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Letter from the Editor Nelcome



The first issue of the Pinnacle magazine was published back in 2009. I had been teaching English at Princethorpe for just two years and was offered the role of Gifted and Talented Co-ordinator, a post I had held at my previous school. Part of my vision for the role, was to celebrate the work of high achieving students in a college magazine. I was quite prepared to stand at a photocopier and staple copies together myself; fortunately, the Marketing Team shared the vision and supported a more professional finish by enlisting the design skills of Debbie at Dam Design Creative. We have been working together ever since.

Here's the Sixth Form team and their areas of responsibility for The Pinnade

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That first issue was a collaborative project with eight Sixth Formers at the time (Andrew Sullivan, Mikey Logue, Michael Harris, Rachael Eaton, Connor Thongsab-Jalil, Henry Marsh, Sean O'Donnell and Ruth Turner). Where are you now, I wonder? 2009 was the year when the World Health Organization declared swine flu to be a pandemic. Yes, young readers, Covid was not our first pandemic. We interviewed the then L6 student Callum Spencer about his achievements in Irish dancing (he had recently come 15th in the World Championships). We do know where he is now...since leaving Princethorpe, he has been touring with Riverdance as their Principal Dancer! In fact, Princethorpe seems to have quite a track record with Irish dancers. Let's not forget the magnificent McGrory sisters – the champion Irish dancer Grace is now reading Law at Oxford and her two-time world champion sister, Molly, is currently doing her A-levels in our Sixth Form. Issue One also featured a piece on Daniel Leung, then in Year 10, as he played Mozart's Sonata in B flat major. Daniel went on to study Modern and Medieval Languages (specialising in French and Italian) at Cambridge and is now based in

London working in the civil service.

Of course, in 2009 Crackley Hall hadn't merged with Abbotsford School, and we had yet to take Crescent School under the Foundation's wing, so the Minnacle was a teeny tiny treat on the back page only with an interview with Mollie Dibb, then in Junior 3 and Bertie Cornforth in Junior 6!

Looking back through 32 issues, seeing students' faces peep out at me from the pages, sharing their dreams and their unique brilliance, I feel immensely privileged to have been part of it all.

The front cover for this issue is a collage of all the back issues of the Pinnacle to date. I hope you enjoy the trip down memory lane, as I have.

As always, there are pages and pages of excellent work in this issue from across the Foundation. It's always a pleasure and a privilege to bring everything together in one place and to see the thoughtful work you have all been doing. Well done everyone.

Thanks go to: staff at Princethorpe College; staff at Crackley Hall School (co-ordinated by Cat Hardwick); staff at The Crescent (co-ordinated by Louise Symons); Assistand Head (Marketing) Melanie Butler; photography by Helen Stephenson and Debbie at Dam Design Creative.

And so, since this is my last letter as Editor in Chief before I take on the role as Head of English, goodbye! Keep being creative, committed and the rest will follow!

Helen Pascoe-Williams

"It's always a
pleasure and a
privilege to bring
everything together
in one place and to
see the thoughtful
work you have all

To read more of any of the articles with the



button, please scan this QR code.



Y10 PHYSICISTS GET FIRST TASTE OF THE PHYSICS CHALLENGE

The British Physics Olympiad run a series of Physics challenges for KS4 and KS5 pupils, with the Junior Challenge the first opportunity for GCSE level classes to take part. The online quiz is multiple choice and features two sections, each of 30 marks.

62 Princethorpe pupils completed the challenge with the following results:



14 Silver



and 2 Commendations

Particular congratulations go to Zach Hawkins with the highest score of any Princethorpe College pupil with 70%. Zach achieved a Gold certificate, along with Anna Johnson, Jesse Esler, Amelia Chard and Theo Sparkes.

See right for some sample questions.

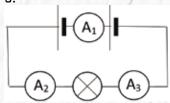


Year 10 Online Sample Questions 2018

- 1. Which of these statements is true for the Solar System
- A. The Sun orbits the Earth
- B. The Moon orbits the Earth about once in a week
- C. The Milky Way is a band of reflecting dust within the Solar System
- D. The Earth moves around the Sun in approximately a circular path
- 2. Galileo, the famous scientist, was born in
- A. Germany
- B. Holland
- C. Italy
- D. France
- 3. This image best represents which famous scientist?



- A. Robert Hooke (of springs, etc.)
- B. Robert Boyle (of gases, etc.)
- C. Isaac Newton (of gravity, etc.)
- D. James Joule (of energy, etc.)
- 4. A brick of mass 3 kg is dropped from a height of 80 cm on to your foot. At what speed does it reach your foot?
- q = 10 m/s2
 - A. 2 m/s
- B. 3 m/s
- C. 4 m/s
- D.5 m/s
- 5.



There are three identical ammeters in this circuit, labelled A1, A2, A3. Which is the correct statement about the readings on the ammeters?

- A. A2 and A3 are equal, but A1 is less
- B. A1, A2, A3 are all the same
- C. A1 = A2 + A3
- D. A2 is less than A3

How did you do?

