



Berlin Trip

Joe Pepper

In the October half term 40 students in Years 10 and 11 spent five days in Berlin, learning about 20th century European history. We had an action-packed tour, visiting a number of different sites of interest. We learned about the division of Berlin into east and west during the Cold War period by looking at the remains of the Berlin Wall and hearing stories about the people who tried to escape the rule of the GDR. The evening that we spent at the Stasi prison was a real eye-opening experience for all concerned. The methods, psychological and other, which the secret police used to maintain their control over the population were chilling.

We also learned a great deal about the Nazi period of rule during the trip. We spent a morning at the Sachsenhausen concentration camp, on the outskirts of Berlin. Our tour guide vividly brought the subject to life and explained how the Holocaust worked in practice. We also

visited the Wannsee conference house, which is where the operational decisions about the Holocaust were made by leading Nazis. The visit to the Memorial to the Murdered Jews of Europe was also a very moving experience for the girls, and allowed opportunities for contemplation and reflection.

The trip also contained some lighter moments, including 'mocktails' at the top of the TV Tower and a night of ten-pin bowling action. The modern city of Berlin is vibrant, diverse and full of things to do. Many of the girls plan to go back soon!



Football for Peace

India Bonnor-Moris



We were given the opportunity to perform with NHEHS alumna, Shaima Mirza, at the Guildhall as part of celebrations for 'Football for Peace,' a charity for which she is an international ambassador. The day before the performance, we were introduced to Shaima and had time to practice the song she was going to perform on the night, which was a cover of Bob Marley's *One Love*. Students from all different year groups who are members of various school choirs were involved. We were soon all buzzing with excitement as well

as anxiety, as some of us were told that on the night we would have to encourage members of the audience to dance with us! However, with a couple of practices, and a chance to master the minimal choreography, we were ready to perform and could not wait for Friday evening.

On the day of the performance and, as instructed, wearing football shirts to mark the occasion, we all boarded the coach. After a long journey into the heart of London, we arrived

at the Guildhall and marvelled at its beautiful exterior. Upon entering, we were passed by many women wearing gorgeous dresses, and we began to feel rather under-dressed for the event! We managed a brief rehearsal and eventually we were called through to perform with Shaima. Although our performance was short but sweet, we did the song justice and were able to persuade members of the audience to dance with us, using our natural NHEHS charm!

Overall, it was a successful event and even though the two coach journeys there and back were longer than the time we actually spent at the Guildhall, we were grateful for the opportunity to perform with Shaima and really enjoyed the whole experience.

Languages Club

Simon Piesse



In Languages Club, girls have enjoyed being taught a new language each week by our talented native speakers: Lucia Tremonti taught Italian, Annika Malhotra and Rosanna Naderi taught Persian, Anna Whittock taught Welsh. Meanwhile, a special 'Language Leader' prize has been awarded to Aya Jarah and Georgia Wells for teaching their languages (Korean, Welsh and Silbo Gomero, a whistling language), so confidently! Thank you, also, to Dr Stark for teaching us Polish!

Robotics Winners

Oliver Futter



On Saturday 10 December our robotics team of competed in the Regional round of the FIRST Lego League which took place at the offices of Bechtel in Park Royal.

The team which goes by the name of 'Ctrl Alt Believe' is made up of 7 students from Years 7-11: Jessica Berry, Samar Al-Haddad, Tara Al Haddad, Daisy Woolley, Anna Haworth, Dhruvi Vijay and Ines Spencer. They are supported by sixthformers Hannah Coxhead and Cassia Fillingham who last year were part of the Notting Hill & Ealing team, CTRLX, which made it through to the finals of the same competition.

This year the competition's theme is Hydrodynamics. As well as designing and programming their robot to autonomously complete a circuit and complete as many tasks as possible in two and a half minutes the team had to prepare a technical project based on a problem associated with water and come up with a solution.

Throughout they also have to demonstrate core values as defined by the competition which include team working and being able to work in a spirit of friendly co-operation with competing teams.

Their hard-work paid off and on Saturday they were overall winners of the event and received a large Lego trophy. They even picked up an additional Health and Safety award (and smaller Lego trophy) for answering some on-the-spot questions.

FIRST Lego League is an international competition involving hundreds of teams from over 80 countries and winning UK teams can progress as far as events and competitions in the USA. Having won their regional event, the next step for the NHEHS team is the national UK and Ireland round of the competition which will be held in Bristol in February



Festive Fascinators

Winners of the Year 8 festive competition



Christmas Assembly

Year 13 as stars, angels, wise men and shepherds.



GDST Bake-Off

Imogen made it through to this year's final held at Streatham & Clapham High School



Custard, Sparks and Starfish

Recently in Alchemy Club girls investigated some of the more unusual properties of custard. They made a polymer using glue, custard powder and borax and moulded it by hand to produce custard balls which could be bounced around the lab. They also made a custard mixture that was hard when pressed but could be poured quite easily. Then we asked the question is it a solid or a liquid? Putting this on a vibrating speaker caused strange shapes to rise up out of the mixture and seem to dance.

In the Physics of Everything our keen physicists took the chance to try out the Van der Graaf Generator to great effect by producing huge sparks which literally made their hair stand on end. Meanwhile, over in the biology lab Dissection Club were investigating the inner workings of chicken wings and starfish with awe and wonder!

Exploring Science sessions are open to all girls in Years 7-9 and are usually at lunchtime on Tuesdays. Posters around school announce what's on each week and all are welcome.

Andy Crame



Mince Flies

Russ Ives



To finish off the year in festive style the four science departments helped students in Year 10 up their mince pie game! Students used physics to get the lightest, fluffiest, largest volume clouds of cream, chemistry to blend a perfect chemical balance of fizz, sweet

and sharp sherbet using acids and bases, psychology to experience the effect of colour on our experience of flavour and then with biology, topped the mince pies off with freshly roasted locusts and buffalo worms, a high-protein, food of the future.

