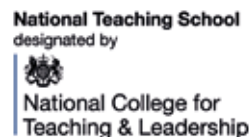


Penwortham Post



December 2016



Penwortham Girls'
High School

Goodbye from Miss Elliott:

Dear Parents/Carers and Girls, as some of you may know, I'm leaving PGHS after 18 years working full-time in the RE Department.



I joined the school as an NQT in 1998 and became Head of Department 3 years later. In 2014 I became RAC (Raising Achievement Co-ordinator) for Year 7. I have thoroughly enjoyed my time at PGHS but when my 'dream job' came up, I knew I had to go for it. That job is Housemistress at a girls' boarding school in Cambridge. I won't be teaching but I'll continue to work closely with the girls (Y7-6th Form), helping and supporting them in both their academic and personal life. I'll miss the girls and staff at PGHS but I'm very excited about this new chapter and hope I'll be as successful and happy at my new school. Wishing you a very Merry Christmas (if you celebrate it!) and best wishes for 2017.

We are sad to announce that Claire Elliott will be leaving us this Christmas. Claire joined Penwortham Girls' 18 years ago following completion of her PGCE. During her time at PGHS, Claire has led a hugely successful RE department, consistently producing fantastic results as well as contributing hugely to the school's cultural and community experience through guest speakers, charity events and the ever popular Fair Trade Market. More recently, Claire has also coordinated our KS2 transition programme as well as being our Year 7 RAC. Through this role Claire has carefully guided our new cohorts through the tricky move from primary to secondary school. Claire is moving on to a new career. She is taking up the position of House Mistress at an independent boarding school in Cambridge. Claire is extremely excited about the move, particularly Cambridge's excellent shopping! On behalf of all the staff and pupils I would like to take this opportunity to wish her all the best in her new role.

Ben Ward, Assistant Head Teacher

Welcome to the Autumn edition of our termly newsletter.



As always, there has been a lot to celebrate and we have endeavoured to include a wide range of subjects and activities.

As the term draws to a close, the building of the Teaching School Training Suite is nearing completion and we are hoping to have the interior finished by the end of March. In January we are also hoping to undertake the partial refurbishment of our two main Technology Rooms; this will be followed by the complete refurbishment of two Science laboratories during the Easter holidays. Look out for updates regarding all of these projects in our weekly newsletters in the Spring Term.

In the meantime, on behalf of all the staff and governors at PGHS, I would like to wish you all an enjoyable and restful holiday and all the very best for the New Year.

Mrs Karen Pomeroy,
Headteacher





STELLA BENKE YR9



JAVERIA IRFAN YR11



ABI SWARBRICK YR11

The Art Department have had an extremely busy term with Year 11 completing their mock examinations.

A couple of students have completed their urban landscape paintings and others are still in the middle of trying out different techniques for tricky areas of their final piece. We have photographed some extremely good mock examination paintings during the examination period. Although they are unfinished, they give you a fairly good indication of the quality of the work produced by this talented year group.

We have also included some fantastic eye paintings by Year 9. Well done to all!

Year 11 Final Examination: January 2017 – Dates For Your Diary:

The Art groups will be preparing for their final examination in the first week back after the Christmas holidays. Please will you remind your daughters to buy an A4 spiral bound sketchbook during the Christmas holidays (paper thickness should be 130 gms at least). The examination board (AQA), will be sending several titles for the girls to choose from. We will be discussing the titles and begin to research the artists that will link to the theme/title they choose. It is extremely important that the A4 sketchbook is brought into school on the first Art lesson after the holiday.

All pupils work extremely hard but a special mention goes to the following girls who have worked consistently well throughout the term:

Year 11: Rosie James and Aimee Cunningham for being up to date with their course work.

Year 10: Chloe Ward.

Year 9: Grace Moore and Jessie Ward.

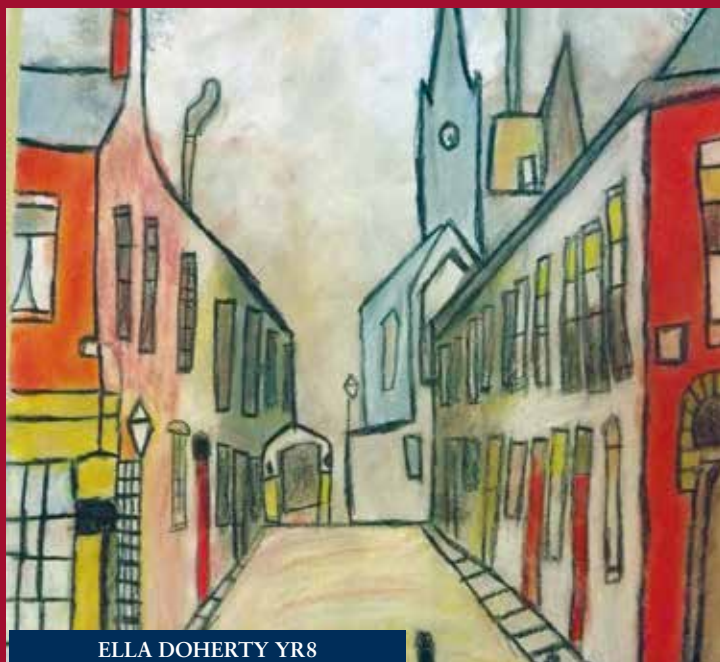
Year 8: Tegan Aughton and Sabha Iqbal.

