

Newsletter Half Term 1 & 2 2019-2020

Recent achievements:

- **12th Sept** – Champion termly meetings. Thanks to all who attended.
- **19th Sept** – Laura, Amy and their team welcomed teachers from the Partnership to Hazeley to host a KS4 moderation session. The event gave teachers the opportunity to discuss their finding from the 1st year of running the new specification and shared some feedback from the external moderators.
- **26th September** – thank you to colleagues at Denbigh for hosting an A-level debrief meeting.
- **17th October** – thank you to Mark and Rich at St Paul's who provided a showcase on digital communication technologies
- **5th November** – thank you to Denbigh for hosting the First Robotics CPD for teachers
- **12th December** – A big thank you to Kathleen and the team at Radcliffe hosted a twilight CPD session on Smart, Modern and Technical Materials.

The bigger picture – getting our message out there:

Recently, Paul and Laura were approached by the team at STEM to write up our partnerships journey a case study. This will be used as part of induction process for new EPs. Link [here](#). You may also notice a short article authored by Paul and Laura in the upcoming addition of STEM magazine.

September CPD:

With so many of us working within small departments the opportunity to moderate NEAs with other local teachers is an invaluable resource. In September we started off the year by looking at a small sample of work in order to help further develop our understanding of the new specification, in order to improve upon our own marking of students' coursework. What was fantastic to see was each schools' individual approach to the NEA and the diversity of work that the students had produced.

The meets provided the teachers with the opportunity to discuss their opinions on the sample and closely scrutinise the mark scheme.

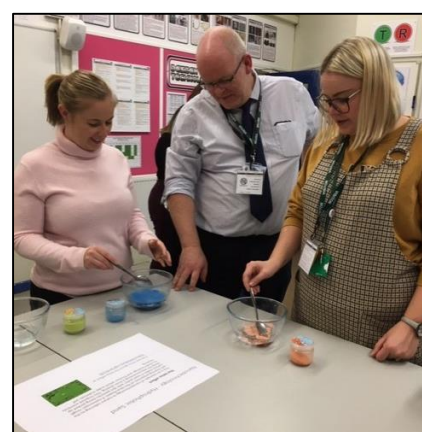


Despite many of us teaching from different exam boards we were able to identify the similarities between the different grade boundaries.

Twilight CPD @ Radcliffe School:

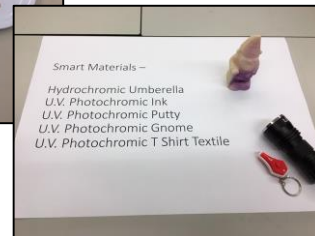
Everyone who attended the CPD event in December enjoyed the opportunity to explore Smart and Modern Materials and Technical Textiles and get hands on with the samples. Discussions about the importance of practical and inclusive/ethical design applications were very interesting as a way of providing relevance for the students.

The session was particularly useful for the NQT and SCITT students as their first experience of these materials.



The four categories of Smart Materials, Modern Materials, Technical Textiles and Composites were represented with sample products and information to show applications such as thermochromic thermometers, putty and mugs, UV reactive 3D printed products and printed fabric samples, hydroscopic sand, carbon fibre and Kevlar samples and gloves. memory wire and smart springs, electroluminescent wires and light reflective samples of lenticular film, holographic foil and hi viz jackets.

This event was a cascade delivery following the excellent STEM funded Smart, Modern and Technical Materials course at British Aerospace that Kathleen (@ Radcliffe school) attended which was delivered by Julie and Paul Boyd. Kathleen plans to adapt the resources and samples for delivery to their GCSE DT students, especially the Kevlar gloves and large chefs' knives, as although it is intended as a 'hands on' session I would like the students to keep their hands on!



Lord Grey Academy Update:

The Academy has been looking at the KS2 curriculum and mapping how the projects that we deliver in 7 and 8 build upon what is covered in Primary Schools. We are looking at these years to see if there is core foundation knowledge that is not being covered but expected to be known by students in KS4. We will be looking at what Technology is being taught, how it is being taught and at what frequency in Primary school. Lord Grey has arranged a primary:secondary meeting from our local feeder schools next month. I suspect more Technology is being covered than is realised, but under the guise of Science and Art.

