

Penwortham Post



March 2018



Penwortham Girls' High School

'Wicked'

On Wednesday the 14th of March we were lucky enough to get tickets to see the musical 'Wicked'.



A coach full of excited students and staff made their way to the Liverpool Empire theatre and were blown away by the show. GCSE Music students have been studying the song 'Defying Gravity' as part of their appraising exam and couldn't wait to see this set on stage and they weren't

disappointed! The music, costumes, sound and lighting were amazing and left many questioning how these were possible! At the interval Mrs Little took the GCSE girls down to the orchestra pit and students were able to see for themselves the instruments which were being played. It's not every day you get to see a bass flute! It was a fantastic evening and the students, as always, were a delight to accompany. We may look to go again when it returns to Manchester in the Autumn term.

Mrs Cattnach
Head of Music



Welcome to the Spring edition of the Penwortham Post



As I write, the school is a 'hive of activity' as Years 7-10 participate in the 'Tenner Challenge'.

Our pupils are clearly demonstrating their entrepreneurial skills with some very enterprising ways of raising money! The Soroptimisses charity 'Toilet Twinning' will receive all profits from this whole-school initiative, allowing toilet blocks to be built in less economically developed countries around the world.

By donating £60 to twin a toilet, we will help those in desperate poverty to have access to a proper latrine, clean water and the information they need to be healthy. With one form already raising over £500 and a number of others already raising in excess of £100, it looks like we will be able to provide quite a few toilets! The challenge culminates with the

Year 10 Spring Fayre on Friday, after which the final amount of money raised for charity will be announced. Yet again, I have been immensely proud of the efforts and endeavours of our pupils. They have embraced the challenge with boundless enthusiasm and energy, whilst raising money for an incredibly worthwhile cause.

I shall take great pride in announcing the final amount of money raised at the start of the Summer Term. In the meantime, on behalf of the staff and governors, I would like to wish all of you an enjoyable and restful holiday.

Mrs Karen Pomeroy,
Headteacher



Spring Concert

Students in Year 10 and 11 GCSE Music and Year 11

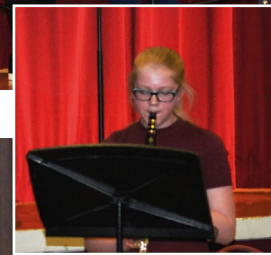
Drama gave outstanding performances in our Spring Concert on the evening of Wednesday 21st February.

The aim of the evening was to give every individual the opportunity to perform in front of a supportive audience prior to completing their exams for their GCSEs in these subjects.

For some students, this was their first opportunity to perform in front of a crowd and we hope this has inspired them to do it again.

The evening began with the Brass Group who performed 'Highland Farewell', complete with bagpipes before each musician in turn took the opportunity to perform their own piece. Whilst there were many nerves from the girls in the room, each and every one of them gave a performance to be proud of and, of course, they received rapturous applause from the crowd.

The interval gave the opportunity for some well-earned refreshments and to raise even more funds for the Macmillan Cancer Support Charity. The evening was a tremendous success and I would like to thank Ayesha (Year 11) for inspiring and supporting the organisation of the event and of course all those who performed and supported the evening. In total, students raised £141.24 for Macmillan Cancer Support.



The evening raised £141.24 for Macmillan Cancer Support. Thank you for your support.

Art Students Celebrate Awards Success at the South Ribble Exhibition

This year we were delighted to select 15 students to be entered into the South Ribble School's Art Exhibition 2018.

Students showcased a variety of work from portraits and close up animal eyes to urban landscape compositions.

We can proudly announce that Penwortham Girls' High School successfully won this year's Competition for 'Best in Show' and that a number of students were selected for outstanding pieces.

Student's work has since been exhibited and during the awards ceremony students were presented with their certificates for achievement.

Many congratulations to Hollie R (Best in Show), Amy M, Rachael N, Susanna S (Special Achievement), Molly K, Aliya S, Gemma M, Rebecca W, Lucy C, Aimee C, Emily M, Sophie C, Sarah F, Mariam A and Olivia F.



Year 9 & 10 Art Visit to Liverpool Galleries

Towards the end of this term we will be taking a group of Year 9 and Year 10 Art & Design enthusiasts to the Liverpool Walker Art Gallery and Tate Gallery.



This visit is set to include access to the 'John Piper Exhibition,' and students will also see collections from Roy Lichtenstein and 2017 Turner Prize winner, Lubaina Himid.

Images from the event will be posted in the forthcoming newsletter.

Feature Artist:

Sarah Graham

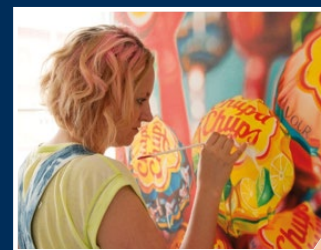
As part of the Year 7 Art Scheme of Learning, we have covered the work of Sarah Graham and her hyper-realistic approach to oil painting.