Year 7: Aamina Mall and Courtney Waugh.

Well done to all the budding artists this term and have a well – deserved festive holiday.

Mrs Staines, Mr Quinlan and Mrs Bradley.

Art Department News



ELLA DOHERTY YR8



ARTIST AT WORK YR11



ELLIE JONES YR11



ELLIE JONES YR11



MIMI MAYER-PAYNE YR9



GRACE MOORE YR9



ALIYA SAMLI YR10

English Department London Trip 2016

On the 9th and 10th December, 40 students and 5 staff headed down to London to get well and truly in to the Festive spirit!

The weekend began with a quick trip to Covent Garden to see the Christmas Decorations, then off to Pizza Hut for tea. We then sped across London to see a performance of "Wicked" the musical, the prequel to "The Wizard of Oz" which gives a very different version of events. Some of the older members of the party recognised Anita Dobson (Angie from Eastenders – yes, some of us did watch Eastenders in the 80s!) as Madame Morrible.

After a good night's sleep (and a good breakfast) at a Premier Inn, everyone was up and raring to go for another full day exploring. We started the day on the London Eye, a great way to see many of the iconic London sights, then headed back to Covent Garden to enjoy the street performers and the atmosphere of London at Christmas. Many of us managed some Christmas Shopping and enjoyed the opportunity to explore London's West End.



As ever, students behaved impeccably; they were a pleasure to spend time with and a credit to the school with the manager at Pizza Hut commenting on what a lovely group of students they were. Time to start planning next year's trip!

Mrs Woodhouse

We've been working hard in the library this term and it's looking great.

A generous donation from Mrs Pomeroy has meant we have been able to develop our Accelerated Reader resources. We now have a huge selection of books to inspire a lifelong love of reading no matter what your ability. They are all colour coded and ready to go – if you haven't enjoyed reading before, come up and sample one of these new books.

Miss Calwell has also set up a very popular reading club for Years 7 and 8 based in the library where pupils can meet to discuss favourite reads old and new. Why not join them on a cold winter Thursday lunchtime?

Year 7 have all been taking part in Readathon and it has been a huge success. Many of the pupils made donations to come in and wear their onesies and slippers whilst settling down with a good book. Some pupils also baked cakes and cookies to munch on whilst devouring their favourite book! Pupils have also volunteered to be sponsored to read and the money is flooding in. This is all for a fantastic cause – raising money for sick children. We will let you know the total raised in the new year.

Teachers and pupils alike have also embraced other reading initiatives such as DEAR time (Drop Everything and Read) during a range of lessons. Daring science department staff have taken part in some extreme reading and Year 7 came to school dressed as their favourite book characters. To round off the events, Year 9 enjoyed a visit from three eminent authors who have written stories about Christmas and the money raised from sales of the books is going to the homeless charity, Crisis.

Mrs McKeown

Food Tech Department News

Great British Bake Off

This term Cop Lane Primary School pupils in Years 5 and 6 spent a Great British Bake off day in the bake off tent (room 24) at our school.

The morning commenced with the Technical challenge. Pupils were shown various skills including the use of a knife for various chopping techniques, mashing and shaping a fish cake.

The showstopper challenge involved the creative use of flavours and ingredients for a fruit muffin.

Certificates were issued to the winners and a fun time was had by all.

Finally, a special thank you to Mrs Jennings and the Year 9 peer mentors who gave up their time to help make the day run smoothly and support the group kitchen areas. They helped to demonstrate skills and set up equipment as well as give creative ideas to their groups.

Mrs Khan



History Department News

First World War production: 'Meet Tommy Atkins'

Last month Year 9 students were treated to a performance of *Meet Tommy Atkins*, a play based on the experiences of a First World War soldier.



The play was written and superbly performed by Peter Gill who captivated the audience with stories of trench life as well as how his life changed on returning to Britain after the war.

Year 9 student, Jessie Ward said "I really enjoyed the performance because it was very realistic. It gave us lots of information but was fun to watch too." Zainab Dawood enjoyed the performance because "the actor explained what life was like during the war. He was funny and engaged well with the audience."