We have been enlisted by the Drama department to construct costumes, set and props for our school play, "Charlie and the Chocolate Factory". A fantastic production, but requires candy canes, lollipops and one giant squirrel! Special afterschool set design clubs have been created to support this enthusiasm from the students. Because, after a long day what's better than painting a gummy-bear tree?

Megan travelled up to York training centre for 2 days of ENTHUSE training, on GCSE and A-LEVEL Design Technology. This was her first time at the STEM centre, and she felt that the resource centre was a great place to get ideas for new teaching. The course gave her many ideas of what could be brought into the classroom. When looking at how to teach levers etc in a more engaging way Paul Boyd suggested taking off the outer casing of a sewing machine. To make it safe for classroom (or for display) covering anything moving with acrylic which would allow the students to see:

Belt, Cam and follower, Tension, Gear train ,Compression
And transfer of motion types. We are now on the hunt
for old sewing machines...



To help shake-off the fear of exam formality we ran a Walking-Talking-Mock for the Year 11s. Nicky and Megan booked out the hall and the students sat with the exam paper, on exam tables. For all purposes it was like a mock exam, except in this one the answers were up on the board. Nicky spoke quickly to first explain how to first read the questions: BUG

- Box
- Underline
- Glance back

After that it was a swift pace choosing a short range of questions to decrypt the exam vocabulary being used to help students understand what exactly the questions is asking for in the answer. This will hopefully have an impact on their approach to their mock exam sat directly after our WTM.

We welcome our new Head of Department Nicky, who has brought with her extended knowledge of how to use Google documents. At a time when everything in the school seems to be going paper-free. Digital classroom has allowed us to use on-screen live marking, quicker access for the students to work on their projects at home and a more cooperative way to work in a group.

We have entered our Year 10 students into "Design Ventura" -a group design competition. This is Our first time with it. All of the lessons have been planned and it is well resourced- worth a look at.

Next year we will try to organise a trip to the Design Museum.



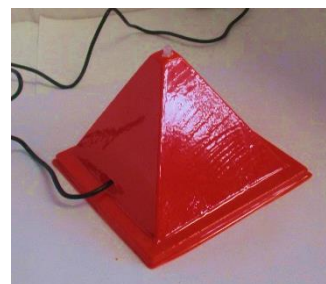
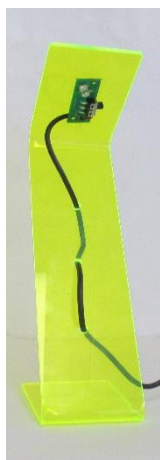
The Radcliffe School update:

Tomorrow's Engineers Week **NetworkRail**

The Yr9 Design Technology students all took part in a design challenge and careers day supported by Network Rail. Students were set specific design and make challenges using paper engineering and technical Logo sets. Six selected students won invitations to Network Rail HQ for an inter school competition day where again they were victorious. The high proportion of targeted students allowed this immersion day to have significant potential impact.



With an emphasis on New and Emerging Technologies together with iterative modelling skills development, Yr10 students have been considering sustainable energy generation in active learning sessions. The use of a variety of materials has proved to be highly engaging for the students.



At Ks3, Yr8 have been investigating Ethical and Cultural issues relating to the issue of; solar lighting for developing communities. Many have been surprised at the stark differences between their own lives and education experiences when compared to that of children elsewhere in the world.

Yr10 students are looking forward to their Work Placements next term with several having secured a placement at a D.T. and S.T.E.M. related company, including Aston Martin, St Pauls School Technical Support and Nifty Lift.



Denbigh School Update:

Denbigh hosted the Robotics training which was a good day. Lots was learnt about the software and the competition requirements. It was also a good opportunity for our partnership schools to discuss their difficulties and strategies. Pictures are attached.