Milling Travelling Tourist Guides

In History lessons, Year 7 have been exploring what life would be like in Medieval England. Having acknowledged the importance of religion, the limited understanding of disease and unusual approach to medicine, students researched everyday life and the architectural designs of Medieval towns and villages.

Here are some of the outstanding guides to Medieval towns created by Emily Beadle, Emily Bell-Barth, Amber Rhodes-Jones and Damilola Ajagunna. Their leaflets would be of great use to a time travelling tourist, full of useful, well researched information and maps. Indeed, one seems to have come from the Middle Ages and looks to have been well used over the years.

by Amber Rhodes-Jones, Y7



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Gjagurna,

Damilola

Contract - Book and ale Lock - Break to 1950 a price at the Down Brill and policy Clink supported to supplicate and

Tips for Time Travel

- Adopt the continue of the people has you can, I'm surry to say, but you are pring to have to present to be referred. Otherwise you will get brown at the other, and we are not trapematic to any injection or death, so that trip. I'm state at your says you.
- best anything receives. If you re-cort talk, talk quartly accounts wretches, and let us do the india any moods, one or follow travals. may come payens. This typ is menocohed for children some I recommended for children over E3, and for adults precuper than 80. SE HUMBLE I below we all suppo-nied rights, but please, just for the sup, make rure you fort't years anyone undortase. We will be in

WHATEVER TOC DO, DO NOT DESERVE HER TON ANY WAY. If you do, you may affect the present









by Emily Bell-Barth, Y7

towns to MILL











Medievol Britain bouns.















Take a look at this exemplar work from two Year 10 History students studying the Vietnam War. The question was:

"The most important reason why the Vietcong were able to fight the much more powerful USA was because of their guerrilla tactics". How far do you agree with this statement?



"Another tactic

to fight the US

successfully was

to protect them

from the air raids

conduct to try and

wipe out the VC."

tunnels underground

that the VC used

BY JAMIE DICKERS, YEAR 10

The use of guerrilla tactics could be seen as the most important reason why the Vietcong were able to fight the USA successfully. This is because they were able to use these tactics to undermine and slowly pick off the Americans who had superior technology and numbers to the Vietcong. For example, the Vietcong would leave booby traps in the dense forests for American troops to run into. This included sharpened bamboo sticks known as punji sticks which would be put in pits and covered in venom and faeces to infect the wounds of any unlucky soldier that landed on one. The Vietcong would also help peasants to attach punji sticks to their doors so that when Americans came into their homes when the doors shut behind them, they would be impaled. Other booby traps included mines that would be buried in the ground and wired up so when an American soldier stepped on it, it would explode sending shrapnel and crude bits of metal flying everywhere and potentially severely wounding several American soldiers. These mines were particularly effective because very often an American soldier wouldn't even realise that they had stepped on the mine. On the whole the use of these crude booby traps was extremely

"On the whole the

booby traps was

booby traps."

extremely successful

successful as 10% of American deaths were due to booby traps use of these crude and it created great phycological fear in American soldiers which made them scared to leave their camps. Furthermore, The as 10% of American Vietcong had a huge network of underground tunnels that stretched depths were due to for hundreds of miles underneath the jungle. These networks were underground cities and had

everything that Vietcong needed like storage rooms, hospitals, barracks and kitchens.

BY LOTTIE FAULKNER, YEAR 10

The use of the guerrilla tactics was the most important reason why the Vietcong were able to fight the US successfully. This is because they would set up booby traps in order to either maim or murder the US soldiers. The booby traps included things such as punji sticks which was where the Vietcong would sharpen bamboo sticks and then cover the tips in

either faeces or poison from snakes and then set them up so that the US would not be able to see them and would fall onto them, fatally injuring them or killing them instantly killing them. The Vietcong would also set these up to fall onto the soldiers when building a maze of they raided the homes of civilians. Another tactic that the VC used to fight the US successfully was building a maze of tunnels underground to protect them from the air raids that the that the US would US would conduct to try and wipe out the VC. These tunnels were known as Cu Chi tunnels and were a great way for the Vietcong to navigate without

the soldiers spotting them, they would also use the tunnels to run back to after an attack on the Americans so they couldn't fire back. Another important tactic used by the Vietcong against the Americans was known as hanging off the belts of the Americans, this was where the Vietcong would stay very close to American camps, therefore if the Americans were to try and conduct an air raid then they would be possibly murdering their own soldiers and the Vietcong were so close to them that it would affect both sides. These tactics were very important to how the Vietcong were able to fight the US successfully as the Americans were not prepared for it meaning they could catch

them by surprise.



STALEMATE

Year 10 Andre Onvekwe wrote one of the best standard responses to an 8-mark narrative question that Mr Lyttle has ever read! Well done, Andre!

'Explain how the Korean War became a stalemate by July 1953'.

