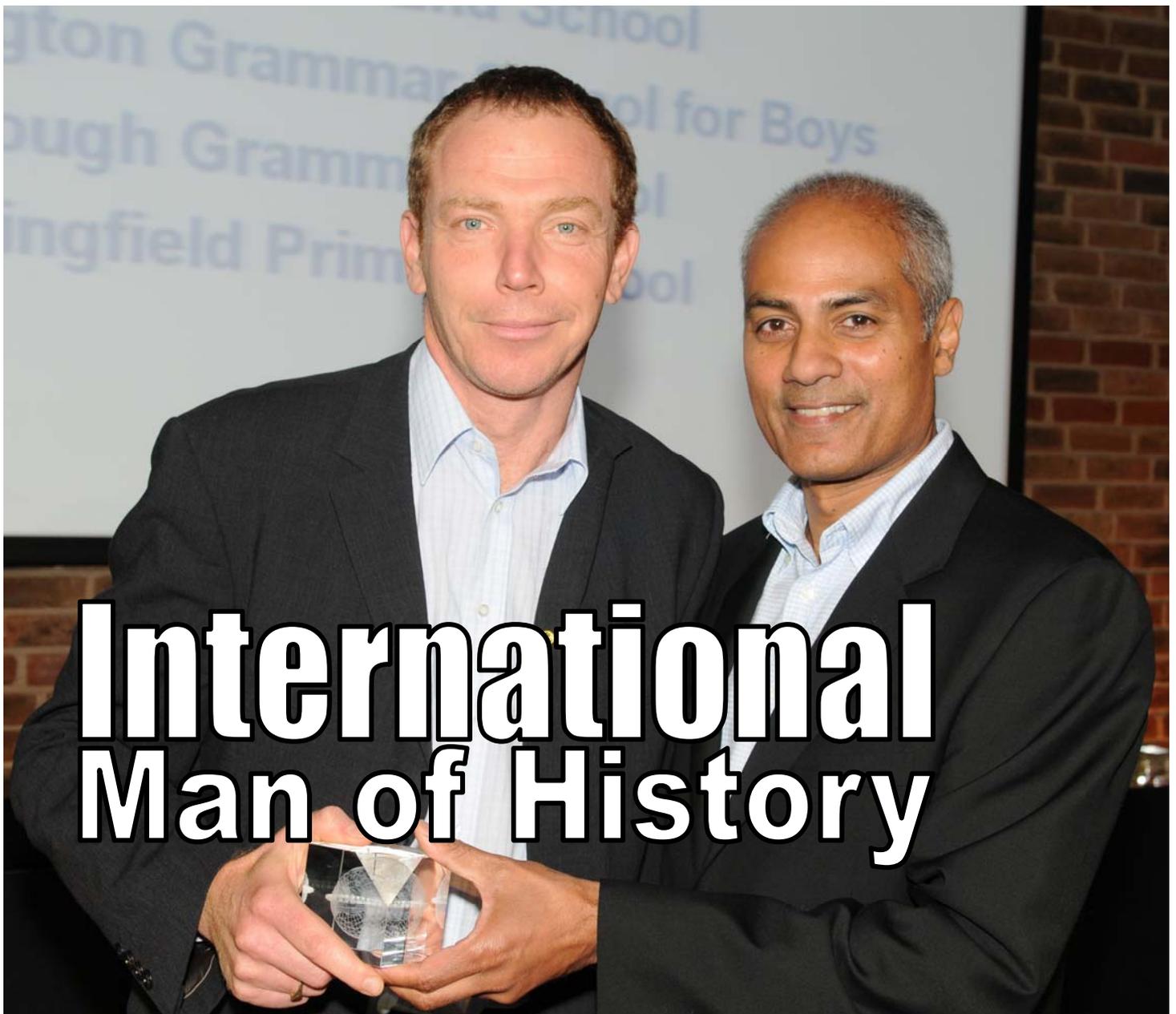


Below: A diagram of the Van Allen belts around the Earth



The LUCID Team are

*Peter Hatfield
Rachel Powell
Adam Sandey
Rachel O'Leary
Tom Stevenson
Cassie Warren*



International Man of History

The International School Award (ISA) was started in 1999 to recognise the schools leading the way instilling a global dimension into the learning experience of all children and young people. It is funded by the DCSF and managed by the British Council.