Exploring Science



In September all our Science Clubs were re-launched by the Sixth Form Science Reps who brought them all under a single banner, Exploring Science. The aim remains having fun and offering younger girls the chance to learn about and try out things

they might not necessarily get to do in class. Our Reps organise and run the sessions doing everything from deciding on content to writing the lab instructions as well as supervising and explaining on the day. As Deepa Kumaran says "It really is fun and we all enjoy the challenge of communicating the foundations of science to girls in the younger Year groups. Working like this is good for us too—it makes you think more deeply about the building blocks of the sciences you love."



Psychology



Our Exploring Psychology challenges have launched on Firefly with sixth form psychology students set three psychological challenges every half term.

There's a psychological documentary to watch as well as a podcast and a research article to read and comment on in a linked blog. This has got off to a

flying start with the girls evidencing their fantastic innovative thinking on topics such as of "Rude awakening: Witnessing morning incivility darkens your experience of the whole day".

Our active homework projects have also begun this term allowing the girls the opportunity to put the psychological knowledge they acquire in the classroom into practice. These involve the girls going to visit a real life court case at the Old Bailey and the Museum of Bethlem to investigate the history of mental health.

Med Soc



MedSoc has met every Monday lunchtime this term. Topics for discussion, led by students, have included HIV, anaesthesia and cardiovascular disease. We also

welcomed Dr Yean Chooi from Imperial College's Department of Bioengineering who spoke on fluid mechanics in the heart.

Year 12 students are receiving guidance on the steps that they should be taking to prepare for their medical school applications and the sequence of actions to expect over the course of the next couple of years. BMAT preparation classes have taken place after school each week and Year 13 applicants have had interview practice with two Old Girls.

There was also an evening of MMI style interview practice for Year 13 and Dr Bali Muralidhar provided interview practice to Oxbridge medics and bioscientists.

Middlesex Netball

Diane Dunkley



On Saturday 7th October we took our U16 and U19 netball teams to St Helens School to play against other Middlesex schools all vying for a place in the March 2018 finals.

The NHEHS U19s had 7 teams to play against. They posted wins against The Latymer School and North London Collegiate but then went on to draw 2 games and lose 3 which put them in fifth place in their group. Most of the squad are in Year 12 and will therefore be eligible to compete again next year when they are looking forward to achieving a better result.

Our U16s also had 7 teams to play, St Helens, North London Collegiate, Lady Eleanor Holles, South Hampstead, Henrietta Barnett and Highgate against whom they really displayed excellent game play when the score was level. In fact they won every game. 100% looking forward to the finals in March.

On Saturday 11th November it was the turn of the younger players in the competition and we saw our U14s and U15s both make it through to the finals. The U15s qualified despite a bit of a shaky start, winning 5 out of their 7 games and taking third place and behind North London Collegiate and St Helens. The U14s, after losing just a single game finished their competition on equal points with hosts Highgate School but they were declared clear winners once goals scored were taken into consideration.

Year 8 Maths

Hannah Croft

This half term groups of girls from Year 8 Div 1 have been researching an area of Mathematics that interests them and in the final lesson of term they showcased their findings to the entirety of Year 8 as well as all the staff from the Maths Department.

The girls covered a wide variety of themes including Women in Mathematics, more specifically Florence Nightingale and Ada Lovelace; Why Maths is So Important; Aspects of Infinity; Archimedes; Why Can't we divide by Zero; Forensic Maths; Maths: Then vs Now; Platonic Solids, which included homemade versions distributed to the audience; Optical Illusions; and Mean Girls Maths.

The session was topped off with a solo effort by Sakeena Sanders who explained just how busy Santa was on Christmas Day working out the number of stops and how fast he had to fly to deliver all his presents.



Tuesday Lectures

Megan Burns and Camena Foote

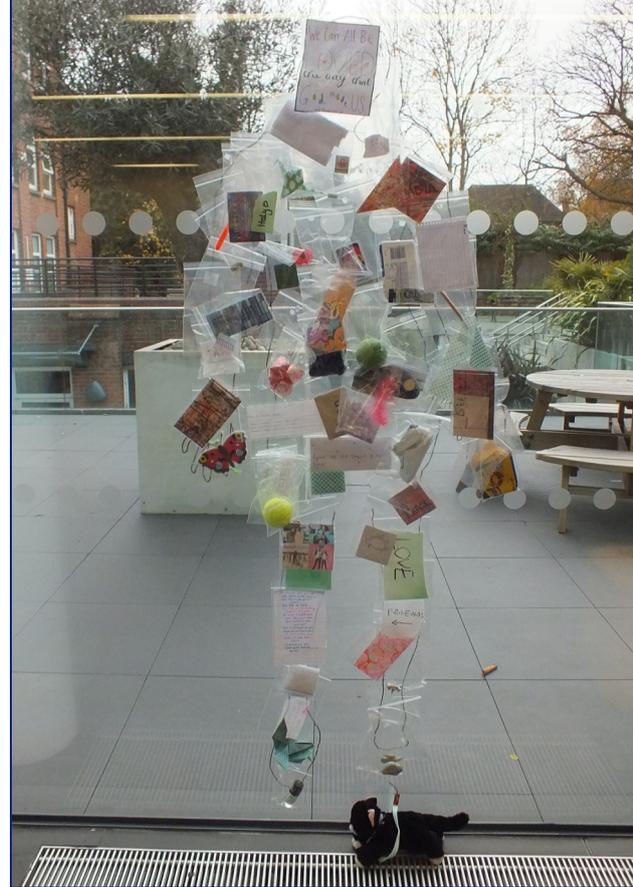


Every Tuesday morning, students from Years 11-13 enjoy listening to lectures on a diverse range of topics from engineering to art. Ms Bushell, Head of Sixth, invites some of the lecturers but every other Tuesday, it is the role of the Year 13 Subject Representatives to choose and invite speakers into school.