We hosted a Network Rail day with 53 Year 8 students:

Network Rail Engineering STEM Day was held on Friday 8th November in the Meeting Hall and was hosted by a lovely team of Network Rail Graduate Engineers. Fifty three Year 8 students attend the day, with challenges set such as Bridge building and a Level Crossing challenge. Students were not only assessed on the winning tasks, but also how they worked in their teams of 5, the creative ideas they had and how they executed/approached the tasks. The students had a rewarding day, with a select 4 students being invited to attend the Final Challenge day at Network Rail HQ at the Quadrant, Eldergate, CMK.

Network Rail Final Challenge Day- Friday 15th November 2019

The students were competing against the other winning students from other local schools. The teams were set challenges such as drawing a track with certain coding by using various coloured pens and drawing selective combinations for small digital robots to make their way around a whole room on a drawn track. There were talks by Engineers and the chief Engineer Geoff. The students had a tour of the offices, film clips about safety and job roles and In the afternoon an experiment challenge was set, which involved trying to reproduce the same mixture that is used to go on the tracks to help with stopping leaves adhering to the tracks and helping with traction, by selecting the various products to make the same solution. Students were engaged and impeccably behaved. We came 2nd in this challenge.



Next Term we have a visit from the Royal Navy catering team booked.

It will be a whole day with Year 10/11 students. They will complete a ready steady cook challenge that involves students competing to produce a meal from the 'mystery' bag whilst members of the Royal Navy team offer hints and advice to the students. It will be run by 2/3 serving and fully qualified members of the Royal Navy Catering Services Branch and will be focussed on the importance of food in the development of physical and mental performance.

St Paul's School Update:

We are continuing on our exciting journey of change and development at the St Paul's Design and Technology department, continuing to review all our schemes of learning, the way we find a balance between knowledge acquisition and application, and the method of recording pupils learning. We believe that our KS3 programme of study should structurally mirror the courses on offer at KS4 and KS5 and should provide pupils with the knowledge and skills needed to be successful as part of our 5 and 7 year curriculum vision!

Last year was a tough one with a steep learning curve, following the introduction of the new GCSE Design and Technology specifications. It will continue to take time to adjust to the new specification requirements, but we believe we have already made some great headway in developing the way we work and by developing our 5 and 7 year curriculum models. The inclusion of mock NEA activities such as Dress a Girl around the World are helping to contextualise knowledge and skills learnt lower down the school and help pupils to develop empathy and consideration of real users.

This year we are using bespoke oversize exercise books in KS3 to show a clear record of each pupils learning journey as they change teacher. The exercise book have been very well designed and produced by GHP Kendal and arrived ahead of schedule! There has been a significant improvement in the quality of work produced by pupils who are really enjoying working in an exercise book format and clearly take pride in their learning. Despite the books having 88 pages, some pupils are already close to finishing them! We'd better order some more!

Since the last instalment of the newsletter the Design and Technology department at St-Paul's has organised a series of trips and visits including a trip for 10 budding female Engineers to the Volkswagen Group UK National Learning Centre here in MK as part of the Inspiring Automotive Women initiative. The event was a complete success and provided 5 meaningful encounters per student with women from the automotive world of work, and a visit to St Paul's D&T department who are supporting the Schools Gatsby Benchmarks goals.

We organised a visit for our Year 12 Fashion and Textiles students by Ciara Callaghan. Ciara is a natural dye and textile artist who uses traditional handcrafts such as hand embroidery and spinning as well as explorations in found, waste and home grown eco dyes to encourage people to reconnect with the seasons, heritage craft and an environmentally sound engagement with colour. The session ran all day in our KS5 workshop, which was very aromatic! The visit has inspired a number of our students to look further into environmentally friendly textile for their EPQ!



Our Year 12 Product Design and Design Engineering students visited Cranfield University on 23rd October. Cranfield University is a world leader in research into Aeronautical Engineering and large scale metal additive manufacture; 3D parts printed in Cranfield include a large water tank are currently in orbit on the International Space Station! Students visited the additive manufacture laboratory, the Eagles lab (business incubator), the robotics lab and the 'sand pit'. This was a fantastic opportunity for these pupils to experience STEM (Science, Technology, Engineering and Maths), higher education and future careers.