The ISA encourages and supports schools to develop the following:

- An international ethos embedded throughout the school
- A majority of pupils within the school impacted by and involved in international work
- Collaborative curriculum-based work with a number of partner schools
- Curriculum-based work across a range of subjects
- Year round international activity

- Involvement of the wider community
- Provides ideas for developing collaborative curriculum-based international work with partner schools

The Langton's commitment to Internationalism, led by Head of History Mr Fox, is well known - our links with Dr Obote College in Uganda, the Comenius Project, Beat Poverty Week, International

“Our schools play a vital role in helping our children to prepare them for work in a global economy”

***Jim Knight, Minister Of State
(Schools and Learners)***

Work Experience and, of course, all the trips to Europe - and beyond. All of these initiatives were fully documented in an impressive 'Internationalism Portfolio', compiled by Mr Fox, and which formed the basis of the Langton's entry into the 2008 award. His hard work paid off when he received the news that the Langton had achieved the highest of the 3 available honours - and that he was invited to receive the award personally from television broadcaster, newsreader and journalist George Alagiah on October 8th.

Congratulations to Mr Fox who has worked tirelessly to help Langton students appreciate their role in world society and to gain a better understanding of their own culture and local community.

German Exchange Part 1

By Kingsley Walker



Fourteen was the magic number during October's German Exchange; Fourteen students from Flensburg all aged 14 came to England as part of the first leg of our German Exchange. Tim, Katarin, Jonathan, Malte, Annecke, Sylke, Carolin, Patrick, Melvin, Pierre, Nora, Lina, Christina and Lea all choose to take part in the long running exchange run by Mrs Jayne linking Simon Langton Grammar to Fordegynasium.

By 12:00 on the 2nd of October the whole of Year 10 were eagerly anticipating the arrival of the students from Flensburg but It wasn't till the end of school that names were put to faces and each exchange partner was taken home.

Most students taking part in the exchange speak relatively good German but the English spoken by the exchange students put us to shame. They spoke English almost fluently and while we stumbled to find the right words in German they talked to us in English with confidence and eloquence.

The week was filled with park football matches between England and Germany. (11-3, 6-0, 21-10



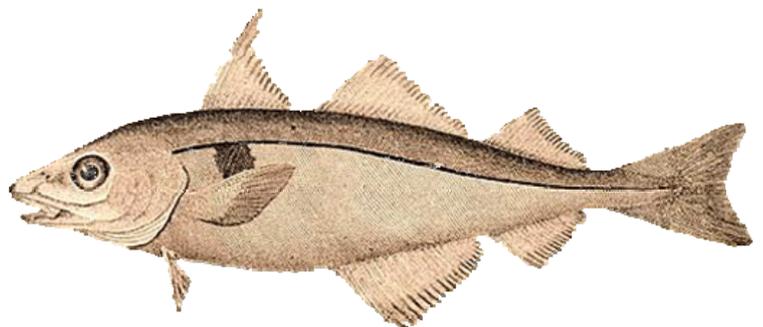
and 9-7 just some of the embarrassing defeats suffered by the us in 5 days). During the weekend the exchange students spent time with their host families and enjoyed a trip to Canterbury's Planet Lazer.

The highlight of the week for both groups was certainly the trip to London for sightseeing although everyone also enjoyed the lessons in PE and Drama that we took together.

Overall this was a very successful week and many thanks are due to Mrs Jayne for organising it. For a week in July, Biff Sharrock, Nathaneal Kent, Kingsley Walker, Josh Littlefair, Richard Walters, Harry Prosser, Feargus Welsh, Simon North, Adam Leach, Qinan Li, George Nobbs, Robert Brealy, Phillip Johnson and Murray Roy will head to the North of Germany for the second part of the exchange and we are all looking forward to smoothing out the rough edges in our German, experiencing our exchange students' way of life und wir treffen unsere neuen Freunde.

Harry the Haddock says...

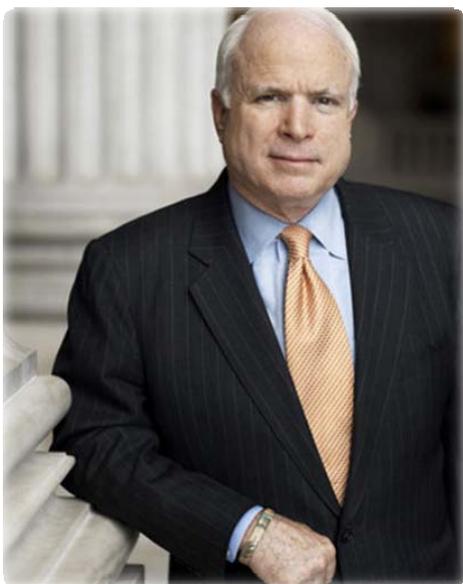
"Age and treachery will always overcome youth and skill"



Interest in the US Presidential Election has reached fever pitch in the Langton as we eagerly await the outcome of a fascinating period in politics. On election day itself we hope to run a simulation of the results in the hall. In the meantime Robert Collopy in Year 9 gives us an overview of the two main candidates.