A British painter, Sarah Graham has exhibited at independent galleries and art fairs across the UK and overseas.

Sarah often uses bright and vivid subject matter such as lollipops, confectionary and toys to create her beautiful canvasses. Embracing technology, she often records her paintings using time-lapse photography.

These fascinating videos are available to watch online:
www.youtube.com/watch?v=mB9fbXZOLtU

Miss Morris, Head of Art



STEM CREST - Gold Award

Tmogen, Emma and Maariya (Year 10) go for GOLD and achieve it!

Our three student STEM ambassadors have received a prestigious Gold STEM CREST award. Their project involved finding solutions for Flood areas using modern materials such as Upsalite, which is highly absorbent. The report was delivered through their website and included investigations, absorbency rates, analysis of results data and further conclusions/developments. This is an amazing achievement and they are true pioneers for future STEM projects. Well done!

They have received certificates and they will be setting up a stall for the 'Big Bang Show' in March. They may also have the opportunity to tour the Rolls Royce factory. Exciting times ahead!

Mrs Khan, Technology Department

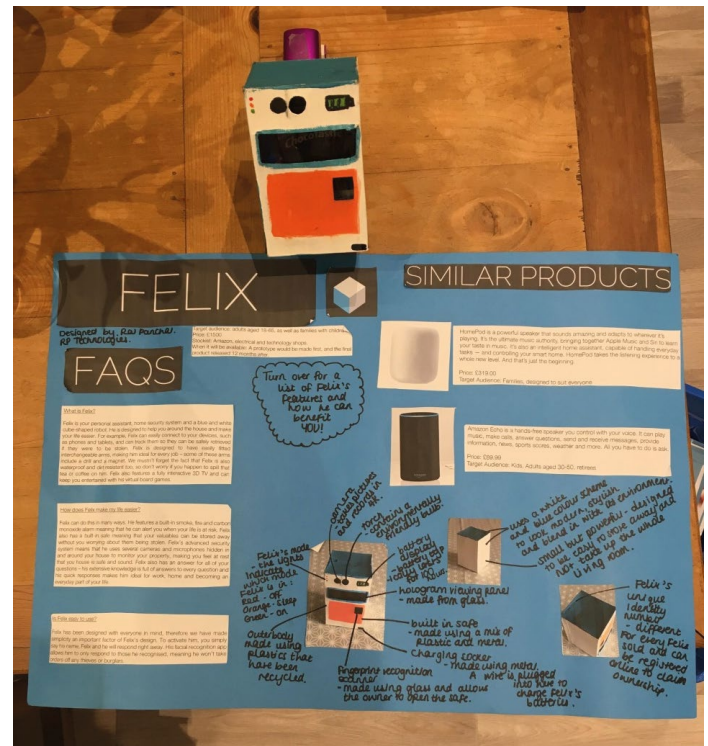


Year 9 Computing

Year 9 have spent part of this term looking into Technology.

This unit has involved the history of computing and technology and the future of technology. We have looked at exciting futuristic products/household devices that will be available on the market in the next few years. The assessment that the girls have had to complete was to design and develop a new piece of technology/product that would make people's lives easier.

The girls have been extremely creative with their ideas around this design assessment. Products have ranged from futuristic transport to modern day robotics and beauty products. Here's hoping we might have a future Anita Roddick (Founder of The Body Shop) here at PGHS!



Year 8 Computing

Year 8 have spent part of this term being creative in a different sense; they have been completing a stop frame animation unit.

This has involved the girls working in pairs to plan an animation to educate teenagers about a certain topic. Their films have to be within 2-4 minutes long.

The ideas for films that have been created are fantastic, from sporting activities to cooking to beauty and fashion. The girls have had to design and create their characters and scenes/sets using a variety of materials.

They have then used the cameras to take still images then transferred them onto the computer to compile their final animation piece adding sound effects and speech.



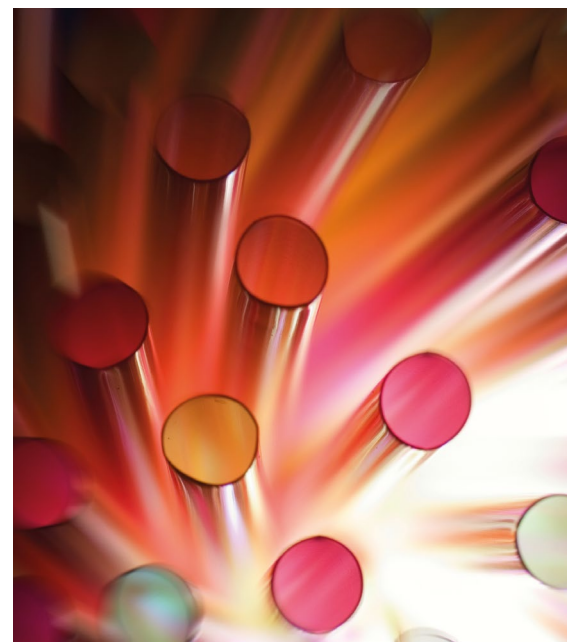
GCSE Computer Science

Year 10 have had another positive term learning about the theory behind computers and electronic devices.

