



SCIENCE, TECHNOLOGY, ENGINEERING and MATHEMATICS

As you know, at The Castle School we are keen to involve as many students, of all ages and abilities, in STEM opportunities in order that they can find *Inspiration for the Future through STEM*. So, **welcome** everyone to our **last** newsletter for the year – with the theme of **firsts!**

Since our last edition in January we have..... **held our first Family STEM Challenge**ran our first whole school themed cross-curricular Science week..... **reached our first National Final** (and then reached three - two in the same week).... **entered our first team in the F1 in Schools competition**..... **had our first student through to the Junior Mathematical Olympiad**..... **enabled staff (and a parent) to be trained as Bloodhound SSC 'Rocketeers'** as well as continuing to run STEM clubs, trips and events.



As well as holding the usual exciting lunchtime events e.g dissections and explosions and running a Year 8 trip to The Big Bang Science Fair at the NEC, this year we tried to include as many students in as many different lessons across the school by introducing a theme for Science Week....**FRACTALS!** In IT and Languages lessons students wrote



algorithms to generate fractals. In Geography students learnt about water basins and in English students reported science as part of the BBC School Report day. In maths, students drew 2D and made 3D fractals as well as having a visit from mathematicians from Bath University. One of the highlights was the Family STEM Challenge event that we

held to celebrate the end of the week. With over 100 family members of all ages attending and 6 STEM Ambassadors from local companies our Newton's Racers event, run by the EDT, was a big success. Congratulations to the Curran family for being our first Family STEM Challenge winners 😊



This year we entered three competitions for the first time. In February a group of dedicated Year 10 students entered the Schools F1 challenge. **Team Blue Rockets** had been preparing for this event for over 18 months. As well as designing, testing and building their car they had to raise sponsorship and create a marketing campaign and they chose to do this in the toughest class of all...PROFESSIONAL! In the regional heats they were up against stiff opposition from mostly 6th form students but their hard work paid off and they came away with a trophy for 'Most Innovative Design'. Go Blue Rockets! Not only have these

students begun working on improvements for next year's competition but they have used their success to inspire another team of engineers in Year 9. Acting first as judges, and now mentors, the 'Rockets' asked interested Year 9 students to pitch their ideas and present to them why they should be chosen to continue the F1 tradition. Congratulations to **The Golden Dragons** who will also be entering a team next year in the NOVICE class.

Another new competition was the Tomorrow's Engineers Lego Robotics competition. A group of Year 9 students spent approximately 12 weeks getting to grips with programming the robot, learning to work as a team and researching and presenting 'Can humans survive in space?'. The **Supernovas** impressed the judges so much at the regional competition held at the Fleet Air Arm museum that got a wild card entry to the National Finals at the NEC. The team put in extra hours perfecting their missions and even learnt from Professor Ioannis Ieropoulos of the Bristol Robotics Laboratory how they could power their robots from urine!! Congratulation **Supernovas!**



Possibly our biggest success this year was reaching the Young Engineers STEM School of the Year finals. Again, this was the first time that we entered the competition and we made it through to the final six!! For two days at the Big Bang Science Fair at the NEC not only did we display several of our STEM projects that we have been involved with over the past year but we also had to run a public engagement activity. **'Making**



Slime' proved to be a massive hit as the public that came to our stand got to not just hear about polymers and non-Newtonian fluids but to make their own slime and take it away with them. Across the two days over 500 portions of slime were made of all sorts of colours and textures. At the end of the two days we were very proud to win the Inspiring Futures through Engineering Engagement Award. **Many thanks to all our supporters; staff, students, parents, Premium Partners and other local companies who are the reason that we won the award 😊**



We still have one National Final to go - **Bloodhound SSC Race for the Line!** On Thursday June 29th at Santa Pod, the home of European Drag Racing, the regional winners from across England will compete to design, build and race the fastest rocket car they can. The winning team will be invited to join the BLOODHOUND Team in South Africa for a once in a lifetime trip to see the Supersonic Car making history on the Hakskeen Pan. Could that possibly be Team Castle?????



Other firsts to look out for



To keep up to date with STEM news at The Castle School and the local area follow us on **@CastleStem**

The PERFORM project. Funded by the European Commission we are one of 12 schools across Europe taking part. The aim is that students get an opportunity to gain skills in performance and through working with researchers they will find out about cutting edge research, ethics, gender and philosophy of science. **Using the performing arts to engage students with STEM**