Barrack Obama is the candidate for the Liberal party in America - simply called the Democrats. He was born in Honolulu in 1961 and before he went into politics he was a lawyer. If he is elected he will be the first black president of America. He believes in all of the core Democratic policies, is pro-abortion, and against unnecessary wars and was strongly against the war in Iraq. However, he firmly believes that the soldiers who have been injured in Iraq should get the best possible care. He fought a hard campaign against Hillary Clinton for the Democratic nomination. He is concentrating on addressing the issues and not just attacking his opponent. He is famous for his belief in change and his phrase "Yes we can"



John McCain is the candidate for the American conservative party the Republicans. He is the oldest ever Republican nominee at 72 and he has got several health issues. His politics are on the centre of the Republican party but his running mate Sarah Palin is a very right wing Republican. Before he entered politics he was in the army and had a distinguished career fighting in Vietnam, where he was captured by the insurgents. He believes that abortion is a bad thing and that the war in Iraq was a good move. His campaign is mainly centred on the average American that he often mentions as Joe the plumber. The campaign song for McCain is an old classic "We stand together".



Year 7 Challenge

All the new Year 7 students at the Langton were invited to contribute an article for this edition of Langton News about life as a 'small fish in a big pond'. Ian Cornish of 7L was chosen as the overall winner with his poem 'First Day at the Langton'.

Congratulations to Ian who wins £20 in cash



*First day at the Langton,
How did I feel?
From top of the school to bottom.
Was it actually real?*

*I really was worried
Who did I know?
Matthew and Harry,
and not forgetting Joe.*

*First day at the Langton,
How did I feel?
From top of the school to bottom.
Was it actually real?*

*I was really worried
Which bus should I take
That Year 8 came along
and those worries did take*

*First day at the Langton,
How did I feel?
From top of the school to bottom.
Was it actually real?*

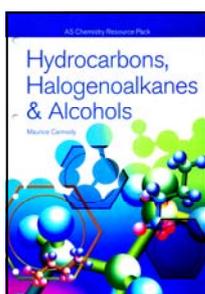
*I was really worried
What were teachers like?
I didn't have a clue
about those three strikes.*

*First day at the Langton,
How did I feel?
From top of the school to bottom.
Was it actually real?*

*I was really worried
How good was the food?
I thought it might be disgusting,
I hope that's not rude...*

*First day at the Langton,
How did I feel?
From top of the school to bottom.
Was it actually real?*

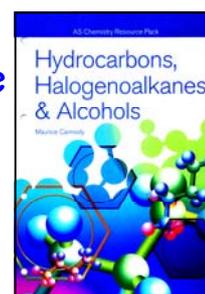
*But now I'm not worried!
I've got nothing else to say
Except, 'don't worry about the Langton
Enjoy your first day!'*



Langton Science - World Domination Almost Complete

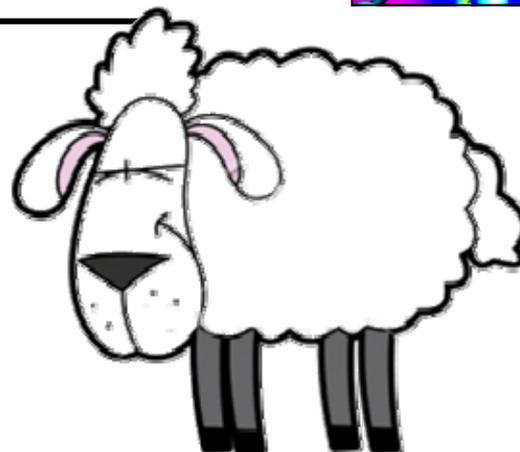
The Langton Science Department continue to take over the World.

Dr Carmody has just had his AS Chemistry Resource Pack for students published by the OCR exam board.



The season of 11 Rowlyn visits for Years 9 and 10 has just ended in what has been a soggy programme for most groups. Thanks to all those staff, students and relief drivers who enabled the 2008 season to take place. I hope you all enjoyed it and.... Roll on 2009!

Mr A. Jeanes
Rowlyn Co-ordinator





Hamish Lillywhite of 9G created this impressive lino-cut of Che Guevara, the Argentine Marxist revolutionary, politician, author, physician, military theorist, and guerrilla leader.



Maths is

Everywhere!

and you can help to prove it....

All you have to do is take a photograph of an everyday item that demonstrates some aspect of maths - from symmetrically parked shopping trolleys to your granddad's abacus. Tie it in with a 'mathsy' caption and send it to Dr Lawrence by email at

snezana@mathsisgoodforyou.com.

There are two shiny new Flip F260B-UK Video Ultra Series Digital Camcorders to be won!

So...get snapping!

