

THE STEM TIMES The Newsletter For All Things STEM At Magna Academy Poole

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Forensic Science Workshops

The Academy was once again graced by the presence of the Bournemouth University outreach team on Friday 12th May when around 50 students from year 9 were able to participate in a forensics session. Forensic science specifically describes the methods and techniques used by scientists to gather evidence from crime scenes for presentation in court during a trial. The UK has always been at the forefront of forensic science with DNA fingerprinting, perhaps the most important modern forensic technique, being developed at Leicester University by Sir Alec Jeffreys in 1984. Bournemouth University currently has one of the strongest forensic science courses in the country with lots of students electing to study there over all other UK institutions.

After an introduction to the science behind the discipline, students were tasked with determining who had killed Rip the Pig from a list of suspicious characters. They used fingerprinting, handwriting analysis, blood spatter analysis and shoe print analysis to narrow down the list of suspects until the killer could be identified. Students had a great time and gained an insight into the work of a Crime Scene Investigator (CSI). How handy it is that the closest university to the academy has one of the best regarded forensic science programmes in the country.

As always, the students represented the academy admirably with Łukasz Naglik, the schools liaison coordinator commenting on how well engaged and polite the students were. We look forward to welcoming back the outreach team in the future so other year groups can have the





Degree Apprenticeship Success

We are delighted that Jacob C and George O have secured technical higher degree apprenticeships in engineering and material science at Superior Seals. Jacob and George underwent a rigorous selection process to obtain these positions. They demonstrated high levels of knowledge from their A-Level studies and a range of skills essential for employment including communication and problem solving which made them the ideal candidates for these jobs. Superior Seals is a leading manufacturer in material science known for excellence in the industry.







Bournemouth University Festival of Engineering

Monday 26th June was a balmy, early summer's day nearing the end of the academic year. The heat haze rose from the tarmac as Mr Barrett and Mrs Halls took 14 lucky year 9 students on a trip to Bournemouth University to their Festival of Engineering.

Students arrived at the Talbot campus and were taken to the Fusion building which is a fantastically modern environment with a large, airy central atrium surrounded by lecture theatres and learning spaces. We were shown into one of the lecture theatres to be joined by students from other local schools. As always, Magna students shone with their behaviour and impeccable uniform. After an introduction from Łukasz Naglik, the school's outreach coordinator, we had a lecture from Dr Bryce Dyer, Associate Professor and Deputy Head Of Department Design and Engineering. Bryce has spent over 10 years working with elite athletes who have limb amputations and explained the process from design, prototype, testing manufacture and final approval of the devices used by members of the British Paralympic team over the past decade. Unsurprisingly, when invited to ask questions, most of those coming from the audience were on the topic of Artificial Intelligence (AI) and it was interesting to hear Dr Dyer's thoughts on the topic.

We then left the Fusion building to go to Kimmeridge house where we were able to see the final year projects of some soon to graduate product design students. Amongst the items on display were a personal organisation device for young people with dyspraxia, a bike mounted rack for evacuating patients out of inaccessible areas and a robotic claw for removing solid items from blocked waste pipes. Students were able to view the prototypes as well as speaking to the students about their time at university and how they came up with the inspiration for their project.

We then broke for lunch before heading back to the Fusion building to take part in a robotics workshop using Lego. Students were tasked with building a "creaper" robot that walked along the floor. Once they had built and programmed the basic robot they then had to modify the design of the legs so that it moved as fast as possible. Despite the students working in pairs, I am very pleased to announce that Riley Albin won the race working solo, beating fellow students from Magna as well as from Oak Academy.



Maths Challenge

As the UK Mathematics Trust (UKMT) say: the idea behind the Maths Challenges is 'Promoting a love of problem solving'. The Junior Mathematical Challenge (JMC) is a 60-minute, multiple-choice Challenge. It encourages mathematical reasoning, precision of thought, and fluency in using basic mathematical techniques to solve interesting problems. A number of students sit a UKMT Maths Challenge every year. Year 7 and 8 sat the JMC in April and achieved Magna's best ever results with 19 Bronze, 7 Silver, and 3 Gold certificates being awarded. We also had one student who qualified for the 'Junior Kangaroo' follow on round, Simon J, which makes him our best performing JMC entrant ever.

In related mathematical news, Katelyn S in Year 11 has been awarded a (conditional) boarding place to study A levels at Exeter Maths School (EMS) which is a significant achievement. Several Year 10 students have become the second cohort from Magna to take part in the online GCSE Maths Enhancement Project run by EMS as well. This is a fantastic achievement by Katelyn and puts her up there as one of the best young mathematicians in the south west.

Mr Stoddart