Stella Benke and Amy Shi both agreed that the performance was 'interesting' and that they 'learnt a lot'. After the performance Peter answered a range of questions from the students on his research of the period when writing the play as well as his experiences as a performer. The play was engaging, informative and enriched both the staff and students' understanding of the impact of the First World War on those who lived through it.

Mr Herbert

A jam packed term for the Geography Department has seen lots of fantastic work by our students, in particular, once again this year the Year 11 Geographers deserve a special well done; they have completed their GCSE Controlled Assessment reports worth 25% of their final grade AND sat a very weighty GCSE Mock paper.

They seem to be taking the course in their stride up to this point and we hope this continues; well done and keep it up.

Year 10 have embarked on the brand new GCSE (1-9) course and they too are working hard and achieving success; the recent end of unit assessment was only the second of the year and there were lots of students meeting their target grades.

In Key Stage 3, pupils have been stretched this year and in particular we have given the Year 9 students some really challenging tasks, mostly based around the GCSE syllabus. Earlier in the term, some of the skills demonstrated in the PGHS Microclimate Investigation were fantastic!



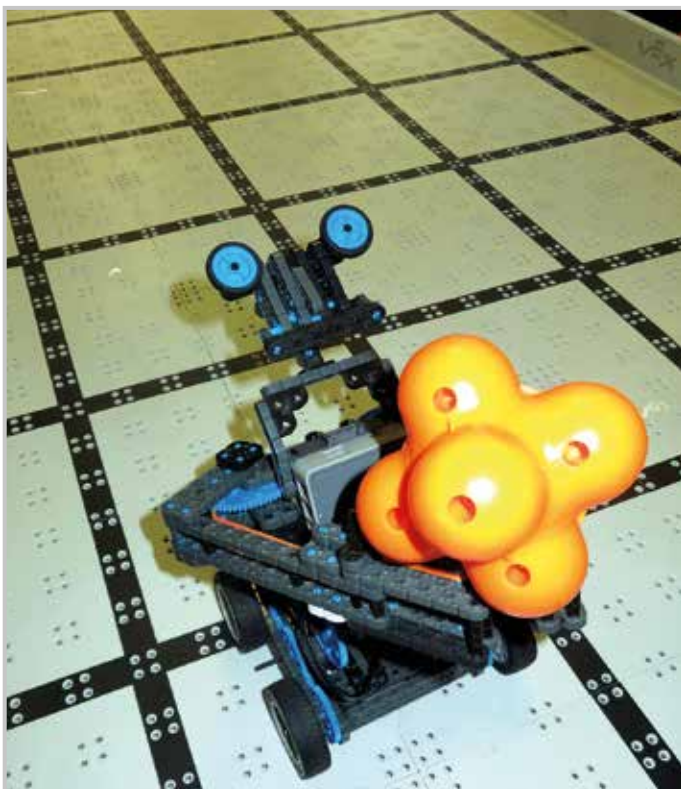
Email in your Where's Earthy? answers to g.bowles@penworthamgirls.lancs.sch.uk. Remember – be specific with your guesses! OS map of the local area for the first correct answer.

The Department Christmas Tree is up, decorated mostly in decorations made from recycled materials. Please come and have a look and why not try to make one yourself. Medals for all students who place a recycled decoration on the tree.

Finally, we had a very rapid response to the Where's Earthy competition in our last weekly newsletter article; well done to Isabelle Whiteley in 7G who spotted Mount Fuji in Japan – come and collect your prize in Rm 39 Isabelle! As the response was so quick, there is another festive edition of 'Where's Earthy' for you to try.

Have a great holiday and if you are celebrating Christmas don't forget to ask Santa for a new globe. Merry Christmas from Mr Bowles and Mr Ward – Ho Ho Ho!





Another busy term for the Computing Department!

There's lots of interest in our computing and programming workshops from our partner primary schools and we've introduced well over 100 pupils to the delights of programming the BBC Microbit.

After our previous success, we will return to the national VEX Robotics competition this year. The girls are even more determined to improve the robot's performance and are currently testing prototypes. Regional finals will be held in Doncaster in February.

Year 11 students taking the Creative iMedia qualification had a productive day collecting images for their Digital Photography module. The students had the brief of visiting the shops in Penwortham and photographing the products, staff and displays for our 'This is Penwortham' theme. For some reason Andreas and his chip shop seemed very popular! A display of their finished images along with a map of the shops that we collaborated with will soon be displayed in the school hall. Many thanks to those shop-owners who gave their time up to help.

Mr Riley



Technology Department News

Year 7 De-Stijl Design Style inspired Clocks

Year 7 have recently learnt about De-Stijl design and how to cut, shape, laminate and form acrylic using tools and heat. They also learnt the basics of computer aided design and manufacture, using the laser cutter to create parts of their designs from computer. Well done!