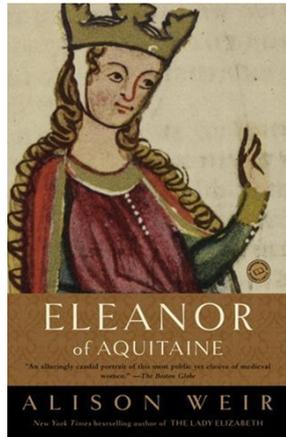
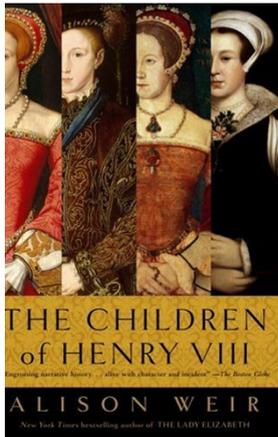
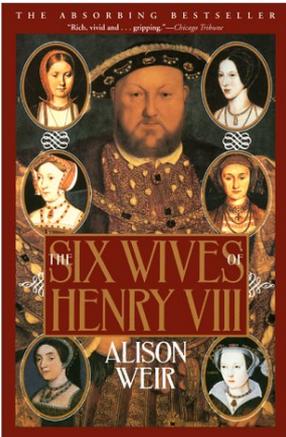
Deadline: 31st December 2008

Alison Weir

talking about

“King & Court”

to Year 8 students
19th November 2008



What the Papers Say

"I don't know another historian who can match Weir in showing the cold political calculation, implications and ramifications of the marriages and murders of the English monarchy."

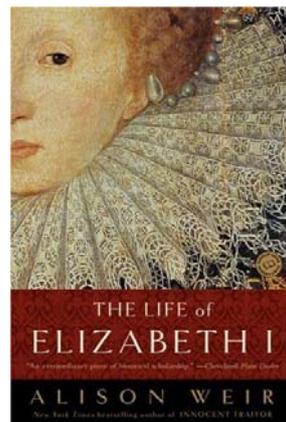
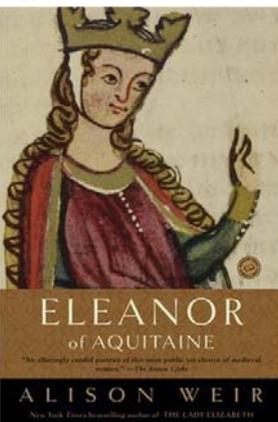
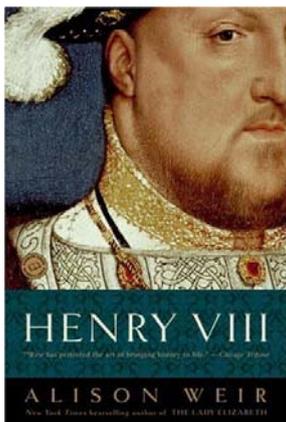
(The Boston Globe)

"Alison Weir is one of our best popular historians and one, moreover, with an impressive scholarly pedigree in Tudor history."

*(Frank McLynn,
The Independent on Sunday)*

"Alison Weir's hugely popular history books are as gripping as novels."

(The Times)

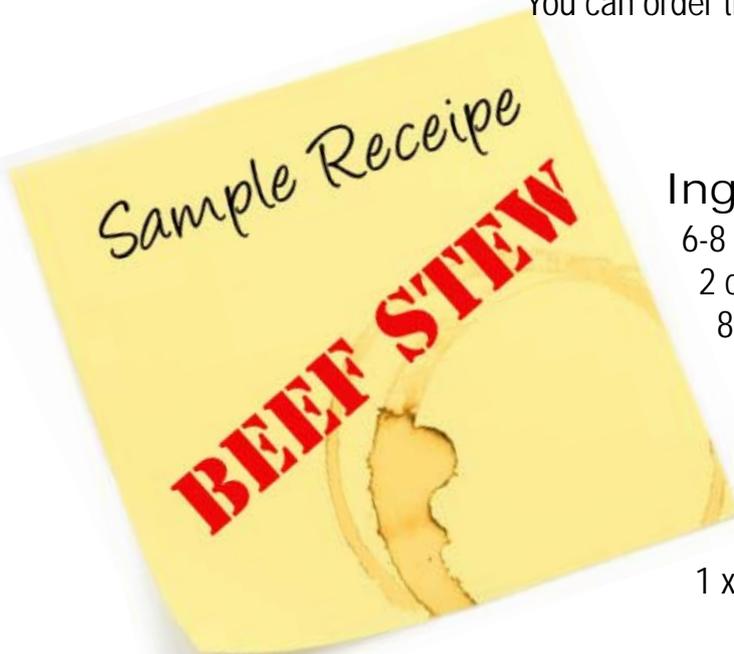


GOOD FOOD COOK BOOK

Learning cooking skills is vital to fighting obesity in young people. Once they've mastered the basic dishes, they can keep cooking for life.