Continued:

We are currently organising an exciting residential trip in partnership with Diverse School Travel for all our Year 12 students to Bologna Italy. At the end of year 12 our Post-16 students will get the opportunity to visit Bologna, Italy, where they will explore the heart of the Italian automotive industry. We will visit the museums and factories of the supercar brands Ferrari and Lamborghini, plus the superbike manufacturer Ducati. A truly unforgettable experience for engineers and designers of the future!



We are also planning to take 280 Year 8 students to the NEC in Birmingham to the 'Big Bang' Science and Technology fair in 2020. This trip provides pupils with a great opportunity to interact with a multitude of activities put on by Universities, the Armed Forces and loads of other STEM career providers. Feedback from students in the past has been extremely positive and centred mainly around them having a greater understanding of the number of potential careers available to them after studying STEM subjects. Your school careers lead may be interested in this event as it addresses many of the Gatsby benchmarks.



In the pipeline, the department have trips to Jimmy's farm for Year 9 Food Preparation and Nutrition students and to the graduate fashion week for Year 10 GCSE D&T students who wish to specialise in Fibres and Fabrics. We are also looking to develop a Year 9 D&T trip and suitable trips for our Year 9 Engineering Design and Engineering Manufacture pupils. If anyone has any ideas please let me know!

As part of our whole school CPD programme the department have been undertaking a look up and lead programme, designed to grow capacity and understanding of leadership across the department. As each member of the department has re-designed the curriculum of a specific material area at KS3 making sequencing, interleaving, knowledge recall and curriculum design decisions it seems appropriate to use the remaining after school look up and lead meetings to present to each other the thought process and decision making rational that we have each gone through. The first two of these 5 session have already been completed and have been very reassuring and informative!

The Hazeley Academy Update:

On the 1st October Hazeley opened their doors for their annual Year 6 Open Evening. DT teachers took this as an opportunity to really see the Department and the Academy. After Laura and Cat's recent attendance at the Paul Boyd and Julie Boyd CPD session they set up a classroom as investigation room. Each table had a task or props to get them thinking and talking like designers. A few of the activities were; several examples of old Mobile Phones to get them thinking about how the product has evolved over time, Old games controllers to discuss anthropometrics and ergonomics and also a 'what am I table' which got them to look closely at the products in order to try and determine their functions.



'Boys' continues to be a focus area for both the department and the Academy. We have introduced lots of new projects into KS4, providing the opportunity to deliver the theory content along side practical investigations, in the hope to embed as much theory content as we can before Year 11. The HOD is using a tracker sheet to identify areas where the theory in the new specification is not yet being delivered through practical experimentation across all Key Stages.

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Each subheading has the theory topics listed so that the subject teachers have a clear idea of what they will need to deliver. Its proving to be an invaluable evaluation tool for existing SOL but also allowing for the opportunity to link topic areas.

Positive Praise continues to be a focus for developing boys' attitude towards their learning. We are currently running an adaptation to the 'student of the month' used in several schools within the partnership. It is the 'Star of the Week', which is displayed in the window for all staff and students to see.

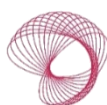


Dates for your Diary:

- 21st January, 4-5pm, St Paul's, **"Getting the best out of boys"** (Paul Tillman and Kaylee Bolton)
- **January** Ousedale after school –Show Case (date and topic tbc by **Rachel Nute**)
- **February** Denbigh after school –Show Case (date and topic tbc by **Dani Brockwell**)
- **March** Hazeley after school –Show Case (date and topic tbc by **Laura Lazenby**)
- **April** Lord Grey after school –Show Case (date and topic tbc by **Nicky Picton**)



Lord Grey Academy



ENTHUSE
PARTNERSHIP

MK D&T ENTHUSE partnership



STEM
LEARNING



St Paul's
CATHOLIC SCHOOL



THE RADCLIFFE SCHOOL
INSPIRE AND ACHIEVE