One reason why the Korean War became a stalemate is because of the intervention of 200,000 Chinese troops, known as the 'People's Volunteers', which had bolstered the ranks of the North Korean army. This is significant because this injection of troops meant that UN forces were are pushed back by North Korea past the 38th parallel. Furthermore, with the help of the US sending advisers, warships and supplies down to the South section of Pusan, it allowed South Korea to eventually regain the capital city of Seoul. The war at this point looked like it was coming to a swift end with South Korea and the UN about to push communism out of Korea. This was until the 200,000 Chinese troops bolstered North Korea the wars outcome indecisive. So, North Korea being given more troops was a reason why the war ended in a stalemate and wasn't won years earlier.

Another Reason why the Korean war ended in a stalemate was because Truman refused to use the 'Nuclear option' on China and eventually sacked General Douglas MacArthur. This was significant because this point General MacArthur suggested using the advantage that the US had with nuclear weapons to win the war once and for all. However, Truman was concerned about their being a wider nuclear war and so declined general MacArthur's request. Although some believe Truman made the right decision in not using nuclear weapons, others believe that he was wrong because had he used them, the United Nations and the USA could have claimed the whole of Korea and potentially China. This would have stopped the influence of communism around Asia and prevented the war in effectively ending in a stalemate.

"The war at was coming to a swift end with South Korea and the UN about to push of Korea."

BY ANDRE ONYEKWE, Y10



Breath

Inspired by the work of Bertolt Brecht, Lower Sixth student Carys Nicolle produced this fabulous working notebook for her A-level Theatre Studies coursework.

by Carys Nicolle, £6



Breath Centred on the events of The Essex Lorry deaths, this piece explores the experiences of Vietnamese economic migrants seeking a better standard of life. The piece aims to highlight the culpability of trafficking schemes designed to entice the vulnerable into VIP travel and the fallings of policy

SECTION 1 RATIONALE AND RESEARCH

Rationale for our starting point

We were inspired by the art installation Accumulation – Searching for the Destination by Chiharu Shiota, which depicts a large number of suitcases hung up on red strings, as it represents individuals' journeys through life and how parts of these journeys are shared with others. This led our early

discussions to be about immigration, asylum seeking and displacement as we felt the journeys in the art installation could be about seeking a better life. This then led us to think about the Essex lorry deaths in 2019, in which 39 Vietnamese people suffocated in a lorry trailer while being trafficked into the UK. We felt it was important to create a piece of theatre about this so that we could highlight the fact that there is limited safe passage for

"We felt it was important to create a piece of theatre about this so that we could highlight the fact that there is limited safe passage for economic migrants coming into the UK."

economic migrants coming into the UK and the power and opportunity created for the human traffickers.

Dramatic influences

Our early research included the theatre company Gecko and their use of breath intentionality and emotion as we felt breath would be a central idea of our piece due the 39 Vietnamese migrants' cause of death being suffocation. Our earliest research lead us to watch the documentary Hunting the Essex Lorry Killers so that we could gain a clear picture of the events that took place not only for those within the lorry but also for their families and the traffickers involved. While we liked the focus Gecko had on breath, we wanted to give a voice to the victims through verbatim and present a full view of the events so that the audience would be forced to think about and learn from them. This moved us towards having Brecht as our practitioner as his techniques enabled the audience to form their own opinion on pressing political matters.

Practitioner research

We learnt about the range of techniques Bertolt Brecht used in his pieces through participating in workshops. One of the techniques he used which we felt would fit our piece was episodic montage as it stops the audience from getting



too absorbed and enables them to focus on the message of the piece; this structure of avoiding a linear plot would enable us to take an epic approach, giving a 360° view of the tragedy, which would in turn ask the audience what the issue is and who is to blame for it. Our piece follows the dark and bleak reality of migration in a modern world, we felt we needed to incorporate comedy as this would show more depth, we did this through Brecht's technique of späss. Späss is when a serious subject is presented in a funny way, causing the audience to laugh and then question why they laughed, making them think further about the message of the piece.

Brecht emphasised the importance of giving a 360° view of events, so the audience could form opinions for themselves. We looked at Brecht's Lehrstuck plays He Who Said Yes and He Who Said No which are teaching plays that provide a clear message and moral; this lead us to take a dialectical approach as this would allow us to discuss the events surrounding the Essex Lorry Deaths from multiple angles, allowing the audience to come to their own conclusions about them. The two plays

are often performed together as Brecht felt it showed an important thought of his on the practice of Lehrstück and its role in preparing for a new society: "To be in agreement also means: not to be in agreement". We wanted the audience to experience this sense of conflict when forming their views so we showed the characters to not just be black & white

"To be in agreement also means: not to be in agreement."

by incorporating more sides of each character, for example Gheorghe Nica's reasoning for becoming part of the trafficking pyramid being to pay for his daughter's treatment. We furthered this conflict and 360° view by showing the impact of the events on both the families of the victims and the lorry driver Mo Robinson, while also giving information about the events from

the perspective of the victims, their families, the traffickers, and the public.



In the recent end of year English exams, Year 7 pupils were asked to write a speech persuading people in their tutor group to join the school's environmental group, Planet Princethorpe. Here are some examples of the excellent work produced.