They are looking forward to completing a range of “hands on” activities looking inside a computer and learning about the parts and then having the challenge of re-building it to make sure that it works correctly. Good luck girls!

If you've not already got them, remember the revision guides and workbooks now available to buy via parentpay.

Mrs Smith, Head of CAT Faculty



Food preparation and Nutrition

Our Year 10 and 11 GCSE students have been continuing to develop their practical skills by preparing different types of food shown on the AQA list opposite.

Next term, Waitrose are planning to show the group the skills of filleting fresh fish. Some students have shown the deboning and disjointing of chicken through their making diaries last term which is also included as a complex skill.

During the Food science topic we have investigated protein denaturation, coagulation and gelatinisation with practicals attempted after every food science lesson. Meringues were investigated and made for foam formation. Cheese for coagulation and a white sauce for gelatinisation.

Maariya, a Technology mentor in Year 10 commented:

"We really enjoyed watching the process in action through these linked practicals, especially the mayonnaise. At first the vinegar and oil will not mix but as the emulsifier (lecithin) in the form of the egg yolk is added into the blender the mixture becomes yellow and creamy. The cheese making was a little smelly as the acid (lemon juice) caused the milk to curdle and clump together."

The high standard of making can be seen in the pictures taken by this class as they have progressed through the above making skills.

During the Futures Evening for Year 9, our Progress leader, Ellie and Technology mentor, Olivia gave parents and students their realistic views on the new course and how it had helped them to understand science by seeing the practical application of the scientific theory through the functions and cooking processes in food products.

Mrs Khan, Food Technology Co-ordinator



AQA FOOD PREPARATION AND NUTRITION GCSE MAKING SKILLS

Medium

(some standard components used)

Cupcakes: making a basic sponge and a ganache or flavoured buttercream to ice cupcakes.

Chicken and pasta bake: using all-in-one sauce, chopping chicken/vegetable preparation.

Jerk chicken and savoury rice

Meat balls/falafels

Roasted vegetable soup

Samosa (dough)

Shepherd's pie

Complex (no standard or ready-made components are used)

Lasagne (fresh pasta)

Chicken and mushroom pie

Bakewell tart

Chelsea buns

Decorated gelatine cheesecake

Éclairs

Lemon meringue pie

Profiteroles with filling and topping

Bread plait: flavoured, using a handmade dough/shaping.

Cheese and onion plait: rough puff/flaky pastry with accurate finish.

Chelsea bun: making a sweet yeast dough filling, shaping and glazing.

Burger with homemade bread bun: bread making, forming and shaping and own made mayonnaise.

Black forest gâteau: whisked sponge cake filled with homemade jam.

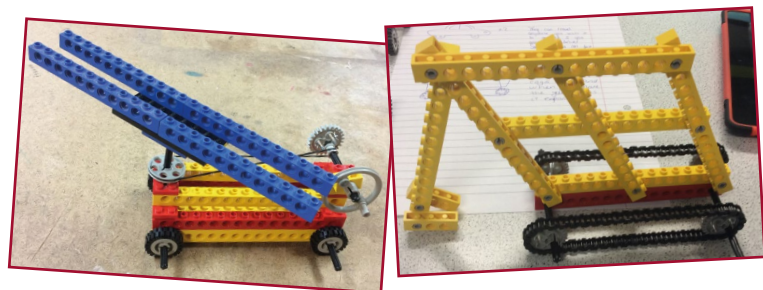
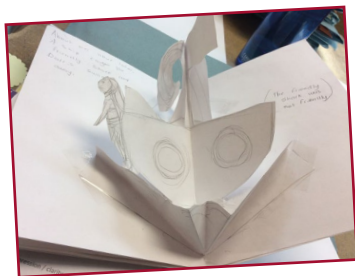
Chicken and pasta bake: jointing a chicken, roux sauce, shortcrust pastry/pasta.

Creative Arts & Technology Faculty News

Year 7 Mechanisms

Students have been investigating mechanisms. They have been building their own mechanisms out of lego and card to help explain the different movements and forces.

Further to this, they have also been creating and making popups to show types of movement. Through this project the students have created some fantastic work!



Year 10

Students are well underway with the new Design & Technology specification. The students are working on a new sustainable project where they have to design and prototype a foldaway mobile phone stand including the packaging for a mobile phone along with relevant graphics and logos.