Mr Bartlett

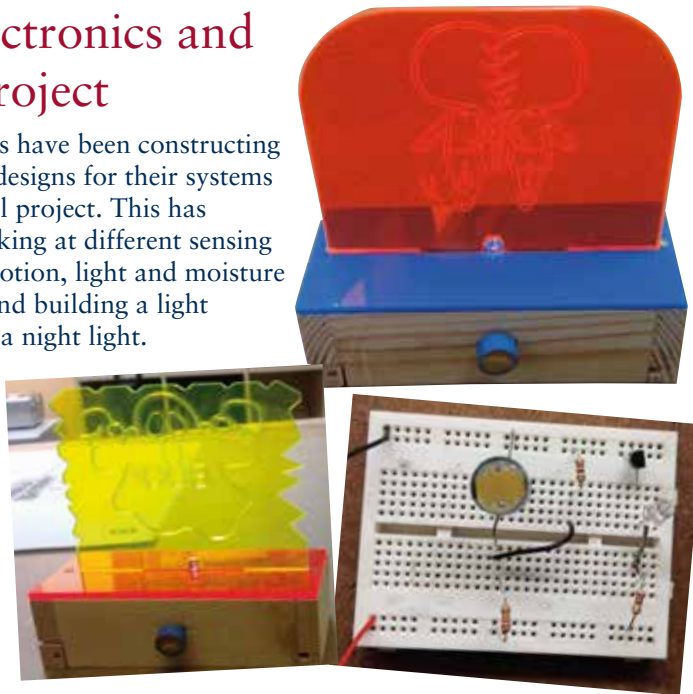


Year 8 Electronics and Control Project

Year 8 pupils have been constructing their final designs for their systems and control project. This has involved them looking at different sensing circuits, such as motion, light and moisture and mocking up and building a light sensing circuit for a night light.

They have used CAD and CAM to produce parts as well as building their circuit on a printed circuit board. Well done!

Mr Bartlett



3D Printing

Year 9 technology students have been introduced to a new project this term introducing 3D printing and 3D design. The challenge was to design and build a Beach Hut using modelling skills and 3D CAD taking inspiration from nature and the environment. Considering this is the first time the Technology Department has run this project, the students have produced some fantastic work.

Mr Bartlett



Maths Department News

2016 is almost over and as Christmas approaches we thought it would be interesting to get the views of some of our Year 7 girls from a Mathematical perspective. It's hard to believe that only three months ago they made the daunting transition from primary to secondary school. I asked them this week to jot down how they feel about Maths at PGHS. Here's what they had to say:



Aarass Asif

The thing I love most about Maths is problem

solving. I have learnt a lot in lessons, especially how to write algebraic expressions. The work we do builds on what we did in Year 6 but we also get challenging questions on things we haven't met before. I love Maths!



Athena Caggianelli

So far in Year 7 at PGHS I have enjoyed

Maths a lot. The work is challenging but also fun! I found certain topics like algebra and fractions hard at primary school and at PGHS I feel as though I have got better at these. Now and again we play Kahoot which makes the lesson even more fun!



Molly Roe

Maths lessons are never really boring because we are allowed

to help each other when we are struggling. Maths used to be one of my worst subjects because I didn't think I was very good at it. Now I really enjoy it! We only did a little bit of algebra in Year 6 and when we started it in Year 7 I was quite worried because I really didn't like it but now I don't mind it anymore because it's not actually that hard!



Fatima Munshi

Hi my name is Fatima and I am from form

7J. I have enjoyed Maths so far this year and I have learnt a few more things about algebra which really intrigues me and makes me want to learn more. The first thing I was worried about when I came to PGHS was Maths. Overall I have found Maths really fun and I want to learn lots more in this subject!

Goodbye to Mrs Ikenna-Agbaze

We bid farewell this week to Mrs Ikenna-Agbaze. She has now completed her Initial Teacher Training placement with us and will move on to her final placement in January.

She has worked hard with some of our Year 7, Year 8 and Year 9 pupils and we wish her all the best.

Mr McVey

Christmas Puzzle – Clever Santa

On Christmas Eve the children of one family left a note for Santa saying that all the girls would like a puzzle each and all the boys would like a book each. They left Santa this riddle to solve:

The girls have twice as many sisters as brothers and the boys have five times as many sisters as brothers.

How many puzzles and how many books did Santa leave for the children?

Mr McVey

MFL Department News

A huge thank you to our linguists at PGHS.

The girls have been working very hard in their lessons with Year 7 learning French and most of Year 8 starting German as well as French!

We have continued to challenge our girls to make excellent progress by focussing on grammar, phonics and translation both from and into the target language. This is a common theme throughout the year groups with all girls being given opportunities to improve in all 4 skills of listening, speaking, reading and writing in preparation for the demands of the new GCSE in Modern Foreign Languages. Role play is back as part of the examination. Therefore, pupils have been given different scenarios relating to this; such as booking into a hotel or ordering food in a café. Year 10 have had the most changes as they will be the first ones to do the new GCSE and they have been working on role play, picture cards and conversation topics.

