



SPRING TERM 2017

## NATIONAL MATHS PROGRAMME

Prime Minister Theresa May visited King's Maths School on Monday 6 March, meeting students in a mathematics lesson with Miss Reid and a physics lesson with Mr Bennie. She was struck by the enthusiasm of our students, and also by how far they are willing to travel to access our provision. The Prime Minister chose King's Maths School to exemplify the good work that free schools are doing and also to share her plans to open several more maths schools around the country - all based on the model that King's and also Exeter have established. She described our school as "crucially taking youngsters who are really interested in mathematics, giving them the skills for the future".

## GOOGLE INTERVIEWS

Year 13 students were offered the opportunity to undergo a mock industry interview conducted by Google. Michael Udemba reflects on the experience: 'The interviews came in three types: technical, personal and group.

I took part in the personal interview, in which an employee from Google attempted to determine the presence of traits like resilience, a growth mindset, my openness to new ideas, and many others (things an employer would be looking for in a normal job interview). It was possibly the most enjoyable interview I've ever had, and the event itself was a wonderful opportunity to find out what is required from a Google employee; I may even consider it a future career prospect.'

## ENGINEERING EDUCATION SCHEME

A group of year 12 students were selected to take part in a six-month STEM project based on real engineering problems. The group worked together with Arup to design a sustainable cooling system for Marble Arch underground station, with an associated heat rejection system - which was no easy task! The students found this challenging project to be an incredible way to develop their aptitude for longer report writing, time management, collaboration and communication skills.

# KING'S MATHS SCHOOL

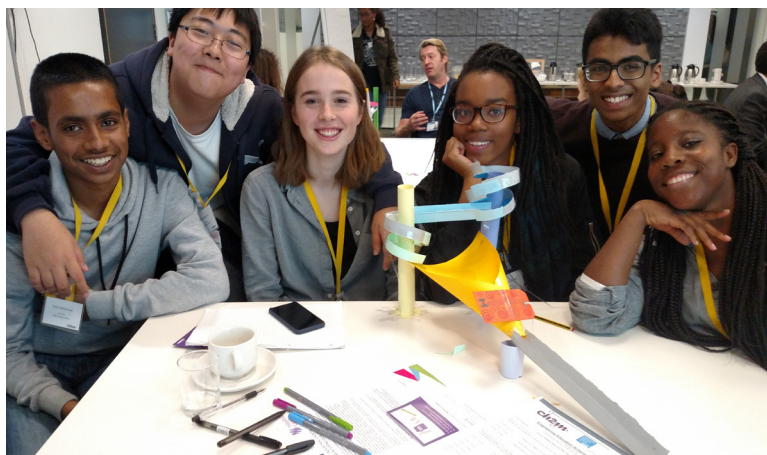
## COMPETITION TIME

Schools all over the country are fast learning to worry about any team we put forward in a STEM competition. Cameron, Tom, Katherine and John came 12th out of over 85 teams in the national finals for the Senior Team Mathematics Challenge, a most impressive achievement. Ali, Phoebe, Benedek and Alex formed the winning team "Something Funny" in a new national competition - the Alan Turing MathsBombe, run by Manchester University. They solved eight fiendish puzzles over the course of eight weeks and are delighted to have won "a bucketload of cash", as they put it (£30 in Amazon vouchers). They will attend a prize event in Manchester in May. Team "Squarilateral" also did very well, solving all bar one of the problems perfectly.

## SPEAKERS AND TALKS

KCLMS has hosted five speakers this term. First up was Julian West from GCHQ who spoke about the

**Weekly Maths Challenge:** The hour hand on a clock is 3cm long and the minute hand is 5cm long. At certain times of day, the hands form two sides of a right-angled triangle. In a 24 hour period, how many times will this happen?



Above: Year 12 participants in this year's EES programme and our VEX Robotics Team

history of encryption and how it is used by GCHQ today. Marcus Cheadle talked about the applications of maths in banking. Frances Kirwan talked about topology and her journey from keen maths students to Oxford Don. Eleanor Knox talked about the amazing implications of Einstein's theories of relativity for our understanding of time, and Russell Bender talked about how he uses his mathematical background as a theatre director. We are looking forward to hosting the Astronomer Royal after exams this summer.

## BINGO NIGHT

In early March, we held the first KCLMS Bingo night for parents, carers, students and staff. The evening started with a buffet and a short introduction to the game by Mrs Kaushal. The event was very well attended and it was a great opportunity for the school community to come together and mingle. The star of the evening was the host, Joe Stallibrass in Year 13 who had raced from his interview at Manchester University to lend his 'bingo' expertise to the evening. The coveted KCLMS mugs, chocolate and wine were awarded as prizes and a good night was had by all!

## READING AND CULTURE

This term we have been widening our students' exposure to culture and reading. Teachers shared some of their favourite cultural and book recommendations in a guide booklet. Recently, the whole school went

on a trip to the Winton Mathematics Gallery at the Science Museum, where we received a curatorial talk about this new exhibition. We're also increasing our range of magazines, newspapers and periodicals (digital & print) so we can all stay better informed.

## INTERNATIONAL WOMENS DAY

To join in with the celebrations of International Women's Day, the Year 13 students were invited to a series of talks to gain an insight into the professional and personal journeys of the female staff at KCLMS. Sharing their experiences of choosing their degrees, their different professional career paths and the challenges they had faced, all mixed in with some humorous anecdotes, the lunchtime talks were a great success. Pondering the question "what advice would you give to your 18 year old self", each staff member was able to provide some useful and sometimes surprising advice to the students.

## STRESS-MANAGEMENT

As we get ready for the Summer term and exam season, in partnership with our counselling provider, Novo Counselling, we launched our first 'Exam Stress Management' workshop. Over a 4 week course, students are learning to identify the triggers of stress and look at breaking the cycle of negative thinking. The school will run the same course again next term: Further information can be obtained from Mrs Kaushal.

## LEGO ROBOTICS NATIONALS

Ife, Natalie and Muhsina designed, built and programmed two robots out of Lego that can play football. The two robots, Darwin and Dawkins, consist of an EV3 "brain" with several sensors and motors attached. Not only does each robot need to be engineered so that it can find and dribble a ball, but it needs to be programmed so that it can play the game autonomously: this is a test of artificial intelligence. After testing them on a football pitch built in the school car park, the students and robots headed to the Wirral to represent KCLMS at the national championships. Despite coming up against a pitch very different from the one they had practised on, requiring last minute reprogramming, they came 3rd. Most impressively, they held the eventual winners to a 1-1 draw.

## VEX

Misha, Benedek, Alex, Felan and Jim completely rebuilt their regional-winning robot before taking it to the National Vex Robotics finals held in Birmingham. They competed in numerous robot battles of Vex Starstruck, a game which involves two robots on either sides of a barrier attempting to throw as many objects as possible onto their opponents' side, across an exhausting three day period. The team showed an impressive combination of engineering, tactical and driving skill to make it as far as the semi-finals. Their extraordinary achievement has set a high bar for future KCLMS Vex teams!