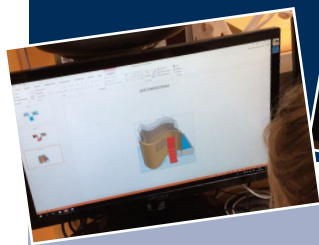
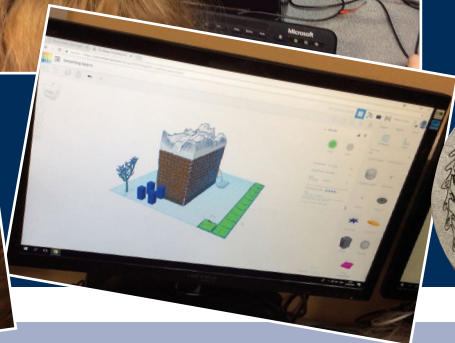
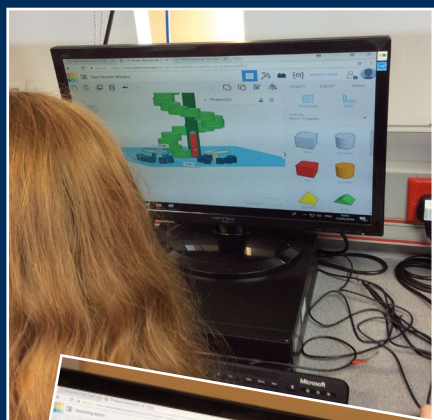
Year 11

Students are completing their jewellery project coursework which counts towards 60% of their GCSE. They have worked extremely well creating some fantastic unique designs pieces such as points of sale, merchandise and marketing materials in order to promote their brand.



Year 9 Architect project

Students have been using 3D CAD to produce sustainable building designs using a range of techniques and creating dynamic outcomes. They have researched some iconic Architects such as Norman Foster.



Mr Farrington, Technology Department

Stage – Ed Blood Brothers Workshop

Every student in Year 9 took part in a 2 hour workshop delivered by professional actors.

The emphasis on the workshop was on developing an understanding of the GCSE set text as a piece of literature but in a very active and engaging way. Students got to grips with the text with a very “hands on” approach using drama techniques. We were extremely lucky to have secured this workshop – the patron of Stage – Ed is Willy Russell (Blood Brothers’ playwright) and the workshops were delivered by professional actors who have performed in past productions of the play.



The workshops were well received by Year 9, who really enjoyed their sessions and their behaviour was impeccable throughout. Without a doubt, we’ll be running this event next year! Year 9 feedback was “I loved it” (Hannah), “I really enjoyed being Linda” (Jenny) and “It brought the scene with the kids’ game to life for me” (Ella). The English Department have been really impressed with the quality of the work produced by Year 9 since the event.



Speed Debating

On Friday morning, Year 10 refined their skills of debating and arguing in a speed debating session.

Working against the clock they argued contrasting points of view on different topics. As ever, their behaviour was superb and Year 10 really rose to the challenge. Even more impressive were the brave students who got up on stage at the end of the event to showcase their debating skills. A great introduction to non-fiction texts.

Mrs Woodhouse, Head of English



Wizard Quiz

Year 7 tested their Harry Potter knowledge in an interactive quiz on Wednesday 7th February.



There were a number of very varied rounds, including some observational ones so even those students who haven’t read Harry Potter could support their house.

Year 7 were “sorted” into the houses of Hogwarts (Gryffindor, Slytherin, Hufflepuff and Ravenclaw) and will compete for house points to become the wizarding champions. The vast majority of Year 7 came into school in the “house

colours” and it was undoubtedly a very lively activity! Gryffindor won the event, closely followed by Slytherin and there were plentiful prizes of Bertie Botts’ every flavour beans (although the slug flavour was not that popular!)

We were really impressed by some fantastic costumes – even the evil characters of Voldemort and Bellatrix put in an appearance.

Book Week 2018

This year the English Department are promoting reading, writing and all things literary.

One way was through an exciting programme of events for Book Week which took place in the week beginning the 5th February.

English Department News

Tom Palmer

Year 7 and 8 had the opportunity to listen to an engaging talk by the author Tom Palmer on Thursday 8th February.



This year, his latest novel is set towards the end of World War I – a timely publication as this is the centenary year of the Armistice. Students also the opportunity to see

his manuscript and hear about his writing process.

At lunchtime, he joined the Librarians who took the chance to question him about his writing, how he became an author and all the work he does to promote his books.

In the afternoon, a number of Primary school students visited to meet Tom and gain an insight into the work of an author. It was a fantastic event – really engaging.

Terri Terry

Terri is visiting us on 23rd March for an author visit with Years 7-9.



She has been shortlisted on a number of occasions for the Lancashire Book of the Year Award. Her latest novel is quite a hard-hitting book – here is a link to her website: www.goodreads.com/author/show/5238854.Terri_Terry

History Department News

Thackray Medical Museum – Year 11 Study Trip



On Sunday 4th March, 30 Year 11 students attended a study trip to Thackray Medical Museum in Leeds.