European Day of languages on 26th September became a week of language activities! Following on from an assembly given by



Madame Rourke about European and world languages, pupils were asked to design a poster with a picture and an untranslatable word in another language.

There were many entries but the winners were:

- Tegan Aughton for 'Entrecejo' – Spanish for 'the gap between your eyebrows'.
- Abi Gillett and Niamh James for 'Bilita Mpash' – Bantu for 'amazing dream'
- Jessica Smith for 'Ohrwurm' – German for 'having a song stuck in your head'

In all lessons during that week, pupils were encouraged to answer questions in a different language. Pupils also participated in a quiz during form time. All the posters designed for the competition will be available to view during Languages Week (6th February).

On the 28th September, Herr Pye organised a visit to UCLAN for some of our Year 10 linguists as part of the university's annual celebration of European Day of Languages.

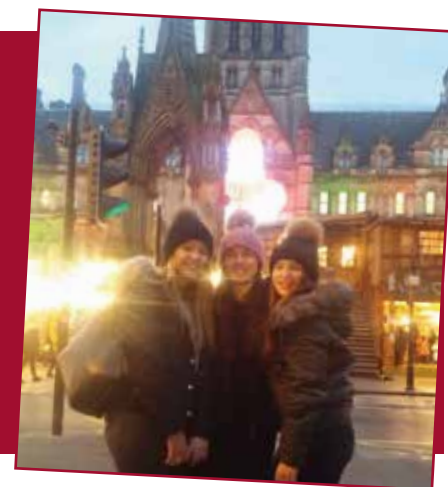


On arrival they enjoyed a thought provoking lecture about the importance of studying languages. They then listened to the accounts of students who had just returned from their year abroad. Students had been to China, Corsica, and Austria. As well as spending their days teaching, they explained that they had also managed to explore the countries they had stayed in. Following this, they were taken on a tour of the university campus by a student ambassador. They were all very impressed with how modern and well equipped the lecture theatres, sports centre and library are. During lunch, pupils were able to sample some food cooked by foreign students studying at UCLAN. This included Spanish tortilla, gazpacho and a selection of French cheeses. In the afternoon they attended taster sessions in various different languages. The Year 10 girls who attended the event said they had enjoyed it very much as it had opened their eyes to how languages are an essential skill for travel and business. Mrs Rourke

Manchester Weihnachtsmarkt!

On Wednesday 7th December we took the biggest group we have ever taken to the Manchester Christmas markets.

95 Year nine pupils, accompanied by Frau Akers, Frau Rourke, Frau Waterhouse, Herr McNally, Herr Ward and Herr Pye visited the markets in Albert Square and St. Anne's square. The Christmas markets in Manchester are an authentic representation of a typical German Christmas market and the girls took the opportunity to sample some Bratwurst, heiße Schokolade, crêpes but no Glühwein! A large selection of bobble hats were purchased and the girls were able to buy new decorations for their Christmas trees. Some of the students had a go at speaking German to the stall holders, with mixed results as they were actually speaking to Dutch people! The girls were impeccably behaved and it was an enjoyable experience for all involved.



Music Department News

GCSE Music pupils welcomed Musician Maggie Jones and Warrant Officer Pat Jones into the department to give a presentation on life in the army as a Musician.

They both spoke about their individual career paths to date, the places they had visited and the opportunities they had during their time serving as a Musician. Pupils then had the opportunity to ask questions and chat to them on an individual basis. The girls learnt a tremendous amount and were keen to take up the offer of an invitation to watch a rehearsal in the future. Our grateful thanks go to Pat and Maggie for giving up their time.



Music Department News

Christmas Celebration

Our annual Christmas Celebration was held on Wednesday 14th December this year.

Pupils took part in a variety of Dance, Drama and Music performances in a programme crammed full of festive treats from start to finish. All pupils gave their absolute best and thoroughly enjoyed taking part. They never cease to amaze us with their talented moves, dramatic delivery and superb musicianship. Well done to all who took part.

Mrs Cattnach



Curriculum:

There have been some exciting changes to our curriculum this year following the introduction of the new GCSE specifications and new guidance from the Department for Education.

The pupils will now have the opportunity to experience handball as part of their curriculum. The success of cricket, and our strengthening partnership with the Lancashire Cricket Development Officer, means that this will stay in lessons. Importantly, we will also be able to give the girls the opportunity to make positive lifestyle choices and to access a wide range of opportunities and experiences. All pupils will undergo programmes of study in health related exercise and leadership and in Year 11 we have just completed a certificated course in Self Defence – supported by our partnership with Nippon UK.