On each of these Tuesdays different Subject Reps arrange two simultaneous lectures and students can choose to attend the one that seems most appealing. For example one week we had the choice of attending either a talk from Dr Thomas Greve, an astrophysicist from the Department of Physics and Astronomy at UCL or hearing about the impact of gap years on students and the communities they visit from Prof. Andrew Jones of City University. The range of lectures is really very wide and some particularly memorable lectures have included Dr Murugeasu's talk on genomes and Nick Murphy's lecture about the television and film industry, entitled 'Dried blood and bad car crashes'

As Year 13 Geography Reps, we had the pleasure choosing to invite a lecturer in to speak about an issue related to our subject area. We decided to pick the issue of hipsterfication in London, as this is a current phenomenon and something that we thought lots of students would be interested in. We invited Professor Alastair Owens from Queen Mary University who delivered a lecture entitled "Hackney hipsters, gentrification and neighbourhood change"

Teachers at school have been particularly helpful when we're looking for speakers to invite in, as have the network of NHEHS Alumnae. Inviting and hosting our speakers and introducing and thanking them has also taught us some valuable skills while the lectures provide us with opportunities to learn about things we might not come across at school, from interesting stories of speakers' lives to possible new exciting career paths that we are able to explore.



All Different, All Equal

Anti-Bullying Week, part of an initiative which encourages involvement in schools throughout the UK, took place from 10th to 17th November with the theme of 'All Different, All Equal'. In addition to PSHCEE sessions for all year groups and an assembly from the Heads of Year and Mrs Irwin, every student from Year 7 to Year 11 contributed something personal and unique to the anti-bullying atrium installations.

The idea behind the installations was to convey in an eye-catching way the idea that a coherent and cohesive community can be made up of diverse components. We also ran an Anti-Bullying video competition where entrants had to re-create the music video to a song that celebrates diversity. Congratulations to Chloe Brangança- Vasconcelos in Year 10 for her winning video, made to a Sia/ Little Mix mash-up.

My thanks go to the Art Department and the Heads of Year team for their key roles in bringing this all together.

Kathleen Webb

POETRY BY HEART

Poetry by Heart

This term, the English department has run the 'Poetry by Heart' competition for Years 7-9. This is the first time that this national poetry recitation competition has been open to these year groups.

Students chose one poem to learn by heart, from a newly designed First World War Poetry anthology. Students were judged on their memorization and performance skills, and also on their emotional understanding of their chosen poem. Congratulations to Leah Levman (Year 7), Emma Vince (Year 8) and Beatrice Farrell (Year 9) who were the Year group winners. The overall winner was Leela Luthra (Year 7). Leela will go forward to represent NHEHS in the National Competition.

Emma Nuding



GCSE Music

At the end of November Year 10 GCSE music students invited Year 4 to watch their first GCSE course performance. Year 4 teacher Ms Makhani said 'I know all of the Year 4 girls thoroughly enjoyed themselves and the Year 10 girls were definitely an inspiration to all of our budding musicians.' A huge thank you to Year 4 for being such a great audience.

Hester Goodsell

Barcelona Sports Tour

Terri Adams



During October half term the Sports Department took 40 girls from Years 7-12 to Barcelona on their first ever sports tour. There was a jam packed week full of training and competitions for a team of swimmers, a hockey team and two netball teams but also some down time to relax on the beach and enjoy shopping in the city centre.

In the course of the week, all three teams had two professional coaching sessions, allowing them to develop their skills in specific areas. The netball teams took part in a tournament with all the other schools attending our camp, with both our U19 and U16 teams making it through to the final and then finishing in first and second places. The swimming team took part in a gala against another English school and a Spanish school, with various individual

races followed by some relays; the girls were fantastic and came second overall.

The hockey team had the fantastic opportunity of playing a Spanish club in a closely fought game which eventually ended in a draw. The hockey team also visited some amazing clubs surrounded by mountains in breath taking locations and also watched a men's hockey match between Argentina and Spain.

The PE department is very proud of all the girls for their hard work and commitment to their teams during what was a very successful and enjoyable tour. At the end of the week Player of the Tour Awards went to Hannah Leathem and Victoria Newton for netball, Nathalie Wicks for hockey and Iola Ryland and Mairi Gillespie for swimming.

Backstage Pass

Jo Smith



This term our Backstage Pass students have been working hard towards achieving their next level passes. The Level One group have been learning how to use the equipment in the studio, getting to grips with the lighting board and sound system. This has been very useful to them in their drama lessons and enables them to enhance their own performance pieces and also

those of other groups in their classes.

Level Two have moved on to the next step and are putting all elements of backstage together and will be starting a project based on a theme where they provide the lighting, sound, a costume, a scene change and a prop for me to see. The Level Two students are also using

their skills in their lessons and are also able to help others. Having their Level Two Backstage Pass also gives them the opportunity to tech the Junior School performances. The Nativity was very recently lit and operated by Ellora Sarkar who did a really great job.

The Level Three group are now very confident in their skills, enough to allow them to have great input in the lighting and sound departments for the Senior school production of *Sweet Charity*. They have been looking at making their own sound effects and recording them with a recording device and they will use these to add sound to a film trailer next term. They will also be passing on their skills and running a session for the Level One girls.

OGA Christmas Wreath Making

Natalie Burns-Spence



It was certainly beginning to feel a lot like Christmas when 25 NHEHS alumnae gathered in the school art rooms for a fantastic wreath making workshop, led by alumna Becky Hands-Wicks (NHEHS 1997) of Fraser Street Flowers.

Everyone enjoyed mince pies and mulled wine and the opportunity for a little merriment with friends while trying their hand at a new festive skill. Their beautiful garden-inspired wreaths are now adorning front doors across London from Limehouse to Hillingdon.