The museum houses a magnificent collection of artefacts and evidence on the theme of medicine through time.

This is a key component of the GCSE History course and gave the students a fantastic opportunity to enrich their learning of 19th Century public health, treatments and attitudes towards illness and disease.

A particular highlight was the 1842 Street; an authentic reconstruction of a typical Leeds backstreet during the 19th Century,

complete with realistic sounds and smells. The Year 11 students found the trip both informative and entertaining and were able to complement their

revision with a more hands on experience. Thank you to Mrs Pomeroy and Mr Ramsdale for giving up their time on a Sunday to supervise the visit, and to the students who were a real credit to the school.

Mr Herbert, Head of History



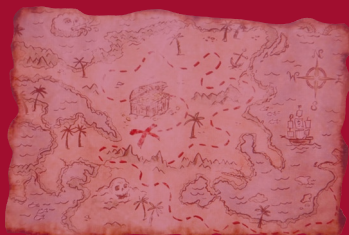


Year 7 Treasure Maps!

The standard of Treasure Maps was very high again this year with a real sense of careful planning having taken place.

Well done to the whole year group and in particular to those that received their target grade. A special mention to Mia B, who produced a very realistic version of an OS map – it even folded up in the same way! Not only was the map very realistic, but it was accompanied by an excellent contour model of the island. What an effort. Head's Commendation well deserved Mia! You can see the map and model on display in reception.

In other Year 7 news, we are running a Geographical Easter Egg design competition. Pick up an entry form from your teacher. Deadline is the last day of term with an obvious prize for the winner! The more Geographical the better!



Year 9 Volcano Model

Students and parents will have recently seen details via Show My Homework about the Geography Department's Volcano project.

All students are expected to submit a volcano model by Friday 13th April. This can be done as a solo project or in groups up to five people (you can mix between Geography classes).

The model should give accurate Geographical information about volcanoes and the materials used are up to you. Prizes will be awarded and the winning model will be entered into this year's Geological Society National Tectonics Competition. A future issue of the newsletter will include photos of the entries and details of the winners.

Year 11 update

This term has flown by and we are fast approaching the end of our GCSE course with the Year 11 Geographers.

They had a field trip to the Forest of Bowland cancelled due to the "Beast from the East" and as a Department we planned a virtual field trip instead. We had a massively successful day in the staff training suite when the Geographers performed amazingly well and produced extremely high quality work. A big thank you and well done to the entire cohort.

In terms of the GCSE course we are coming to the end of the content very soon allowing for some quality examination preparation together in class.



Where's Earthy?



Email in your answers to g.bowles@penworthamgirls.lancs.sch.uk.

Remember – be specific with your guesses!

OS map of the local area for the first correct answer.

Mr Bowles
Head of Geography

UKMT Maths Challenge 2018

To stretch high attaining students in Mathematics they were entered into the UKMT Maths challenge.

This makes the students think outside the box stretching their understanding, furthering their progression in Maths. It gives students the opportunity to solve difficult problems which they may not come across during their normal maths lessons preparing them for real life situations.

The following students achieved awards for their excellent results:

L. Wilson (Y9)	Gold
T. Aughton (Y9)	Silver
M. Wright (Y9)	Silver
C. Bourne	Silver
H. Winter	Bronze
A Pandya	Bronze
G. Balda	Bronze
O. Simm	Bronze
C. Boardman (Y10)	Bronze
A. Griffith (Y10)	Bronze
K. Taylor (Y10)	Bronze
C. Bethell (Y10)	Bronze
C. Willis (Y10)	Bronze
A. Jeffries (Y10)	Bronze
S. Benke (Y10)	Bronze
F. Dala (Y10)	Bronze
J. Arif-Robinson (Y10)	Bronze
M. Farooq (Y10)	Bronze

Mrs Sweeney, Head of Mathematics

Goodbye to Mr McVey

It is with a heavy heart and a five years' worth of fond memories that I finish up my time at PGHS this week to start my new job working as a Maths teacher at Burnley General Hospital – a very different role but one that I am really looking forward to.

Without doubt the girls who attend (and have attended) this school are the most conscientious, hardworking and motivated pupils that I have ever had the pleasure to teach. True, there have been times when things haven't quite gone to plan but those occasions have been few and far between. I've also had the good fortune to work with a dedicated and supremely talented group of teachers and support staff from whom I have learnt so much. I've thoroughly enjoyed (almost!) every minute and I wish all of you the greatest of success in the future.

Cheerio and good luck!
Mr McVey

Mathematics Upcoming Visit

On Friday 13th April, the Mathematics department will be running a visit for Year 9 and 10 students to the Escape Rooms.



The Escape Rooms are an interactive real-life escape game against the clock.