The Real Meals cookbook, endorsed by top chef Phil Vickery, contains 32 classic recipes and sauces chosen after the public was asked to nominate the basic dishes every child should learn how to cook. The recipes, developed by the British Nutrition Foundation, follows the Let's Get Cooking Consultation, when 250 members nominated dishes which all children should learn.

You can order this publication for £7.99 by calling **0845 60 222 60**

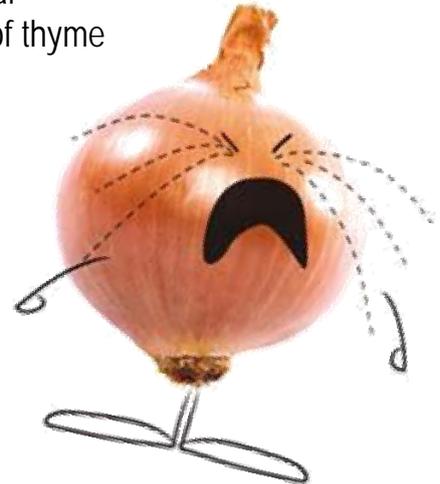


Ingredients

- 6-8 baby onions
- 2 carrots
- 8 small mushrooms
- 500g lean stewing beef
- 1 x 15ml spoon of oil
- 1 x 15ml spoon of plain flour
- 600ml of stock (water+ beef stock cube)
- 1 bay leaf
- 1 x 5ml spoon of thyme

Method

1. Prepare the vegetables;
Peel the onions
Peel and chop carrots
Slice the mushrooms in half
2. With a fresh knife, on a clean chopping board, dice the beef
3. Brown the beef in the oil in a saucepan
4. Stir in the flour so each piece of meat is covered
5. Add in the onions, carrots and mushrooms
6. Pour in the stock and add the bay leaf and thyme
7. Bring to the boil then reduce to a simmer. Cover with a lid and cook for one hour



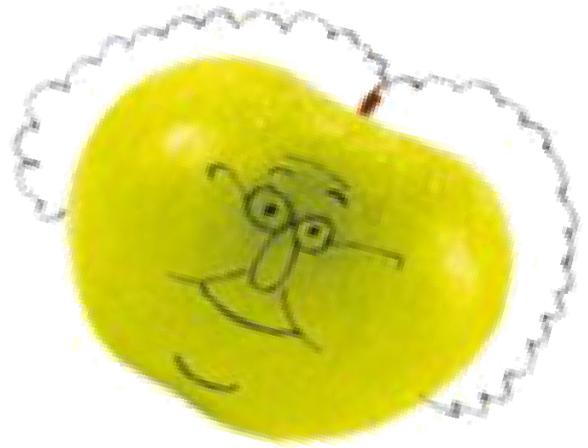
*Serve with
mash and peas*

Ingredients

50g butter or margarine
 100g plain flour
 50g oats
 25g sugar
 2 eating apples
 50g sultanas

Method

1. Preheat the oven to 109°C or gas mark 5.
2. Rub the butter or margarine into the flour until it looks like breadcrumbs
3. Stir in the oats and sugar making sure they are well mixed in
4. Cut the apples into quarters and remove the core. Slice thinly
5. Arrange the apple slices in an oven-proof dish
6. Add the sultanas
7. Sprinkle the crumble topping over the apple slices
8. Bake for 25-30 minutes, until the apple is soft and the crumble is golden.



Ingredients

500ml milk
 2 x 15ml spoons custard powder
 1 x 15ml spoon sugar

Method

Mix a little of the milk with the custard powder and sugar in the mixing bowl
 Heat the remaining milk nearly to the boil—watch that it doesn't boil over!
 Pour the hot milk over the custard powder mixture, whisking all the time
 To thicken the custard, return to the saucepan and bring to the boil, whisking all the time.



BOOKMARK

By Mrs T Jones



Student Librarians

A new team of student librarians including three Sixth Form Librarians, Eilidh Krishnan, Tim Benfield and Tom Fisk, has been working very hard this term. Philip Johnson, Joe Foster and John Wilson have joined Biff Sharrock, Louis Wilson, Will Brealy, Chris Cundy, Kieran Gilmore, Charlie Marriott and Robert Collopy. The new Year 8 Librarians are George Hales, Rhys Jones, Dan Sherington, Jacques Taffinder, Ian Purchase-Galaza and Matthew Harrison. From Year 7, Sam Dwyer, Sam Kittle, Lukas Esser and Joseph Ray have been working as Library Monitors. All have been helping out at busy break and lunchtimes as well as processing over 250 books. If any boys from Year 7 are still interested in becoming a Library Monitor they should see Mrs Jones in the Library.