> by Krishan Patel, Yêar 7

Arthur Reid, Year 7

Hello FTW.

In our shoot me have an anxionmental club known as p.
Plant Prinathorse working hard to make a digerence to for
our world. You can all make a digerence. I on invalor
eco-tom, and try to make the world a better place
There are so many things damaging our earth and
Princethorse capit six all of them. But is we do

or something small, It could still make a change.

Even is you don't form the club, there are still so many things you can do, the pick up phostic from the short and simply put it in a bust for could resil your until bottle when it empties, instead of just buying a drink. You could gix things when they break, instead of throwing among you could turn on lights and screens when you leave a topy. You could turn on lights and screens when you leave a topy. You could have down old costness to sidely a norm, instead of buying them new ones. There are so many things you can no get our plant, you'd think you could saw it by yoursely!

Although, some things are horder to put back in place. I here is a hole in the ozone layer, a cricin of despreciation, deserts when trees once grew, strongs chemicals in the air polition all oner the globe, and rubbish, just dumped in the seas We only have to years to change our ways, before it becomes impossible to put things right.

Planet Princethospe, not only wonty, but needs you to sake our precious earth. Our mortd will isn't like a burken percil, which you can just shapen again. YOU can make a change.

Hello Strude pupils of MAP. I would like to inform you about our planet and how it is vitate we save it by We should all ain to contribute to being more eco-friendy. But how?

Join Planet Princethorpe.

Let me remind you of our Earth's our home situation, we use and throw away so many much plastic we tet Climable Many annals who go extinct every day. More and more habitats are being destroyed because of our reed to have an a greediness - maybe it's because ue. "Need" to have all waden survivure in our house, or maybe ue "Need" loads of paper to print downents - we don't tots you just book away a rabbit's home getting that table flease, stop We can all help sure our juture, and many generations to come, before it's too late.

Planet Princethorpe isn't some boring, Stupid thing where you go round puking up litter all day Planet frincethorse is much more. We talk about the environmental issues we face at school, like our confirm footprint, and we kny to find solutions.

If I listed all of the environmental issues we face at school you'll you WILL be here for a day, Instead, let's goves on eliminating the issues one by one.

writing exam

Over OHC, today, I am here to persuaste you all so attend planet Planet Princethorpe ! As you may known we have many environmental assues here at Princethorpe, such as, lutter not being put in the Jun, people using the plastic cups at matron, or just people buying drinks at school and not recycling them. There are many ways that we can just that such as people bringing in reusable bottles are reusable bubs—into school.

Have you ever finished eating wonething and just dropped your trapper on the floor because you couldn't find a birth you do you musn't do it again People do this everyday and it is becoming more and more of an issue, so we need your help. This planet is our planet and we were responsible for all of the little that gas dropped, will of the plastic that usn't recycled and all of the waste that ends up in the organ landering this, we all need to take part in helping this situation get better because every act helping.

SP currently, our environment is almost at the worst it could be! When injour howe accidentally anopped a packet, you didn't which where that would and up did you? It is terrifying how many writinals have been titled all because we couldn't be bothered to put up a wrapper off the floor. The question is, how would you help? You should come and you power planet Princethorpe because together as one, see can help all of this stop!

At Planet Princethorpe, we you can express your ideas and tell us ways in which you think we can help. It is a great opportunity for every—one to tell us their thoughts

Received adults what are hearing this, Over the years, this has become worse and worse! Many years ago it wasn't like this, that new our planet is slowly crumbing to process.



XMaS SCIENTIST EXPERIENCE 2023

Lise Meitner was born in Vienna. Austria. on November 7th, 1878, to Phillip Meitner, a lawyer and chess master, and Hedwig Skovran, a musician. Meitner enjoyed maths from a young age, with her father hiring a private tutor so that she could explore the subject more. Other hobbies of hers included playing the piano and reading.

Meitner explained that ever since she was

a young child, her parents gave her the

and why the world works as it does.

mentality to think for herself about how

Meitner's mother would tell her and her seven siblings, "listen to your father and me, but think for yourself." Meitner was no longer able to continue her education in a grammar school after the age of fourteen, because beyond this point only male students were accepted in Vienna's grammar schools in the 1800s. She therefore remained at home and practiced her hobbies, but soon realised that she was missing her education. She would go on to discuss with her father the idea of continuing her education by studying for a science degree at the University of Vienna. Although her father didn't oppose the idea, he did suggest that she got a teaching qualification before going to university, with the hope that she would be better respected in this male dominated environment with the additional qualification. So, she did. She studied for a teaching qualification in French, which she completed at the age of 21, in 1899. After this, her father then hired her a private tutor so that she could prepare for the university entrance exam, allowing her to pass in the summer of 1901, aged 22.

Launched in 2015, the XMaS Scientist Experience is a nationwide opportunity for any Lower Sixth female Physics student to join Warwick University on an all-expenses-paid four-day trip to the ESRFLink in Grenoble, France at the beginning of July 2023.