There will be a half term course of Ju-Jitsu (run by Nippon UK) available after the Christmas Break – which will run as an after school club and will be open to all pupils as well as the GCSE PE candidate.

Cricket, Hockey and Football:

Cricket, hockey and football all continue to run as extra-curricular clubs.

We are establishing firm links with Garstang Hockey Club and Lancashire Cricket Development. We also have the opportunity to enter some local football and cricket competitions in the new year.

Mrs Burns

Basketball:

The U14 Basketball team players have started to play in the Lancashire Basketball League and have played 2 fixtures so far. Playing against strong opposition (Clitheroe and Garstang), they fought well, but were unfortunately beaten in 2 tough games. Holy Cross are the next opponents.

Team players: Kianna White, Isabella Large, Emily Mann, Lauren Palmer and Katherine Taylor.

Reserve players are: Katie Boardman, Katie Bolton, Gemma Wilkinson, Tiffany Xavier, Hannah Hemsworth and Zainab Dawood.

Badminton:

Both U14 and U16 teams gave sound performances in the South Ribble Badminton Competitions in November.

The under 16s: Emily Broadbent, Charlotte Daley, Abigail Halliwell and Katie Hindle won the tournament and managed to beat all the other teams in every round they played. A very dedicated team and well supported by the team captain, Charlotte Daley. Unbeatable champions of the South Ribble district!

The U14 team: Katherine Taylor, Emma Fielding, Maria Farooq, Ellie Grant and Grace Halliwell have managed to secure 3rd place in South Ribble. They played some tough games and fought well to get to the semi-final, beating Brownedge St Mary.

Cross Country:

Congratulations to the following girls who competed in the South Ribble X-country Championships on Saturday 15th October.

Despite the cold and wet weather, our girls ran very well and had the best results ever in each age category. More than 30 girls represented school in the competition.

Year 7 team won the South Ribble X-country Championships. With some very notable performances from:
Lauren Coulthard 4th,
Katie Mathison 5th
Lydia Hall 7th,
Amani Valli-Carter 8th.

In the Year 8 and 9 combined race, the PGHS team came 1st again. A superb team effort and outstanding performances by Scarlett Sutton and Alissa Darbyshire once again this year.
Scarlett Sutton 1st
Alissa Darbyshire 2nd
Aaliyah Valli-Carter 15th
Mimi Mayer-Payne 16th
Grace Thomson 15th
Mimi Mayer-Payne 16th

Year 10 and 11 came 4th overall.

Freya Darbyshire 12th
Maya Darbyshire 14th
Charlotte Daley 17th
Lydia Browne 22nd
Maisie Eccles 31st

Mrs Burns

Miss Seed - Sadly, we say goodbye to Miss Seed this term. Whilst Miss Seed has worked in school as a cover supervisor she has given a vast amount of her time to the PE Department. Miss Seed has played a major part in the dance productions and the preparations for many dance events. She has helped with practices and matches when she can and has been a valuable member of our PE Team. *Thank you, Miss Seed. We will miss her (and her cakes) and wish her all the very best for the future.*

PE Department News

Dance:

There has been lots going on in the world of dance at PGHS this term!

Our dance leaders have been running the Year 7 dance club. A special mention to: Rachel Heap and Laura Byrne. Both pupils have choreographed a number of different styles of dance; the Year 7 pupils have really enjoyed it. We have taken part in the Annual Lancashire Dance Festival. This year's theme was books. We choreographed a dance about Romeo and Juliet. All year's dance clubs have been rehearsing for the Christmas Concert and the Senior Citizens Christmas party. Mrs Burns



Primary Liaison:

Megan Aspey and Isla Griffin in Year 9 completed their leadership courses this term. They have been working with Middleforth primary school in preparation for the Lancashire Dance Festival which took place last month. The teacher from Middleforth was extremely impressed with the girls' leadership skills and couldn't believe the pupils were only in Year 9.

In November we welcomed 70 primary school pupils to take part in a multi-activity day run by our Young Leaders. The primary pupils took part in Tag Rugby, Athletics Skills, Dance and Team Building Games. The Young Leaders showed great maturity and made the day very activity and more importantly, fun, for our visitors.

Thank you to all the girls who continue to give up their time to attend the many extra-curricular practices. We are very proud of you all!

Mrs Burns



Netball:

It's been a very hectic start to the netball season with the majority of the league matches taking place this term.



The numbers at netball club have been amazing and amidst all the re-organisation of fixtures and training the girls have stayed true and continued to show their commitment. Although the leagues are now almost over, we have the South Ribble Tournaments for Year 9, 8 and 7 in the next term.