Booked Up

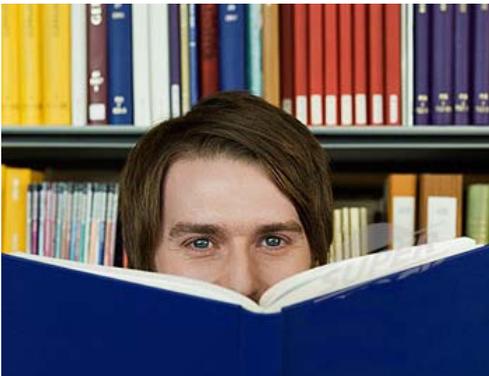
This term all Year 7 boys have once again been able to choose a free book from the Booked Up Programme. There was a brilliant selection to choose from including such titles as *H.I.V.E.* by Mark Walden, *Skulduggery Pleasant* by Derek Landy and *Why Eating Bogeys is Good for You!* There are also competitions on the website and Year 7s can sign up to a Booked Up newsletter by going to www.bookedup.org.uk.

Box Tops for Books

The Library is once again collecting the Box Top For Books tokens from Nestles cereals. Last year we collected enough tokens for a new set of Dorling Kindersley books on insects, space travel, Shakespeare, Victorians, Castles, Mythology, animals, ponds and rivers, football, medieval life and Ancient Rome. So start collecting now! Tokens should be given to Mrs Foster at reception.

Learning at the Langton

The Library now has new books for geography, history, chemistry, physics, art, drama philosophy and maths as well as access to the New Scientist online archive. Ask Mrs Jones or Mrs Taylor for the username and password. If you are a member of the Public Library, there are also many resources available to you on the KCC website www.kent.gov.uk including access to many newspapers and periodicals. Follow the links to online services and then log in using your library card number. There is also information on careers, art and music as well as reference books.



Robert Muchamore

The General (Cherub Book 10)

Eoin Colfer

Artemis Fowl and the Time Paradox (7th in the Series)

Charlie Higson

By Royal Command (5th in the Young Bond Series)

Michelle Paver

Oathbreaker (5th in the Chronicles of Ancient Darkness)

Christopher Paolini

Brisingr (Inheritance Book 3)

Darren Shan

Wolf Island (The Demonata Book 8)

Joe Craig

Jimmy Coates: Power (6th in the Series)

Roderick Gordon

Deeper (Sequel to Tunnels)

Rick Riordan

Percy Jackson and the Battle of the Labyrinth (4th in the Series)

Joseph Delaney

The Spook's Mistake (5th Book in the Wardstone Chronicles)

Garth Nix

Superior Saturday (6th in the Series)

New Titles

There have been lots of new books in the library this term, including many of the latest titles in the most popular series: -

New Non-fiction includes: -

Guinness World Records 2009

Ripley's Believe It Or Not

Top Ten of Everything 2009

Why Eating Bogeys is Good For You

Bang: Complete History of the Universe

Serious Survival: How to Poo in the Arctic and other Essential Tips

Look Around a Medieval Castle



RHYTHM FORCE

On Friday 12th September, a group of students were invited to The Royal Military School of Music in Twickenham for an event called 'Rhythm Force' - an Army organised outdoor music concert for secondary school pupils.

There were two stages featuring performances by a variety of musicians from all of the different Army Regiments. The music included traditional Army marching bands, rhythm and blues, swing, rock, pop, Scottish country music and Nepalese music performed by Ghurkhas.

Around the arena there were a variety of stands aimed at recruitment. Demonstrations and hands-on activities included sniper shooting, paintball,

assault- course, bomb disposal and Army life including a wide variety of sports activities. The Military Police had a car and motorbike on display and The Air Corps showed off their helicopter. There were lots giving careers advice, leaflets and information.

A great day for all that took part.



On Saturday 11th October a group of Langton students joined other Canterbury School Bands in a parade through the City. The various Bands used banners, costumes and dance to help represent music from all over the world, with the Langton's 'New Orleans' style Jazz Band representing the United States of America. After the parade they joined the professionals on the Band Stand in Dane John Gardens.

Canterbury Festival Lunchtime Concerts are hosted by different schools in the area and it was the Langton's turn on Monday 20th October. The solo performances were mostly given by Year 12 students including a stunning performance by all 3 vocalists. Steve Wright, backed by the rest of the group a cappella style, sang "Stand by me". Robyn Hunter-Pescetto gave an animated rendition of "Funny Honey" from *Chicago* and Bethany Neame gave an expressive performance of "Save the best for last". Hannah Boyd-Jones played the famous Victorian Kitchen Garden tune beautifully on clarinet. Jack Carmichael and James Collie performed solo classical guitar pieces competently and Vicki King a Bach Oboe solo and Matt Richards a clarinet Blues. The Year 13 group gave a rendition of "Soul Man" which the audience really applauded and the String Quartet - (Biff and Louis Sharrock, Kieron Gilmore and Oliver Braddy - really did the school proud with mature performances.