It is an excellent way for students to develop their confidence with solving problems and logic puzzles. Students are divided into teams and led off to be locked up with their teachers in different rooms, filled with devilish puzzles and fiendish conundrums which need to be solved collectively if they wish to escape! There are different activities for the groups to face such as solving old Egyptian myths, staging a prison breakout or taking part in a spy adventure. Once locked inside their puzzle room, each group has just one hour to solve all the problems contained in their room whilst the clock ticks down ominously.

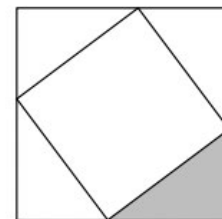
Afterwards there are 3 rounds of laser quest where pupils score points by tagging other players. Last year this became quite competitive when some of the teachers took the leader board very seriously!

The diagram shows a square of perimeter 20cm inscribed inside a square of perimeter 28cm.

What is the area of the shaded triangle?

A. 6 cm² B. 7 cm² C. 8 cm² D. 9 cm² E. 10 cm²

Maths Solution on page 16



It's that time of year when the Modern Foreign Languages Department are preparing our Year 11 students for their GCSE examinations.

It really is all about 'keeping going' with revision and independent learning, whether this is attending intervention classes at lunch or after school, using the revision guides and workbooks for self assessment or listening to their favourite French or German band.

The key is to persist with the learning, as vocabulary is amazing with hundreds of words that can be worked out from cognates (words which look or sound like English) to words learnt as well as practising how to conjugate verbs in different tenses! It's also so important that students develop their work and can use some good structures, basic and higher, so students should get those LOVEIT mats out and start ticking off the phrases they are going to use! In class, we have taught how to use these structures across a range of topics and have worked on practising for the speaking examination which is going to last about 12 minutes.

The speaking tests are week beginning 23rd April. Students should check for their test time with their MFL teacher and make sure they get enough practice during the 2 weeks prior to this important test straight back after the Easter break.

Although a short term, our Year 10 MFL subject prefects organised language activities for the Year 7 and 9 pupils during Languages Week in February. This included German Fairy tale drama workshops at lunchtime for Year 7 and a cultural language

quiz for Year 9 in form time which 9S won! J. Ward and R. Fowler led on both activities and were happy to engage the girls in different tasks outside of class. All of our Year 10 students have been very busy in preparation for their own mock examinations later on this year which also includes a speaking mock testing themes and topics taught so far through role play, picture card and conversation.

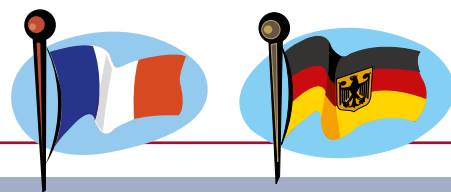
A huge thank you to Year 9 students in French and German who have worked so hard in their studies this term and have now chosen the language they will study in Year 10 and 11. They still need to work hard on both languages in the summer term and show how resilient they are especially with most students having exams in 2 languages. Some of the work produced already is at GCSE standard with some high achieving linguists such as C. Bourne, L. Palmer, D. Johnson and M. Bapu leading the way!

There were some great interviews completed in French lessons where students had to talk about their qualities and why they wanted a job. Students also had the opportunity to look at current jobs on languages websites

such as [toplanguagejobs](#) as well as college, university and apprenticeship schemes for LIDL, ZARA or other businesses so as to inspire the girls to do to want to do more with their languages in future i.e. combining these with a specialist subject such as Law, History or Business studies, the possibilities are endless! (Vouloir , c'est pouvoir!)

It is also important to recognise the work undertaken by our Year 7 and 8 students. Some of our Year 7 will also be starting French as a second language alongside German from the start of the new academic year in September 2018. Year 7 have been 'fantastisch!' Good accents, excellent behaviour and brilliant focus! All classes have been taught how to make their answers more interesting using linking words and other tenses by using their vocabulary mats. Nearly all the girls completed their speaking tests from memory which showed good revision skills. Some classes require a little prompting but in time will get better (Übung macht den Meister!) Equally, our Year 8 beginners of German also had their speaking assessments on topics covered so far such as personal information and hobbies as well as most groups also working on their French ones, not at the same time! Year 8 watched 'Le petit Nicolas' film towards the end of term which was in French with English subtitles and completed the theme of media in French where students had been talking, writing, listening and speaking about their own favourite books, films and TV programmes.

Mrs Rourke, Head of MFL



This is the time of year when our winter activities come to an end and we look forward to the summer and a new rotation of sports to do.

The winter term has been busily filled with netball league matches, gymnastics competitions, cross country, indoor athletics, leadership activities and cricket competitions.

At the time of writing, the netball leagues are all but nearly finished. The results are below.