Sweet Charity

Debbie Whitmarsh

Charity Hope Valentine is a dancehall hostess and an eternal optimist. Her adventures see her stranded in a lift, marooned on a fairground ride and pushed into a lake – twice! Essentially a tragedy with laugh lines, the show has great songs and offers tremendous challenges for both cast and crew. The cast worked with relentless enthusiasm to bring each scene to life with some memorable central performances combined with some brilliant vignettes by the chorus in the larger ensemble scenes. So many girls were involved, from hair and makeup to front of house, from lighting and sound to props and orchestra, in research and in planning and together with the cast they are to be congratulated on a phenomenal success.



Milly Buckroyd Chorus

Being in this year's production, *Sweet Charity*, has been an incredible experience for me. At first it seemed a little daunting, as I'm not a natural 'performer' as such but I soon relaxed into the rhythm of rehearsals and they quickly became the highlight of my day. I really enjoyed mingling with the other Years whilst we worked, and I also loved learning the

dances and songs – even if I messed up a few times along the way. Each rehearsal presented a different challenge, whether it was saying our lines in time, entering the stage to music, or even just trying to stop laughing when something funny happened. All in all, working towards being ready to perform has been one of the best things I've ever committed myself to doing and I know that the whole cast (actors, techs, and of course the teachers) are really proud of what we achieved in such a small amount of time.



Sweet Charity .../Cont'd



Sophie Mockridge Stage Manager

Sweet Charity is my third production at the school. I was ecstatic to discover that I had been presented with the incredible opportunity to be Stage Manager alongside Hannah as I knew this musical would be ridiculously fun to participate in. *Sweet Charity* was immensely different from any other production I have done at this school as everything was five times bigger: a colossal set, masses of costumes and an endless list of props. This meant more challenges to face and problems to solve but thankfully we had an amazing crew and cast to help us. Everyone has worked so well as a team resulting in a close company which has been wonderful to direct. I have loved every moment of helping to create this show.



U18 Hockey

Annette Greenslade



We entered a young team into the U18 Middlesex Hockey Tournament this year, comprising girls from Years 10 to 13. The team's youth, and therefore relative inexperience at this level, compared with some of their opponents, was reflected in the results which were as follows: NHEHS vs Godolphin & Latymer Lost 3-2, NHEHS vs St Benedict's Lost 1-0, NHEHS vs Mill Hill Won 2-1, NHEHS vs Latmer Lost 2-0.

However, it was a more closely fought tournament than it might

appear from the results. With games only being 12 minutes one way, it was challenging to come back into a game once a goal had been conceded.

This tournament was also a good warm up for the Barcelona Sports Tour, which many of the girls in this team attended in the October half term.

The team of Sophie Rollason, Victoria Newton, Amrita Arneja, Jojo Loxton, Issey Blackwell, Erin Malinowski, Kira Nygren, Amy Turner, Nathalie Wickremeratne,

Esme Clarke, Francesca Wilson, Philippa Jones, Ally Valero, Alessia Colato, Phylis Keen and Megan Burns have a lot of potential as a unit and are looking very promising for next year!

Well done to all of them for the effort and commitment they have given to their hockey so far this year. They have risen very well to the challenge of balancing their participation in sport with the demands of their school work as they progress up the school.

Mathematics Olympiad

Hannah Croft

On 5th October eleven very brave girls chose to sit the Mathematical Olympiad. Sometimes referred to as the 'Mathematics World Cup' this is the competition that attracts the brightest and best secondary school mathematicians and the questions are seriously challenging. This did not hold back our girls and they got stuck into five very tough questions for two and a half hours. Elena Tybulewicz and Elizabeth Down were awarded Distinctions placing them in the top 25% of an already elite group.

History Masterclass

Elizabeth Down



Every Wednesday at 1:45pm in Room 12, something very special has been happening : History Masterclass!

Girls from Years 9, 11 and 12 have been giving mini-lectures, roughly 20 minutes long, covering any period of history, no matter how niche. The periods that we have talked about have spanned anywhere from 4 months to entire centuries and have taken us just about anywhere from the US to China, from the 14th Century to the 20th Century.

To give you an idea a few of the topics covered have been: The

Engelandvaarders, the Greek Civil War, the US Constitutional Convention, the Medici, Socialism in the Middle East, LGSM and the Miner's Strike, and the Ming Dynasty. As a result, everyone who has come to the masterclasses now has a much more varied historical knowledge, and plenty of fun facts to test out on their friends.

Actually giving the classes is also great fun - who doesn't love a chance to talk non-stop for 20 minutes about something they love? History Masterclass will continue next term, and anyone is welcome to host or attend!

Sixth Form Christmas

Phoebe Rylatt and Ayesha Seghal

In Sixth Form Centre the Christmas tree is put up in Reception, fairy lights light-up the stairs and the Head Girl team organises a number of festive events to mark the season. From *Nativity* on Monday to *The Holliday* on Friday, a Christmas movie plays each lunch time in the common room. There's a Christmas Pyjama Day, preparation of our costumes as shepherds, stars, angles or wise men or the final Christmas Carol assembly and rehearsals for the Boars' Head Carol. Christmas is a truly magical time at NHEHS and the sixth form encapsulates it!



Christmas Bazaar

The festive season got off to fantastic start with this year's Parents' Guild Christmas Bazaar on Saturday 2 December. More than £8,000 was raised, which will go towards funding new timing equipment for the school swimming pool and some new books for the school library.

As well as the old favourites like arts and crafts, Santa's Grotto and the used school uniform stall, this year there were a number of new additions which appear to have gone down well with you all, including the Planetarium and the Pottery Stand.

A big "Thank You!" to Parents' Guild members and NHEHS staff (particularly the caretaking staff) who set things up and then tidied everything up again; everyone who ran the stalls, donated prizes, bought raffle tickets; and to those who enjoyed the mulled wine, ate, drank, bought Christmas trees and wreaths and generally supported our school by just being there.