Their aim is to encourage students to consider Science careers, foster a sense of community, and encourage self-belief. Applicants need to be curious about the world around them, creative, and keen to learn more about Science. Through this trip students are taken out of the classroom and shown science in a real-world application, with the aim of sparking an enthusiasm for the wonder of science.

In response, our very own Lower Sixth female Physicist, Emma Sarkies, took up the challenge and was tasked with researching and writing a two-page essay on 'Lise Meitner; her life and contributions to Science'. The competition had a record number of entrants this year. Sadly, Emma did not win the trip, but she did write an excellent article which we wanted to share with our readers.

Beginning her studies at the University of Vienna in October 1901, Meitner decided to specialise in physics. She worked incredibly hard to understand all the new concepts that Ludwig Boltzmann, who taught the majority of her classes, introduced to her, and this ultimately broadened her understanding of physics significantly. In December 1905 she passed her doctoral oral exam with the highest honour and

graduated from the University of Vienna in February 1906 with a PhD in physics. Meitner then began to teach physics in secondary schools. taking a high interest in radioactivity, doing research of her own in the evenings. She then reached out to Max Planck, a lecturer at the University of Berlin, asking if he would mind her attending his lectures Uienna in February for a semester. Planck allowed this, so Meitner's father agreed to pay her living costs whilst she attended the semester in Berlin.

"In December 1905 she passed her doctoral oral exam with the highest honour and graduated from the University of 1906 with a PhD in physics."

Having arrived in Berlin, Meitner decided that it was radioactivity that she wanted to research. As this involved both physics and chemistry. she was required to work with each department. The physics department were very welcoming to her, with Max Planck even inviting her to some of his family parties. This was highly contrasted by the chemistry department, who did not like Meitner studying there because she was a woman. There was one chemist, however, who was more than happy to work with her, called Otto Hahn.





Animal Assistance in WWI

Animals. They come in so many different shapes and sizing, all intriguing, all with their sciences. For some people, animals are their whole life, in more ways than one. Others detest animals with all of their being. However, we can all agree that we need animals in our lives. Animals, apart from being food (in some cases) can reduce stress levels, help disabled people get around easily and just be good company. Animals, in fact helped in World War One: without them, we may not have won the battle, and the world would be a very different place today.

Let's start with a bird. But not just any bird. A bird called Cher Ami that's French for 'Dear Friend'. And what a dear friend he was! He saved

the lives of almost 200 men, and the event of being shot in the chest, having his leg ripped off with a bullet and being blinded in one eye didn't stop him from completing his mission.

During the First World War, around 550 soldiers were trapped in a ditch in a hill, and their own ranks were obliviously firing at them. As a last resort, a message was strapped to Cher Ami's leg, and he bravely flew back to base, and handed over the message, which is famous for saying: "We are along the road parallel to 276.4. Our own artillery is dropping a barrage directly on us. For heaven's sake, stop it."



Unfortunately, on his way there, he was attacked with guns, yet despite this, he bravely continued all the way back to base, and handed over the message. He was saved by army doctors, though they could not restore his leg or eye, and he managed to survive. He was awarded the Croix de Guerre, one of the highest military awards, for his bravery and resistance. Carrier pigeons were

seen as risky but reliable means of communication until after Cher Ami's brave feat: they we recognised for their remarkable determination.



The Princethorpe Foundation

Project Qualifications

Level 1 Foundation Project Level 2 Higher Project Level 3 Extended Project



Princethorpe College

This year's research projects have now come to an end, and I am delighted to report that ten Year 8 Academic Scholars have submitted Level 1 Foundation Projects, twenty Year 9 High-Performance Learners have submitted Level 2 Higher Projects and seventy-one Upper Sixth students have submitted Level 3 Extended Projects. We are very proud of the high levels of achievement across the board. A huge congratulations to all those students who have worked so diligently over the past eight to sixteen months.

Here are examples of the research areas some of our top students have chosen this year.

In Year 8. Jav Patil explored whether the UK still needs a monarchy and Oscar Singh researched whether footballers should get paid more than nurses.

In Year 9, Glenys Chapman questioned whether exams are a fair way of testing knowledge, Kathryn Flegg researched whether any cures or preventions for the Black Death were actually valid. Ariana Grav explored whether it is ever acceptable to ban books, Marco Rodriguez-Hernandez took on the big question of whether God exists, while Lucas Summers gueried whether safety is more important than freedom.

"The skills you have

beaun to master in

research and

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project management,

development, and oral

presentation will stand

uou in excellent stead

for university and

In Upper Sixth, Freya Mills researched whether it is ever ethical and necessary to speed up the process of developing and trialling a vaccine, **Pratheesh Prabakaran** explored whether the insanity defence should be abolished and Madoc Williams designed and produced a proposal for a new John Lewis Christmas advertisement.

Well done to you all. The skills you have begun to master in project management, research and

development, and oral presentation will stand you in excellent stead for university and beyond.







Student Success in the RSC Chemistry Olympiad

Designed to challenge and inspire, the UK Chemistry Olympiad is a national Chemistry competition run by the Royal Society of Chemistry.