League Results:

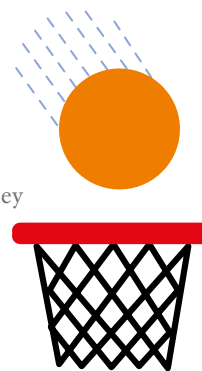
U16 A	Winners
U16 B	Winners (for the first time in their time at PGHS – fantastic team effort)
U14 A	Winners
U14 B	3rd Place
U12 A	Winners
U12 B	Runners-up

League players of the Season:

U16 A	Freya Darbyshire, Charlotte Daley
U16 B	Honor Barnes, Sophie Wilson
U14 A	Grace Atkinson, Anais Garcia
U14 B	Amy Norcross, Lois Carroll
U12 A/B	Lily Tite, Eve Rigby

Tournament Results:

Year 10	3rd Place
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Science Club

Over the past few weeks, we have made slime, created clouds in bottles, and have started to create wind turbines that can lift a load.

These tasks can easily be done at home in the kitchen.

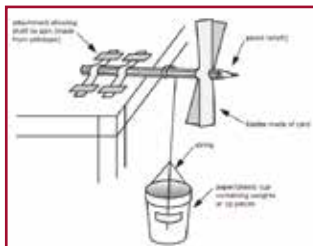
To create a cloud in a bottle all you need is a plastic bottle with a cap, a tablespoon of water in the bottom of the bottle plus a match. The match is lit and put inside the bottle and the cap put back on and then you squeeze the bottle. Watch while the clouds are formed.

The wind turbine project is about designing a model from scratch, using only card, sticky tape, a pencil, some string and a plastic cup.

The pupils have come up with their own design, and are in the process of building them and testing them. The plan is to test those using weights to see which one can pick up the most weight.

Opposite is an example of a design the pupils can do.

Mr Morris-Ross



Particles GWI

Year 7 have been learning about an interesting topic called 'particles and their behaviour'. This has developed their understanding that all materials are made up of many particles; from the paper that they write on, to the clothes that they wear.

They looked at the particle models (shown below), to show predict the properties of solids, liquids and gases in each of the three states. They then used this model to explain the different changes of state such as; melting, freezing, boiling and condensing. When pupils were set the written task 'Explain what happens when ice melts using the particle model', they produced some excellent work. Students referred to the particle model and included key scientific terminology to develop their answer.

Ms Wilcock



Which is heavier... a kilo of feathers or a kilo of iron?

This famous brain teaser fools people into answering "iron" because we think of iron as a heavy material whereas feathers are a light material. In other words, a small amount of iron weighs more than a small amount of feathers. However, in this question you have been told that they have the same mass (1 kilogram) so they weigh exactly the same (but there must be a lot more feathers!)

Year 10 pupils have been investigating this concept in the laboratory. They have been investigating how to measure the density of any object, even the most irregularly shaped ones. This is achieved using a principle discovered by the very late and very great Archimedes, who, upon stepping into his bath one evening and noticing the water level rise, proclaimed "Eureka! Eureka!" (Roughly translated "I've got it! I've got it!")

If we immerse an object in water, we can collect and measure the volume of water which is displaced. This volume of water will be exactly the same as the volume of the object. Then we can find the mass of the object using an accurate digital balance. Finally, if we divide the mass by the volume of the object we find the density of the object.

Mr Plummer

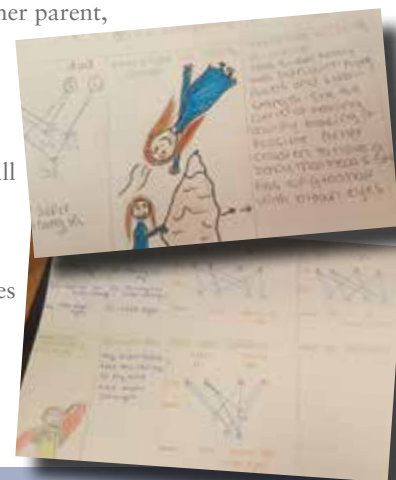
Genetics

In Year 9 this term we have been looking into what make us unique. We have looked at genetic diagrams and selective breeding.

In a genetic diagram, you show all of the possible alleles for a particular characteristic. There will be two alleles from one parent, and two from the other parent, making four altogether. You then draw lines to show all the possible ways that these alleles could be paired in the offspring. There will be four possible ways, but some or all of them could be repeated.

We used this idea to create our very own super baby where we crossed superheroes together to determine the characteristics of the offspring.

Mrs Honeyman



Year 8 Separation Techniques

Year 8 have been getting their teeth stuck into a complex Chemistry topic recently.