We're looking forward to seeing you again at the Burns' Night Supper on Saturday 27 January!

Tom Kiedrowski



U14 Hockey

Just before the October half term, the U14 hockey team took part in the Middlesex Hockey Competition playing exceptionally well and beating St Augustine's, Teddington and Francis Holland and then forcing draws with Godolphin & Latymer and St Benedict's. This placed us at the top of the table and saw us crowned U14 Middlesex County Hockey Champions 2017.

It also meant that we qualified for the next stage of the National Hockey Competition, which is called the South Regional Round. This was played at Hustpierpoint College in West Sussex and represented a bit of a step up for the team. However, they acquitted themselves well, enjoying the experience and gaining a lot from it. Though we lost to St George's and Eastbourne, we did manage to secure a score draw against Headington.

Congratulations to the team of Mia Mutadich, Sophie Claxton, Natasha Jones, Isabella Morgan, Jasmin Palmer, Lily Sideso, Alice Szlachetko, Isobel Thornton, Ayna Sidhu, Freya Rylatt, Jasmin Saha, Asha Rai, Flo Pilling and Asha Rai on the very real achievement of reaching the regional stage.

Annette Greenslade

Maths Inspiration

Isabella Lawson-Smith, Emily Smith and Thalia Roychowdhury



On Wednesday 22nd November, Year 10 made their way to Trafalgar Square and met up at the designated lion. With hot drinks in hand, we then made our way to the Piccadilly Theatre. Upon arrival, we were greeted by a series of maths problems on the screen. Even the soundtrack was maths-themed!

Matt Parker, master of stand-up and maths and Miss Croft's favourite mathematician, was our host for the day making sure the audience was happy and not 'on fire'. He gave us clear instructions on what to do should you spontaneously combust (please do not chase your friends out of the auditorium) and highlighted that the probability of simultaneous combustion was probably quite low.

Matt started the day with some fun Maths tricks. He asked audience members to put a

2-digit number into their calculators and cube it. He then asked a few people to call out the answer displayed on their calculator, and surprised the audience by being able to figure out what was the original number immediately. He did this by memorising the patterns formed by cubing numbers 1-9, then the patterns formed by cubing numbers 10, 20, 30, 40, 50, 60, 70, 80, and 90.

Ryanair and Probability

Dr Jen Rogers, the Director of Statistical Consultancy at the University of Oxford, gave us a talk about her investigations into statistics and risk involving the use of probability. She had managed to calculate the probability of being given a middle seat on a Ryanair flight for a Watchdog programme. Four people had each individually booked seats on four Ryanair flights. This meant that they were conducting sixteen flight experiments in

Maths Inspiration .../Cont'd

total. She found out that the probability on one single flight of four people receiving the middle seat was $15/65 \times 14/64 \times 13/63 \times 12/62$. This was equal to 0.2%. However, all the people who had booked on the same plane received a middle seat. Whilst this was indeed unlikely, it was not enough to prove a biased allocation of seats. They then had to test it for three more flights and this took the probability of a middle seat to 0.24%. In total, they concluded that the probability of four individuals receiving middle seats on four fairly seated individual flights was ten times less likely than winning the national lottery. Therefore, the allocation of seats was most probably biased.

Risky Bacon

She then showed us some shocking recent headlines from major newspapers concerning the risk of eating bacon. This supposed sharp increase was only in terms of relative risk, meaning that the increase was not as large as the headline made you assume. She then took this further by explaining some of the mathematics behind these articles. Without eating a portion of bacon every day, the risk of developing pancreatic cancer was 5 in 400 people and this figure rose to 6 in 400 people after a daily fryup. Although the

headlines were factually accurate, they were not quite as startling once you knew the mathematics behind them.

Jen also showed us the probabilities behind the game show "The Price is Right" talking about strategy versus risk. Our very own Vicky Newton got on stage to play, but, despite a good balance of using probabilities to play safe and some high risk bets, she did not walk away with the prize.

Mathematical Obsessions

Steve Mould, a comedian and a science communicator, with a Masters Degree in Physics from Oxford, introduced us to the concept of mathematical obsessions, which started with his story about shapes of constant width, the most basic one being a circle. He stuck a Lego man on top of a ruler to demonstrate to the audience that shapes of constant width, such as the Reuleaux triangle, could act in place of a wheel. He then introduced us to his solids of constant width, of which he had had 15 custom made. He showed us their use by dressing up as the Lego man from earlier and "skating" over them. This led on to him illustrating the Mould Effect, also known as the Fountain Effect. He stood on top of a high ladder with a jar full of connected metal beads. When he pulled the beads out of the jar, they went up before falling down

they rose before falling. There was not a clear explanation for this effect, but Steve Mould was very pleased that a paper had been published at Oxford attempting to hypothesise the reasons for this.

Three Ball Trick

Dr Colin Wright, who earned his PhD at Cambridge and while there also learned to juggle, was our final speaker and entertained us with his colossal juggling skills. He revealed that there is almost an infinite number of juggling patterns and tricks that can be done with just three balls. Variations in arm movement, timing and a technique known as site swap can all lead to different outcomes. He demonstrated patterns that could include up to five balls; however, there are some balls that can never be thrown, such as 'one ball', to accomplish which would involve a very complicated form of time travel. Suffice to say, he did not manage to demonstrate this particular arrangement.

Souvenirs

It was an incredibly insightful and engaging morning, where we learnt about areas of maths that most of us had never even heard of! We even managed to coax the presenters into signing our calculators after the show. That's a souvenir I'm sure we'll all treasure and will remind us of these lectures every maths lesson.