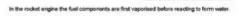
Hosted annually, it is aimed at students in the Sixth Form and offers a unique opportunity for Chemistry students to develop their thinking and problem-solving skills and test their existing knowledge of Chemistry in situations from the real-world.

The results of this year's competition have now been received and our two Upper Sixth students who took part in the 2023 Chemistry Olympiad have both achieved certificates. William Gibson-Sexton was awarded a Silver certificate. Joshua Apaya was awarded a Bronze certificate (he was just three marks off a Silver). They faced tough national competition and we congratulate the Princethorpe pair on their excellent results.

Q1 This question is about rocket fuels

The HASA Arternia uses liquid oxygen (LOX) and liquid hydrogen fuel sources. These fuels ensure the rocket mass is low and alongside their large enthalpy change of combustion pushes a rocket to recovery pression.

in 2022 there were a number of failed launch



(a) Vittle an equation for the reaction between gaseous hydrogen and oxygen

The bond enthalpy of H-H is 432 kJ mol** and the average bond enthalpy of O-H is 460 kJ mol**. Assume the enthalpy change for the reaction in part (s) is =241 kJ per mole of

b) Calculate the bond enthalpy of the O=O bond in kJ mol⁻¹.

The density of liquid hydrogen is 0.071 g cm⁻¹.

(c) (f) Calculate the number of moles of hydrogen molecules in 1 dm² of figure

Four Princethorpe Pupils Awarded LAMDA Grade 8 Gold Medal

Four Princethorpe College pupils, Alexandra Bonsall, Mitchell Endenburg, Grace Isaacs and James Maclean, have all achieved distinction in their London Academy of Music and Dramatic Art (LAMDA) Grade 8 Gold Medal examinations.

Year 11 pupil, Alexandra Bonsall, Lower Sixth Form student, Grace Isaacs, and Upper Sixth Form student, James Maclean, all sat the LAMDA Grade 8 Acting examination while Upper Sixth Form student, Mitchell Endenburg took his Grade 8 Public Speaking examination.



Gold is the highest medal awarded by LAMDA and takes years of training to achieve, and receiving a distinction in their LAMDA Gold Medal examinations also means that all four pupils have now accrued 30 extra UCAS points towards their university applications.

Lead LAMDA Teacher, Kathy Buckingham-Underhill, commented, "I am delighted to see these four young people completing their LAMDA studies on such a high. Congratulations to them all. Their hard work, diligence, perseverance and commitment have been amply

"Their hard work, diligence, perseverance and commitment have been amply rewarded."

rewarded. Their LAMDA teachers are incredibly proud of them all."

A huge well done to all four pupils on a really impressive achievement.

Princethorpe Pupils rise to the **Junior Mathematics Challenge**

Back in April, pupils from Princethorpe College took part in the 2023 UK Mathematics Trust (UKMT) Junior Challenge, a prestigious national problem-solving competition that recognises the best young Mathematicians in the country.

The Challenge involves answering multiple choice questions and is sat under normal school exam conditions. The papers are then sent away to be marked by UKMT and the best pupils in the country are awarded Bronze, Silver or Gold Certificates.

The competition is aimed at pupils in Year 7 and Year 8 and Princethorpe selected 92 able mathematicians to participate in this year's Challenge. It is a demanding exercise designed to stretch and test pupils' mathematical skills, so the College is delighted that this year, Princethorpe's mathematicians achieved exceptional results.

Congratulations to Year 8 pupils, Jay Patil and Tara Rodgers who were awarded a Gold certificate, and took the joint award for best performing pupils in school, and to Year 7 pupils, Dillon Horan and Charles Packe, who were awarded a Gold certificate, and took the award for best performing pupils in Year 7. Gold certificates were also awarded to Year 8 pupils Woody Osborn, Noah Cowlishaw, Theo Read-Jones, Thomas Zanyi and Jessie Murphy and to Year 7 pupils George Knott. Jay Patil and Tara Rodgers performed so well that have also qualified for the follow-on round, the Junior Kangaroo Challenge.

Silver certificates were awarded to: Isaac Frith, Erik Windham, Ayla Plumb, James Sinclair, Katherine Lee, Oscar Rexton-Watts, Elena Raiseborough, Callum Chadwick, Jo Sheeran, William Sutton, Dami Ajagunna, Noah Walker, Eve Tilley, Ellie Maffey, Jasper Nicholls, Teni Okusanya, Bohdan Nicholl, Charlotte Gower, Victor Ball, Jake Mainwaring and Jack Phillips-Gore.

Bronze certificate: Noah Thompson, Millie Lammas, Tyler Moreton, Drew Ovens Gibbs, Chloe Sarkies, Andrei Bodorin, Jacob George, Louis Reynolds, Reuben Allen, Teddy James, Jake Swords, Ollie Hawkins, Emily Beadle, Isaac Fowle, Sachin Gupta, Victoria Benbow, Georgina Sowter, Stephanie Bolton, Henry Spicer, Ali Maddams, Noah Dando, John Owen, Freddie Stephenson, Veer Chayra, Jack McKay, Lucas Ross, Edward Hunt, Dax Frost and Arthur Reid.