They've used their knowledge to tackle questions like "how do we get sea salt from the sea?", "is there a way get pure clean water from inky water" and "can you use a pen to identify who committed a crime?". Students have shown their practical skills by naming and using a range of scientific equipment like beakers, Bunsen burners, evaporating dishes and spatulas. They've used filtering to successfully separate sand and water, evaporated the water from a mixture of salty water to leave table salt and watched the magic that is distillation for producing pure water – ask them to describe what happened to the inky water and you'll see! This topic has a lot of new scientific words for students to master, but luckily many describe things that happen in our everyday lives. When something dissolves in water it creates a solution. For example, when we stir sugar into our tea to make a "sugary tea solution". Scientists call the product that dissolves the 'solute' and the solution it dissolves in the 'solvent' (water is a common solvent). Therefore, the sugar in our tea is a solute that can dissolve in water, the solvent. Things that dissolve in water are described as soluble – so for example salt is another product that's soluble in water. Something that doesn't dissolve in water is insoluble – which explains why grease and nail varnish don't wash off in water, and why we have to shake salad dressings (oil isn't soluble in the water-based liquids like lemon juice or vinegar, so it doesn't dissolve to make a solution). Students have responded to this complicated but interesting topic with enthusiasm, resilience and maturity which is fantastic to see. Well done, Year 8!

If this topic interests you or your daughter: see if you can identify some solutions in our everyday lives (food and drink is a good place to start). You could even try to name the solvent and solute too!

Miss McSwaine

Year 9 Biology: Selective Breeding

In Year 9 our girls are currently working on genetics.

Selective breeding is one of my favourite lessons as it can be made into an entertaining topic for pupils to understand the main concepts. After a general concept delivery, the girls became race horse breeders!

My chosen race for the girls' horses to compete in was the Grand National. They were given general traits considered to be good in a race horse. Packs of cards of famous race horses were handed out, all of which were the best at their discipline race. Given a description, the girls had to try and identify traits that would be useful for a horse to win the Grand National (a long distance race with large fences to be jumped).

Detailed on the cards were some fast sprinting horses, some long distance horses as well as some famous Grand National winners. All of these cards had 5 different traits on and the girls had to select two horses to breed together, then pick 3 traits from one card and 2 traits from the other to pass on to the offspring.

They had to name their new horse and decide whether it was male or female.

If they felt they could breed a better horse, they picked another card to breed the new horse and so on.

The best race horse was decided by a point system. I gave each trait present a certain number of points e.g. Good jumper = 10pts, whereas no stamina = 0pts.

1 Here are examples of some of the cards the girls were given.

Above are some examples of some of the cards the girls were given.

This is a good way of showing beneficial aspects of selective breeding. However, it is a controversial subject and the girls do need to understand that there are some disadvantages. This was explained to them using kennel club breeding as an example. Specific breeds were mentioned such as German Shepherds with their sloping backs and hip dysplasia.

Ms Tipping



Year 10 Physics

In Physics this half term, Year 10 have been studying 'Particles'.

Recently, we have been conducting investigations into the density of regular and irregular objects using the Archimedes Principle.

Year 10 have also produced some fantastic homework on the life and work of Archimedes.

Mrs Hennessy

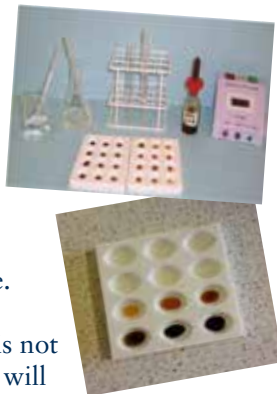
EUREKA!



Science Department News

Year 10 Practical

The Girls in 10 C have done some fantastic practical work recently. Students were investigating “how temperature affects enzyme activity”. Amylase is an enzyme which converts starch into simple sugars. You can easily test for starch by using iodine. If starch is present you will see a black colour. On the otherhand, if the starch is not present, the colour of the brown Iodine will not change.



Temperature °C	WAS STARCH PRESENT OR SUGAR
0	NO
20	YES
37	YES
50	NO

Students inserted their test tubes with 1 cm of amylase & 5 cm of Starch in different temperatures to see how enzyme activity was affected. Students followed the method and practical, which was carried out safely.

Students realised that at 0 degrees celsius, Starch is present. This is because at low temperatures the enzyme (amylase) was dormant and didn't possess enough activation energy to function.

Remember for reactions to occur we need collisions. At 50 Degrees Celsius, students realised that starch was present.

This was because enzymes denature at high temperature. The bonds within the enzymes are broken and the enzyme loses its active site and cannot digest the starch.

Students were excited to see amylase working. The enzyme worked well at room temperature but worked best (optimum temperature) at 37 Degrees Celsius. There was no starch present in the 37 Degrees Celsius test tube.

WHY? Because amylase digested the starch at this temperature into sugar; showing that the enzyme is very active at this temperature.

Mr Amin

Maths Solution: Santa left five puzzles and two books.

Because each girl had four sisters and two brothers, and each boy had one brother and five sisters.



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