Da Vinci Club

Rachel Gordon

The new Da Vinci Programme is underway and this term 63 students in Years 10 and 11 have been attending sessions. They and their 'host' member of staff use the sessions to explore a topic or issue that is not directly related to their normal academic curriculum with the aim of encouraging students to think laterally, problem-solve and discuss different perspectives on a range of intriguing and complex areas. So far they have enjoyed sessions on 'Behavioural Economics'; 'Could a Machine Think'; 'Winning Legal Arguments - in any way possible' and 'What does a Protest Look Like?' Da Vinci meets twice every half term and continues in January. Here two students have given you a flavour of what they have enjoyed so far:



Machine Think

Rose Slocock

I attended a session on artificial intelligence and its capacity to ultimately share human characteristics. We explored issues such as emotions and ethical questions such as to how robots should be programmed to behave. These are of course very relevant issues as our society progresses through a huge technological advancement and the computing power of AI grows exponentially. Mrs Woolner and Mr Nelkin helped to introduce us to problems that will continue to spark controversy and discussion in years to come.

The Nature of Protest

Ella Pilkington

In our second week of the Da Vinci Club we were with Ms Cagnino discussing what a protest looks like. I was expecting to be talking about people holding signs and chanting about things but instead I was greeted with a different perspective. We looked at protest portrayed through famous art works. This was very interesting as I got to learn more about artists like Ai WeiWei.

We looked into their political views and the way they portrayed them. I particularly enjoyed this as we got to discuss things like why the ratio of male to female artists in galleries was so large. We also got on to reading a controversial article about how marriage prospects might impact career success! In a group, we shared our opinions on this which was a great opportunity to have a debate outside of our classroom topics.

Charities at NHEHS

Katie Prendergast



This term has seen 9 form groups run their fundraising initiatives for a variety of fantastic charities. The events have been creative and innovative and have ranged from school movie screenings, to events which rely on the good humoured involvement of members of staff such as a teacher spice challenge, a teacher lip- sync battle, a teacher bleep test and a teacher pop quiz. So far the girls have raised a total of £2,105.79 for their nine charities which include the Anthony Nolan Trust, the Royal Brompton Heart Hospital, DePaul UK which works with homeless young people and Westminster Befriend a Family.

Shortly before half-term, in the spirit of Harvest Festival, we collected food for Ealing Foodbank. Thank you for your wonderful donations - you will be pleased to know that we successfully managed to beat our own record; collecting hundreds of kilograms of food to help others in the local community.

On 4th December, we began our Christmas Present appeal in collaboration with the Salvation Army. As the week progressed the collection rapidly grew and produced a range of really fantastic and thoughtful gifts. Thank you very much for your generosity which will help put a smile on other young people's faces this Christmas.

Finally, just before we broke up for Christmas, we held our annual Christmas jumper day in aid of Camfed the charity which provides educational opportunities for young girls in Africa. Thank you to everyone for taking part and watch this space to find out how much money we managed to raise for this great cause. (The UK Government is currently matching donations to Camfed through UK Aid Match which will mean we will have our total doubled!)

Next term, as well as our weekly form charity events, we will be launching a whole school appeal for sanitary products for the Binti charity as well as a book collection for refugees in Greece.

Thank you to all the girls for all their efforts on behalf of their chosen charities this term and to all the parents and staff who have so generously supported them.



Autumn Concert

The Autumn Concert is an opportunity for the school to showcase its musical talent, and this year there was certainly no lack of it.

The evening consisted of a mixture of choir, orchestra and ensemble performances, all different and all brilliant. The piano trio and flute quartet, demonstrated how the girls involved in the evening ranged all the way from Year 7s to sixth formers. It was refreshing to listen to the choirs singing not only classical repertoire but also modern pop songs and songs from musicals like *Mamma Mia* and *Matilda*.

There was an exceptional variety of music from the orchestras; from Session Orchestra's performance of the Harry Potter theme tune to the Symphony Orchestra's Greig and Chamber Orchestra's Bartok. Meanwhile, the Jazz Band lightened the mood with their performance, which included vocals throughout, adding an element of fun.

This was an impressive concert and set a high standard for future events.

Emma Bamber



The Gothic Novel

On Monday 4th December, Year 12 English Literature students had the opportunity to attend a day of lectures on elements of the Gothic novel where speakers included Professor John McRae and Dr Sean Matthews both of the University of Nottingham, and writer and poet Angela Topping.

After an introduction which dealt with the context and history of the rise of the Gothic in literature, Professor McRae, an animated and amusing speaker, gave a lecture with an abundance of information on *Frankenstein* by Mary Shelley, one of the novels that is part of the Gothic element of the English Literature A Level. After a break for lunch, Dr Sean Matthews, provided us with some wider reading information on *Dracula* by Bram Stoker and *Wuthering Heights* by Emily Bronte. This lecture definitely gave all the students that attended some food for thought.

Finally, Angela Topping spoke about the book that we were currently studying, *The Bloody Chamber* by Angela Carter. She not only talked about the titular story in detail, but also went through all the stories thematically. For example, she explored the significance of the themes of mirrors, masks, meat and roses.

This was an extremely useful series of lectures and provided us with some vital information for our English Literature A level.

Lily Saddler

Senior Maths Challenge

Helen Critcher



On Tuesday 8th November, a group of Sixth Form students took part in the Senior Maths Challenge. This is a national competition which is organised by the United Kingdom Mathematics Trust.

It turned out to be close to a record breaking year with 33 students achieving a certificate (our best ever was 34 certificate winners last year).

Overall the students achieved 2 Gold, 15 Silver and 16 Bronze certificates with the Golds going to Jemima Bradley (Best in Year 13, Best in School) and Uma Shah (Best in Year 12)

As a result of their very high scores, Jemima, Uma and Cecily Bell qualified for the follow on round, called the 'Senior Kangaroo'.

Mandarin Speaking Competition



Our team of Year 8 & 9 Mandarin Students Annika Malhotra, Yasmin Hussain, Angelina Koval, Divyasree Kaliappan, Saira Backhouse, Chloe Papageorgiou, Inanna Sahib and Abha Bhole are through to the national final of the HSBC / British Council Mandarin Speaking Competition. Well done!