Lower Sixth Physicists rise to the Senior Physics Challenge



During March, Princethorpe's Lower Sixth physicists had their second opportunity to take part in the British Physics Olympiad Year 12 Senior Physics Challenge.

Competing against over 6,000 pupils from almost 400 schools nationwide, the students sat a gruelling one hour long written paper, where none of the marks were easy to get.

Head of Physics, Dan Lee, was delighted with the results, commenting, "Congratulations to all, it is great to see our students succeeding in the toughest school-level Physics competition there is."

Special mentions go to Alex Flegg who was awarded a Silver certificate and was just two marks off a Gold, and to Joseph Newborough, who is the first Princethorpe College pupil to achieve Gold in the Year 12 Senior Challenge. Joseph has now been entered into a ballot to win a visit to the Royal Society in London later this

Congratulations also to Jack Grindal and Chris Lock who were awarded Bronze 1 certificates, to Zak Abba. Louis Harper, Emma Sarkies and Andy Wills who received Bronze 2 certificates and to Jake Lambert who received a Commendation certificate.

Wondering just how difficult the competition is? Then have a go at two of the multiple choice questions here (only the first four marks in the paper are multiple choice).

Year 12 Senior Physics Challenge

Wondering just how difficult the competition is? Then have a go at two of the multiple choice questions below (only the first 4 marks in the paper are multiple choice)

Sample question 1)

A car tyre lasts typically 40 000km. Estimate the number of rotations it makes during its lifetime.

A. 10⁵ B. 10⁶ C. 10⁷ D. 10⁸ E. 10⁹

[1]

Sample question 2)

A girl standing on a cliff throws two balls, one up and one down, at the same speed. How do the final velocities of each compare as they hit the sea?

- A. The ball thrown down has a greater velocity than the ball thrown up
- B. If the height going up is greater than the drop down to the sea, then the ball thrown up will have a greater velocity
- C. If the height up is less than the drop down, then the upwards ball will have a lower velocity
- D. The same
- E. The result depends upon the magnitude of the speed of the throw of the two balls

Bookbuzz **Competition** Winner

> interviews Mr du Toit



'Integrity is having that gold medal on the inside.

Earlier this year, Princethorpe's Bookbuzz competition winner, Eve Tilley, sat down with Mr du Toit to discuss all things Lu by Jason Reynolds. Bookbuzz is a nation-wide reading programme from the Book Trust that aims to help schools inspire a love of reading in 11 to 13-year-olds, which the College proudly supports annually. Year 7, Eve. won the College's internal competition by recommending the most apt read for our new Headmaster based on facts he shared with the pupils before joining Princethorpe.

After recommending the read before the Christmas break and setting him his reading homework, during their interview. Eve posed several questions to Mr du Toit, including: his most and least favourite parts of the novel. which age group he would recommend it to, and, if given the opportunity, which part of it he would change. At the end, Mr du Toit even asked Eve a few questions of his own - demonstrating the power a good book can have in terms of cultivating discussion!

Whilst Mr du Toit observed the vulnerability of the beginning of Lu and praised Reynold's portrayal of sensitive topics, such as Albinism and substance misuse, through Reynold's use of father-son perspective, Eve complimented the novel's heart-warming ending, during which the team's coach cuts his medal into winning strips to show his athletes how proud he is of them, and that they are all connected.

Both agreed that they would have enjoyed learning more about Kelvin, Lu's bully, specifically, what sparked the development of his character from unpleasant to agreeable, remarking that the novel felt unfinished as a result.

Finally, upon being asked why he would recommend Lu to a friend. Mr du Toit commended Reynold's inclusion of the theme of integrity, relating the novel to the real world upon drawing attention to the fact that doing the right thing is not always the easiest: integrity is about having that gold medal on the inside.

Excellent results for College Athletes at the Warwickshire Schools Athletics

Combined Events

Princethorpe College's Junior Girls, Minor Girls and Inter Boys teams delivered top scoring performances to finish in first place at the Warwickshire Schools Combined Events Championships. Hot on their heels were the Inter Girls and Minor Boys whose determination led to third place finishes, with the Junior Boys coming in only one place behind, finishing in fourth overall. It was another excellent athletics outing for Princethorpe at the Warwickshire Schools Combined Events, at The Pingles Stadium, in Nuneaton, last week on Wednesday 10 and Thursday 11 May.

16 schools from across the county sent their best athletes to the two-day event. Standards were high as competitors aimed to accrue as many points as possible across the track and field events.

The Inter Girls took on the Heptathlon competing in the 80m Hurdles, High Jump, Shot, 200m, Long Jump, Javelin

and an 800m middle distance run. Martina Grace finished 7th overall, Lim Self 12th, Caitlin Horan 13th and Emily Evans 16th, together they claimed a team third place overall.