	PLAYED	WON	DRAW	LOST
YEAR 7	3	3	0	0
YEAR 8	5	5	0	0
YEAR 9	6	4	1	1
YEAR 10	5	4	1	0
YEAR 11	5	1	0	4

Lancashire Champions!

Congratulations to our U'13 Cricket Team who were crowned Lancashire Champions on Tuesday 13th March, beating Haslingdon High School by 5 runs in a nail biting final.

Special mentions must go to Freya for her amazing long range throws on target at the wicket, Katie's 6 and formidable bowling, the amazing diving catch from Immy and the game changing bowling from Lily in the final game.

Highest praise must also go to Lucy and Jess whose positive mental attitude was truly outstanding, motivating and encouraging the team throughout the whole of the day.

Bring on the North of England final, where we will represent Lancashire in April! This was a fantastic team effort girls, and we are so very proud of every single one of you!

Coach's Players of the Tournament - Katie and Freya
Player's Player of the Tournament - Lily



The indoor cricket competitions are still underway and we are currently at the County Final stage for both U'13 and U'15 age groups.

Twenty students have completed their Cricket Activator Course, which enables them to be cricket leaders and to officiate at the Borough Primary finals.

In the Indoor Athletics finals we were highly placed in a very competitive field, finishing 9th out of 19 in the County Finals.

Rehearsals for our dancers are now well underway for the School Show 'Beauty and the Beast' in the summer term.

The summer term brings rounders, cricket and athletics training and competitions with the Sports Presentation Evening and Sports Day as the pinnacle of our sporting year.

Sadly though, at Easter, we have to say goodbye to Mrs Murphy.

Mrs Murphy has been an integral part of the department for a long time. She is an inspirational and outstanding teacher and she has made such a positive impact on everything about PE and Dance. I know that Mrs Murphy will always have very fond memories of working here as will all the girls who she has influenced and had an impact on along the way.

We are sad to say goodbye and we will all miss her immensely. But we do know that she has an amazing opportunity that she cannot let pass by and we wish her the very best of luck and happiness in California.

Mrs Burns,
Head of PE



The Soroptimisses charity 'Toilet Twinning'

This term, the Soroptimisses have successfully secured the profits from the Penwortham Girls' High School 'Tenner Challenge' charity initiative.

The 'Tenner Challenge' allows all form groups the chance to develop their skills in business and enterprise through making as much money as possible for charity, starting with just £20.

The Soroptimisses charity 'Toilet Twinning' will receive all profits from this whole-school initiative, allowing toilet blocks to be built in less economically developed countries around the world.

By donating £60 to twin a toilet, we will help those in desperate poverty to have access to a proper latrine, clean water and the information they need to be healthy. Our smallest room becomes the proud owner of a certificate, complete with a colour photo of its twin and GPS coordinates so we can look up our twin on Google Maps.

The Soroptimisses will be using the money from the 'Tenner Challenge' to twin as many of our toilets as possible.

Our girls are very passionate about this cause, as it is often women who are the most vulnerable when they do not have access to proper toilet facilities.



TOILET TWINNING IS A WATER AND SANITATION INITIATIVE



The 'Toilet Twinning' initiative helps set up small village committees, of both men and women, to look at the link between practices such as open defecation and ill health. For many, this is a revelation: they have never understood why their children fall ill with sickness and diarrhoea in the rainy season. Then, they are keen to have a latrine. But before latrine-building starts, there's hygiene education on practices such as handwashing. This is key to behaviour change in the long term.

Partners of the 'Toilet Twinning' initiative involve local people in deciding on the design and materials to be used in latrine building. This means latrines are both appropriate and affordable.

People generally build their own latrine, and this means they are much more likely to continue to use it, and maintain it – ensuring the project is sustainable.

We strongly believe that the best way to bring transformation in poor communities is to work with them, rather than doing things for them. It's all about dignity and self-respect.

Thank you in advance to all the girls here at PGHS for all their fundraising efforts!

Miss McDermott
Head of Religious Studies and Citizenship,
Community Studies and PSHE

STEM club

This term in STEM club the girls have been up in Science completing a month long project.

Background

Ease of communication is part of our life; we pick up the phone, turn on the radio, TV or internet to get news and information. Wifi networks work by using radio signals. Your phone, TV and radio signals are transmitted by masts that we hardly notice. But when all of these are knocked out by natural events - how can communications be restored?

Scenario

Life was good in the towns of Alpha and Beta. However, this year, increased solar activity brought disastrous weather. The solar activity caused radiation effects that have disrupted electricity supplies and radio signals. Torrential rain caused flooding and mud slides on the steep mountain slopes. These brought down nearly all the radio and phone network masts and washed away roads and the telegraph poles for phone lines. As a result of these extreme weather conditions, people in the surrounding communities have been severely affected. In particular, Beta has been cut off completely and there are serious concerns about the health, welfare and safety of the population.

All lines are down...