Sicily Trip

Zareen Hyatt and Kate Pygram



The Sicily trip started at Gatwick and after an extremely tedious coach journey we already felt tired even though it was only 2PM! After we had all checked in our luggage (under the false identities of Mrs) we were then let loose to spend all of our money in Starbucks before embarking on our flight.

Our first day in Sicily saw what we were soon calling “our temple adventure” begin with a bright and early start (7:00!). We saw many temples throughout our stay, from the unfinished temple in Segesta which they just decided not to complete, to the Valley of Temples, which was well named as it was full of temples. In addition, we visited

Selinunte with its wondrous temple and theatre. Here we listened to the leader of a German school trip leader act out a scene from Shakespeare. Delivered entirely in German, which baffled most of us, it was great entertainment and a great demonstration of the theatre’s excellent acoustics.

In the Archaeological Park in Syracuse we visited a cave called the Ear of Dionysius because of its strange shape. This was a great experience because we had fun guessing the use of the ear and also trying to make up suitable puns to post on the school twitter page. (We now hold the record for the most liked classic related tweet with a magnificent total of 23

likes.) On the same day we also had a very enjoyable myth competition where we showcased our radical acting skills in performances of *Sisyphus: The Man who Cheated Death* and *The Story of Agamemnon and Iphigenia*. Unfortunately our group didn’t win in the end, but the story of Agamemnon performed by the Year 11s was admittedly better.

The final day of our tour saw us take on the hardest mission yet; Mount Etna. After having been disappointed the day before when told our ascent was ‘off’ due to adverse weather, we were nicely surprised when we were told that all the snow had cleared up and we would be able to climb the mountain. After a bumpy coach journey up to the base camp, we were surprised to still see snow on the black rocks surrounding us. After taking way too many photos, most of us attempted to climb to the next permitted level on the mountain. We all regretted it deeply until we saw the view from the very top. Once we had taken in the view, we proceeded to slide down the hill, some people doing surfing impressions en route.

By this point we were quite sad because our journey was coming to an end. We thoroughly enjoyed the trip, the temples, the theatres, the tweets and all our other experiences in Sicily.

National Schools Netball Tournament

Sophie Nicholas



Sunday 19th November saw the U18, U16 and U14 Netball teams travel to Lady Eleanor Holles, for the Middlesex round of the National Schools competition. With 12 schools entering the U14 age group, and 14 schools entering both the U16 and U18 age groups, this was going to make for a very competitive day of netball. The top two teams from both age groups would qualify and progress to the Regional Finals in January in Kent, representing Middlesex County.

The U18s won against both Henrietta Barnett and North London Collegiate. However, after some tight matches it wasn't to be their day and the girls did not qualify for the play-offs. However, they learnt some valuable lessons, and with a squad made up of mainly Year 12 girls, can take use this experience when they play in this competition again next year.

Coming off the back of a full set of wins at the Middlesex Preliminary tournament, the U16 team were excited and ready to play. They had an uneasy start, losing shooter Cassie Thompson to injury early in the first game. They fought through a tough match against North London Collegiate coming out with a draw. Although they then beat Waldegrave, Highgate and South Hampstead, the girls lost against St Paul's and Lady Eleanor Holles just missing out on qualifying for the play-offs. The team were disappointed, as they had beaten both LEH and North London Collegiate earlier in the season. However, they learnt the valuable lesson that you are only as good as your last performance. This is a talented team and there is no doubt that the girls will use this experience to fuel them when they attend the Middlesex Finals tournament in March when they will play this opposition again.

The U14 team were very much the new kids on the block in terms of this level of competition. Being involved in a tournament with so many teams, staff and parents at one venue can at times be overwhelming for young players, but the NHEHS U14 team took it in their stride. Lead by Captain Sophie Claxton and Vice-Captain Isabella Holmes, the girls demonstrated impeccable attitude both on and off court. They showed what it is to play as a team, encouraging each other on court, and gaining valuable turnovers for each other when errors were made. They performed strongly, coming out at the top of their pool against Fortismere, North London Collegiate, City of London Girls, Heathland and St Paul's Girls'. The team then faced Lady Eleanor Holles in the play-off match. The winner of this match would progress onto the Regional Finals in January, representing Middlesex County. With a home crowd, it may have seemed that LEH had the edge, but the NHEHS team performed strongly and had doubled their opposition's score by half time, 8-4. A calm and consistent performance in the second half, clinched the win 14-6 and the girls were thrilled to being going onto the regional round in January!

Poetry Live

Theresa Morgan



On a freezing Friday morning in December the whole of Year 10 congregated outside the Apollo Theatre in Victoria for Poetry Live, an event put on especially for GCSE pupils with the aim of making great poetry more accessible. After settling into our seats in the auditorium stalls we waited for the first poets to appear on the stage, which was presided over by a rather menacing giant dragon clock, part of the set for the musical *Wicked!* to which the Apollo is usually home.

After a short session led by the Chief Examiner on analytical responses to unseen poems at GCSE, the Poet Laureate, Carol Ann Duffy, shared with the audience a selection of her poems. These focused mainly on her own family and relationships, such as her tribute to her mother, *Before You Were Mine*, a collage in words of different images of her teenage mother living in Glasgow before Duffy was born, pictures that had been passed down to the poet through

her mother's stories or been conjured by objects like an abandoned pair of high-heeled dancing shoes.

Alongside Duffy we were treated to performances by some of Britain's most prestigious poets: from Simon Armitage's wonderfully paced *Come All Ye Faithful* to Daljit Nagra and Grace Nichols's reimaginings of such familiar tales as *Romeo and Juliet* and *Sleeping Beauty*, to Imtiaz Dharker's poem about dabbawalas that transported us to the hectic streets of Mumbai.

