November diary entries from Ryders Hayes STEM Project (Rolls-Royce)

Rolls-Royce Schools Prize for SCIENCE & TECHNOLOGY Finalist 2020-2021

@ Ryders Hayes STEM

At Ryders Hayes Academy, our project is a whole school investigation into the different ways that STEM technology is currently used in industry and consider how it will help us in our everyday lives in the future. Using STEM software and hardware kits (SAM Labs), pupils will create innovative systems and build their code, to provide sustainable solutions to problems within a real-world context.

Claire (Y5 Teacher, Science/STEM Lead and Project Leader)

This month has seen the launch of our project through: a visit to RAF Cosford for a STEM day with Year 5 pupils; a virtual home learning event to promote the project to parents; SAM Labs CPD for all teaching staff; and a SAM Labs lesson for Year 5 pupils.

Year 5s on RAF Cosford Day

Having a school trip was a rare experience at the moment and it was great to see the children engaged with STEM activities, working together and working towards an end goal of creating a rocket to fly the furthest and making a landing pod to return to Earth safely. One pupil said they had loved learning outside of the classroom and was excited to see what they would build with the SAM Labs equipment.

Seeing the pupils engage with the new SAM Labs equipment was extremely rewarding as many of them were able to use the equipment and software with some degree of expertise already so once they start to build their autonomous cars the learning will be through problem-solving and applying their thinking to real-life issues.

For our home learning event, we launched the project as part of our Science lesson on Forces, and it allowed parents to be involved in their child's learning by working alongside them at home designing helicopters. Usually we would have an event that brought parents into school, however during this time we have tried to engage them remotely.

The staff CPD for SAM Labs was a success and our training was delivered via Zoom all the way from New York State. Staff feedback said they were surprised how easy the hardware was to use and that the software was easy to navigate so their confidence was increased.

So far we have spent £1,500 on SAM Labs equipment and £600 on coaches = £2,100.

Bridie (Y6 Teacher and Computing Lead)

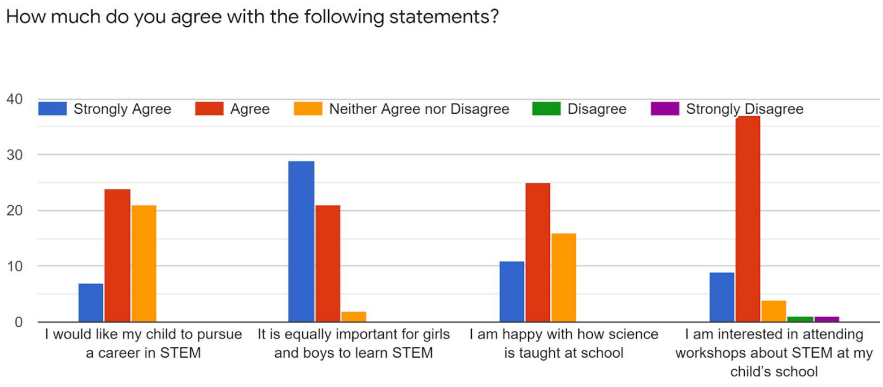
We have had some training delivered for SAM Labs equipment, this worked really well and I felt that this showed staff the possibilities for children exploring the STEM curriculum. Year 6 had their Careers Hub 2030 Live event exploring the Engineering and Manufacturing Sector, the children were very enthusiastic with around 70% of the year group expressing their interest in working in this sector in 2030. We are looking forward to integrating the SAM Labs lessons into

our curriculum this half term. We have started our Design and Technology learning, designing and creating a gingerbread house, the children thrive in practical activities.

Kath (Y4 Teacher and Family Learning Lead)
This month I have worked with Y5 on their Family learning in conjunction with Mrs Raxworthy-Cooper. This has also helped me use the SAM learning lab in preparation for Year 4 using it this month. Year 4 have had their STEM day where they created a home and linked it to their circuits work on making a room light up.The children have thoroughly enjoyed all the joined up thinking and they were able to evaluate their learning and adapt their work to make the light brighter or add a switch. The children's work was both imaginative and thoughtful. They resourced their work from recycled materials from home and adapted plans to create and light up a home.

Emily (Y1 Teacher and D&T Lead)
This Month, I have spent some time looking over the Design and Technology planning and make real life career links explicit for all year groups and plan for when SAM LABS can be used. We have had some training delivered by SAM Labs. This allowed me to experience this myself and look at this at the point of view of the children. As a Year 1 teacher, I feel the visual support of this product will help my children understand the STEM curriculum first hand. We are also using mechanisms during our Design and Technology learning this term by creating sliders, levers and wheels. The children are enjoying their learning and are even creating their own at home!

Laura (Chair of FoRH)
I have started to analyse the data received for the parent and pupil questionnaires and from this I can see we have an enthusiastic community who are keen to get involved in more STEM activities with the school and we have a few parents who are linked to STEM careers who have volunteered to help us with our project (when this is possible!)



Angela Moore (Chair of Governors)
I have just taken on the role to be the link Governor for this exciting project and have been in conversations with Claire from the outset of the application so I understand the main aims of the project. I have invited Claire to our Governors meeting in December to report on the project and this will provide support in ensuring the project keeps on track and that any issues can be resolved to ensure the project can run smoothly.