The girls have been tasked with becoming the engineer rescue team based in the town of Alpha which has been relatively unaffected by the extreme weather. As the engineer rescue team they need to do 2 things (and quickly!)

1. Design and build a prototype that will allow Alpha to send coded messages to town Beta.
2. Create a code to send a message from Alpha across the mountains for decoding in Beta. There is little time to lose, with a helicopter arriving in a matter of hours to transport half of the rescue team to Beta and set up the system for testing.

The girls have been working on their codes and prototypes. In the upcoming weeks they will build their device and practice sending their messages.

It is not too late to join in on Mondays 3:20pm in Lab 46.

Mrs Honeyman, Head of Science



Introduction to Miss Avery, Teacher of Science

I'm so glad to be back following my Initial Teacher Training (ITT) placement, exactly one year ago!



I'm diving straight in, taking over STEM club on Monday evenings and I'm hoping I'm up to the challenge. I keep aiming high with challenge in lessons and looking at STEM club, I think I'll find it very exciting as I have such dedicated and driven students. I also keep busy out of school as I have 3 children aged 11, 13 and 15 years. This has both helped and hindered me over the past 18 months! I'm also involved in scouting where I am Assistant Scout Leader for Rufford 14th Scouts. This ensures that I get (and the dog) plenty of exercise on the evening hikes – interesting in the January and February evenings – brrrrr !!

I'm looking forward to getting settled into day-to-day life again at PGHS and seeing pupils through more than just a few months. A big thank you to all staff who have been so welcoming – both whilst on my ITT and now on my return.

Miss Avery, Science Department

Science Department News

Genetics Day

Year 11 spent a day learning about the journey of inheritance.

It was an essential part of their course, covering the topics of DNA, meiosis, variation, genetic crosses and diseases. AQA have started to include the current advances in genetic



research and for the first time have included the human genome project and migration. Pupils were fortunate to have the expertise and wisdom of Andrew Read, Professor of Human Genetics from Manchester University Centre for Genomic Medicine, St Mary's Hospital Manchester. Professor Read not only gave a very relevant, insightful and thought provoking talk on cystic fibrosis he also shared his most up to date knowledge beyond the course to the separate scientists, leaving them more than well equipped for any potential GCSE questions on the topic.

There was a variety of activities during the day, including making model DNA out of sweets, superhero



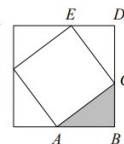
babies and plenty of GCSE exam practice. The response was extremely positive and the pupils treated Professor Read with the upmost respect, taking their time to ask him questions on his work and research. Great appreciation was shown for Professor Read who happily gave time out of his busy schedule and donated his fee back to the school. This will be put towards fundraising for the genes for genes charity in March. He also donated a copy of his co-authored book "New Clinical Genetics" to the library for anyone interested in the subject.

Genetics has really advanced over the years and these are exciting times. There are lots of future opportunities for those going on to study related subjects at college and it was a real privilege that we had an expert in the field to share the day with us. It is more than fair to say that a lot was gained from the day by all involved.

Mrs Cahill, Science Department

Maths Solution:

First note that the length of each side of the larger square is 7 cm and that of the smaller square is 5 cm. So their areas are 49 cm^2 and 25 cm^2 respectively. Let $\angle BAC = x^\circ$. As the interior angles of a triangle sum to 180° and $\angle ABC = 90^\circ$, $\angle ACB = (180 - 90 - x)^\circ = (90 - x)^\circ$. The angles on a straight line sum to 180° , so $\angle ECD = [180 - 90 - (90 - x)]^\circ = x^\circ$.



Consider triangles ABC and CDE . Note that $\angle BAC = \angle DCE = x^\circ$; $\angle ABC = \angle CDE = 90^\circ$; $AC = CE = 5 \text{ cm}$. Therefore the two triangles are congruent (AAS). By a similar method, it may be shown that all four triangles which lie between the two squares are congruent to each other. So the area of the shaded triangle is $\frac{1}{4}(49 - 25) \text{ cm}^2 = 6 \text{ cm}^2$.

School Governors

This term may have been relatively short but it has been as challenging as ever!

Our finance committee has been relieved to see how prudent the school, bursar and headteacher have been and how the popularity of PGHS has helped to buffer the financial pressures of a new national school funding formula. We will approve the budget soon after Easter. At the same time, governors have been instrumental in the strengthening of the Senior Leadership

Team, with reviewed areas of responsibility. The governing body continues to be ambitious for the school and appreciates the work of all staff who work to this end; this year so far, we have heard from the new Head of Computing, Art and Technology and the Head of English, as they presented their visions for their curricular areas to governors. Staff dedication and hard work never fail to impress us!

On behalf of the governing body, I would like to wish all girls, parents and staff a restful Easter break before we embark on the stress of GCSEs next term.

Ms Lorimer Russell-Hayes
Chair of Governors



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