ALL THAT JAZZ

By Mrs Braddy



Get Ready To LEAP into Action

By Tom Dobin

LEAP is a new organisation that encourages three key things: interaction, involvement and inclusion. Essentially, throughout the year, we'll be organising several events and competitions that you can get involved with. The great thing about these opportunities is that they not only present a chance to hone a particular skill, but also allow you to really enjoy yourself, partaking in something with the rest of the school. Therefore, we really, *really* want you to get involved and have fun.

Moreover, we want to provide assistance to those of you with a burning desire to do your own activity; although the school offers many exciting extra-curricular activities, there may be something missing that you'd like to get involved with. Why not fill that void by creating your own club? If you need assistance with organising, don't worry, LEAP's purpose is to help you organise activities, so we're eager to listen to your ideas.

If you have an idea, or wish to contact us at all, then there are three ways to do so:

Come and find one of us at school; you'll gradually get to know us all as the year goes on.

Write your idea down, with your name and form, and put it in the **13JE register tray** (addressed to **Tom Dobin**), or the **LEAP box in reception**.

E-mail us at:
thelangtonleap@hotmail.co.uk

LEAP's Mission and Aims

Organise and involve ourselves in public events and national competitions
Mentor and provide support for younger students who wish to set up their own activities
Organise charity events within the school

Encourage and assist students in contributing to school life through extra-curricular activities
Promote/organise public speaking within the school

Fond Farewell



Mrs Lyn Collins started as the Assistant Bursar in 1992 and recently (and finally!) retired at the end of September. During her 16 years service in the school she was part of many developments in both the finance and property. Having run her own electrical business with her husband Arthur before coming to the school, she quickly applied her commercial acumen to many aspects of school life. An innate project manager she was actively involved in the building of the Science Block, the Sanctuary, total electrical re-wiring of the school, refurbishment of all the science laboratories, building of the sports hall and sixth form centre, ASD facility, Art and Drama Block, the new dining hall and refurbished kitchen.

Behind the scenes she did all the paperwork for most school trips for 11 years, managed the numerous transport demands as well the payroll and accounts. More recently her work with the music department and parent's association only added to the diversity of employment at the Langton. A passionate lover of education two of her children are now Assistant Headteachers and her other son a Medical Tutor. Arthur Collins has done much work on the electrics in the school and he assisted her in her recent crowning glory - the refurbishment of the swimming pool. Staff and students alike will miss her.

Picture: Amongst her retirement gifts was a platter of cheese from her native Somerset.

Be the first to
get your hands on
one



BEAT THE CREDIT CRUNCH WITH NEW SU DISCOUNT CARD

The Students' Union is very excited to announce that, from 3rd November, you can now obtain the new SU Card, which enables you to receive discounts from a number of stores in Canterbury!

The companies that have confirmed participation are *Subway, The City Fish Bar (opposite HMV), Salon Wonder (adjacent to Siesta), the Shake Shed, the Marlowe Theatre and Jim Garrahy's Fudge Kitchen.*

You can receive a 10% discount at the Shake Shed, Subway, the Fudge Kitchen and the City Fish bar, a 15% discount at Salon Wonder and, if you buy them on the evening of the production you want to go to, you can get tickets to any production at the Marlowe Theatre for only £5.

All this for only £2! All proceeds go to the SU to can fund your ideas, clubs and groups. And, best of all, it's just in time for Christmas! Do not delay, stock is limited: buy your card all week, from 3rd November, at break time in the hall!

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Jim says... 'We make the best Fudge in the World...'

New Mathematical Adventures

By Dr Snezana Lawrence

One of my main tasks on coming to Simon Langton last year was to establish outreach activities in mathematics. Immensely good work has already been done in mathematics department, so I looked at how I could build on this through extending it to a broader mathematics community beyond the Langton.

So that is what this article is all about - noting some of the first steps on this journey, on which we explored some mathematical roads and valleys and looked at vast mathematical landscape that our students can experience.

The Mathematics Master Classes

Starting small - out of the classroom and into the Canterbury area

A series of Mathematics Master Classes has already been in place for our students for several years but we wanted to do a bit more. The first Langton Summer Mathematics Master Classes took place on every Saturday morning in June with leading mathematics educators from across the country taking the workshops. The classes were open to talented mathematicians in Year 9 from other schools from the area. Our aim is to make this an annual event which will become known in the whole of the Kent. We are working on getting the funding in place for the new series in June 2009 - watch this space!