As a rousing finale to a day that had us travel from the barren deserts of war-torn Iraq to the cramped space behind a counter in an Indian sweet shop, we heard – and all participated in – John Agard's hilarious and animated renderings of his poems. With the words of one of his poems ringing in our ears, it was then time to head home and, as he had so energetically urged us, 'Put the kettle on'!



Hamlet and The Gothic

On 8th November, the sixth form English Literature students attended a talk by Dr Anna Beer from Kellogg College Oxford, on "Five ways of thinking about Shakespeare's Hamlet".

Dr Beer placed clear emphasis on the importance of historical context surrounding the play, such as the prohibition on public duels, the role of women and their "banishment" to the domestic realm, and the controversial treatment of playwrights in the Renaissance period. Throughout her lecture Dr Beer's use of colloquial language and inclusion of anecdotes helped us to connect with her as a speaker and really made her ideas accessible.

A particularly useful aspect of her lecture was when she linked *Hamlet* to the Gothic genre. This was fascinating as 'The Gothic' is the second part of the course we study in Year 12, and certainly helped my understanding of the play. Dr Beer's use of sources and references such as Renaissance author Belleforest and writings such as *Saxo Grammaticus* provided interesting interpretations to the role of femininity in the play and the depiction of the key characters, Horatio, Ophelia and Gertrude.

Thank you Dr Beer for introducing us to some fascinating ideas and possible interpretations, which no doubt, I (along with all the other English Literature students), will be discussing in many essays to come.

Lola Barak



BT Sports Action Awards

On 4th December one of our star netball players, Alice Wells (Year 12) was among eight girls from across the GDST to be invited to attend the BT Sports Action Awards at the sports studios at the Olympic Park. We were thrilled that Alice had been selected, as more than 100 girls from GDST schools were nominated to be a part of this prestigious event. Alice, who plays netball for the Under 19A team at school, also plays for the Mavericks in the national Super League in her age group.

Every year BT Sport run an annual awards ceremony which celebrates the achievements of incredible and inspiring female athletes. The awards were set up as part of a commitment to increasing awareness and participation in womens' sports.

On arrival the girls were given a tour of the studios and then in the green room met sports TV presenter Clare Balding. They then went on to meet a plethora of stars including Judy Murray who won the evening's Lifetime Achievement award for her dedication to coaching, ex-Chelsea footballer Frank Lampard and tennis player Jo Konta. Alice and the other GDST girls then settled at a table at the centre of the action and watched the ceremony unfold.

Lauren Munto-Hall



New York

Natasha Ketel



On Sunday 29th October at 10am, an army of Notting Hill girls from Years 11 and 12 wearing a uniform of green hoodies met at Heathrow, full of ridiculous enthusiasm and excitement and ready to charge into the concrete jungle.

The plane journey lasted for what felt like an eternity due to a series of delays but we finally arrived in the Big Apple in the evening absolutely exhausted and ready for bed. The next day, we had pancakes for breakfast at Café 28, a deli nearby the hotel, and then headed off on our walking tour of the city, led by a passionate tour guide who filled our minds with fascinating tales of the history of New York. We passed Wall Street, visited the 9/11 memorial, attempted (and failed) to do a flash mob in the

Oculus and wandered through Chinatown where we unfortunately met some unwelcome rodents.

After grabbing a delicious slice of pizza for lunch, we had a musical theatre workshop with an actor called Dominic from *The Bronx Tale*. Despite a few of us representing "backstage", we rose to the challenge of singing and dancing, albeit with no sense of rhythm or vocal capability, and everyone ended up having so much fun. We took an endless number of photos in Times Square, ate a quick dinner and then walked round to the theatre where we saw *M. Butterfly*. With an inventive set using numerous screens to help create different settings, the play was a fantastic loose retelling of the famous opera, Madame Butterfly. Described as



New York .../Cont'd



a tale of love, betrayal and espionage, it told the thought-provoking story of a French diplomat and his affair with a Chinese Opera singer. With many twists and a shocking turn of events that will have you on the edge of your seat, it is a must-see.

On Tuesday, we took the subway to South Ferry and travelled on a boat all around the Statue of Liberty, taking numerous photos and enjoying the sun. After, we got the subway back to the hotel and in a crazy rush transformed ourselves into an entourage of terrifying creatures for Halloween. Wearing fake blood and creepy costumes, we strolled round to the Empire State building where we were overwhelmed by a view that was truly out of this world. From there, we walked all the way to

the Jekyll and Hyde Restaurant where we ate a fantastic feast surrounded by spooky characters and eerie decorations. On Wednesday, we ambled through gorgeous Central Park to the Met where we viewed masterpieces by legends such as Vincent Van Gogh, Jackson Pollock, Henri Matisse and Claude Monet. Some girls grabbed an iconic New York hot dog from a stand on the Met Steps whilst others bought a Panini from Starbucks for lunch and then we were toured round Radio City.

The decoration and design were overwhelmingly beautiful and the stage was indescribably impressive, we were all left begging to return for the Christmas Spectacular starring the Radio City Rockettes. In the evening, we went to see *The Bronx Tale*. This warm-hearted musical was full of energy and great, catchy songs and at the

end the writer even came on stage to say hello as he was in the neighbourhood which was a surprise to us all!

We spent our last day rushing around the city looking for the best bargains and deals in all the shops on makeup, clothes and accessories. For lunch, we ate a mouth-watering meal at Ellen's Stardust Diner where the waiters and waitresses are all Broadway hopefuls who sing while they serve. We managed to make quite an impression, singing along to every familiar tune at the top of our voices. Then, it was sadly time to board our plane back to Heathrow. Our adventure was jam-packed with impressive activities, so much sightseeing and brilliant Broadway shows, I don't think we will ever be able to forget it and are so grateful for the drama department for such a wonderful experience.