Primary master classes

Another series of master classes that took place last term was aimed at primary school children and children from local primary schools were invited to the Langton on one day a week. As the young mathematicians learnt some things about Egyptian mathematics, they were helped by the Langton's own Year 10 students. This series will also continue during this academic year and we hope that even more Primary Schools will take part. I shall be going to visit the primaries in the South East Kent area in the summer term to take the Egyptians to them and get as many as possible to join in the fun of doing mathematics. I am looking for a helper from KS4, so if anyone from Year 10 or 11 is interested, please get in touch.

Key Stages 4 & 5 research programme

Students from Years 10 to 13 took part in a series of Master Classes and their sessions often resembled research seminars rather than ordinary lessons - and after each master class they often spent time sharing all the things they had discovered since our last meeting. It is obvious that once you share the out-of-ordinary-topics the students engage far more in the subject and are able to explore different areas of maths. We are building on this eagerness to learn by starting a new research programme with KS4 & 5 students on Polyhedra. We hope that this project will be

our model of similar programmes in years to come and will be conducted in collaboration with the Illinois Mathematics and Science Academy from Chicago (<https://www3.imsa.edu/>). The idea is to have lectures followed by research work and seminars where students share their ideas and findings with others. They will cooperate with the students from across the Atlantic, and in the process build wikis on polyhedra. I will also be teaching some of the history of mathematics and hope they ask me questions!

Out of the classroom

Over the past two years, I have been working with teachers from around Kent on introducing the history of mathematics into the classroom. The project was one of the first to attract the funding from the recently founded National Centre for Excellence in the Teaching of Mathematics (<http://www.ncetm.org.uk>). As the number of teachers involved grew the British Society for the History of Mathematics (www.bshhm.ac.uk) also generously supported the project. The team involved primary and secondary teachers, and we focused on making mathematics come alive with examples, techniques, and introducing them to great mathematicians from the past. In the process we involved more than 450 students from various schools, and produced a number of materials that



are all downloadable from the project's website at www.mathsisgoodforyou.com/lessonstudy.

“The project was one of the first to attract the funding from the recently founded National Centre for Excellence in the Teaching of Mathematics “

One of the most memorable lessons from the project was certainly the one in which we had



a visit from a mediaeval Welsh knight (who, some suggested, looked like Michael Portillo). The Knight was actually the teacher from the Barton Court, Mal Argent, who demonstrated that knowing about similar triangles may not only be good for your exam results, but can help keep you alive and/or be useful if you need to cross a river whose width is unknown!

Let others know about it too...

The project was deemed to be a success by the National Centre as well as many educationalists who learnt about it. So we wanted to share what we had learned with the others - a website, a little conference here and there... in fact it turned out to be a milestone in two aspects of the

teaching and learning of mathematics in this country and elsewhere - in laying down the principles of how to introduce the history of mathematics into the classroom, and how to work with others in collaboration. We also developed a particular type of 'lesson study', focused upon, and structured around, the creation of 'knowledge patches' - bits of information and knowledge from the history of mathematics which teachers and students build together through "wikis" and webquests (for examples see www.webquests.mathsisgoodforyou.com).



The first conference we organised was held at the London Mathematical Society in London on 26th September 2008. We had more than forty delegates, from all sectors of maths education - academics from the Universities of Oxford and Sheffield, National Strategies and Regional Mathematics Advisors, and teachers from as far afield as Edinburgh.

The full circle with lesson study

I have published a number of papers in academic journals both here and abroad on this project and the ways of dealing with the increased freedom which is given through the new National Curriculum. This freedom means that we are able to develop one-fifth of the curriculum in each subject ourselves - in mathematics that can mean more history and hands-on-experience in real mathematics research. Somebody must have read these articles (always a surprise) because I got invited to present at three major events during the last academic year - the International Congress on Mathematics Education in Monterrey, Mexico; the History and Pedagogy of Mathematics Group (part of the International Mathematics Union) in Mexico City, and finally at the APEC (Asia Pacific Economic Cooperation) International Symposium on Lesson Study in Thailand.

All of these projects involved external funding, the bulk of which came from the National Centre for Excellence in the Teaching of Mathematics, and the British Society for the History of Mathematics. We are looking for more sources so we can extend and develop our work. The various master classes and research groups will, hopefully, become a permanent fixture at the Langton. A truly Langtonian Institute for Young Mathematicians (and their teachers).

Pictures:

Opposite page

Left: Students trying to work out the system of applying similar triangles when calculating the unknown heights and widths in the surroundings

Right: Mediaeval Welsh Knight, aka Mal Argent, teaching similar Triangles

This page:

Top: Dr Lawrence in Mexico

Bottom: Teachers at the London conference at the workshop on Babylonian, Egyptian, and Japanese uses of trigonometry

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