The Junior Girls Year 9 team competed in the Pentathlon, with the athletes enjoying the 75m Hurdles, Shot, High Jump, Long Jump and an 800m run. The girls put in an outstanding performance with Grace McCollin finishing 3rd overall, Penelope Jones just behind in 5th and Lauren Tebbatt 10th, together they amassed a super score to take first place overall.

The Minor Girls also did very well delivering consistent results in the 80m, Long Jump, Shot and 600m run. An excellent performance in the Long Jump helped Issey Cleary finish 2nd individually, while Lillibee Harris came in 7th and Dami Ajagunna 9th ensuring the girls also claimed team first place overall.

The Inter Boys had the Long Jump, High Jump, Javelin, Discus, Shot, 100m Hurdles, 400m and the 1500m to contend with in their Octathlon event. André Onyekwe was dominant in the Long Jump jumping 5.83m and in the High Jump, sailing over a huge height of 1.93m, to help him finish in 1st place overall, his team mates also performed well with Oscar Civzelis 4th, Jesse Esler 7th and Max Phillips-Gore 8th, together they claimed another team first place for Princethorpe.

The Junior Boys took on the Pentathlon with the 80m Hurdles, Shot, Long Jump, High Jump and 800m events. Hunter Staveley finished 4th overall, Dan Tomlinson 13th and Conor Horan 17th, their team finished fourth overall.

Then the Minor Boys took on an 80m sprint, the Long Jump, Shot and a 600m run. George Knott finished 5th overall, James Bostock 11th and Alvin Wamala 12th, taking the team to third place.

After a very successful two days, Director of Sport, Lee Cassell, was thrilled with excellent early season results, commenting, "Princethorpe's athletes shone across all the disciplines delivering outstanding performances in both field and track events to help the College to a super set of results. Well done to them all."



U13 Girls win the Mottingham High Cricket Festival Cup

Princethorpe's U13A Girls Cricket team batted and bowled their hearts out at the Nottingham High Cricket Festival last weekend. In a superb performance, they won all their matches and took first place in the Cup competition.

The festival took place on Saturday 13 May at Nottingham High School and was for Year 7 and 8 pupils. Six schools took part in each age group category, the U13s and U12s. With the three teams scoring the most runs going through to the Cup competition, while the lower scoring teams went through to the Plate competition.

The U13 Girls played two games in the pool stage, winning both:

Princethorpe 262 runs scored vs Loughborough High School 246 runs scored

Princethorpe 234 runs scored vs Nottingham High School 231 runs scored

The girls qualified second out of the six schools and progressed to the cup competition. Here the team upped their performance to win both of their games by a significant number of runs:

Princethorpe 261 runs scored vs Ratcliffe 217 runs scored Princethorpe 253 runs scored vs Bablake 207 runs scored

Team coach, Ellie Callan, said, "The girls were fantastic on the day. Each and every one of them played a role in the team to help them secure the festival win, whether that be taking a wicket, catching the opposition out, hitting a six or showing strong communication and leadership skills throughout the tournament. The girls were commended by several schools on the quality and

consistency of their bowling, which ultimately helped them to knock down the run total of other teams."

Anabel Davis received the coach's player of the tournament award for bowling the best overs of the day and hitting a big six.

Charlotte Gower was awarded most improved player. She listened to feedback and was able to improve elements of her game in most of the matches we played.

Well done also to the U12s team, the tournament was a fantastic opportunity for them to gain valuable match experience.



UK BIOLOGY CHALLENGE

The UK Biology Challenge is open to students aged 13 to 15-years-old in Years 9 and 10. The competition consists of two, twenty-five-minute multiple choice papers taken online under staff supervised exam conditions.

Questions are set on the school curriculum, but the competition will also reward those students whose knowledge of the subject has been increased by reading books and magazines, watching natural history programmes, taking notice of the news media for items of biological interest, and are generally aware of our natural flora and fauna.

All participating students are eligible to receive free Royal Society of Biology BioNet membership for one year and will be awarded E-certificates in the following categories: Gold, Silver, Bronze, Highly Commended, Commended, and Participation.

Well done to the Y10 Princethorpe students who did especially well this year:



BRONZE

Zak Neves Olivia Monk **Isabel Barnes Roxy Glenn Emmi Parmenter Daniel Taylor Tom Leret Zach Hawkins** Luke Abrahamson





GOLD

Dvlan Williams

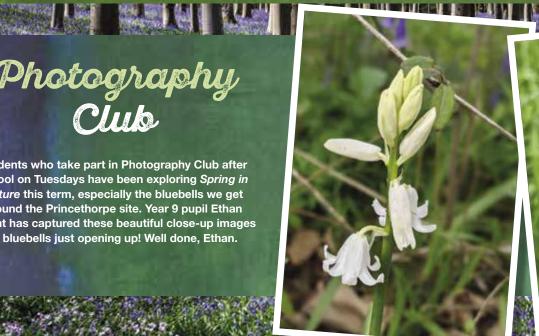


SILVER

Freddie Knott

Photography Club

Students who take part in Photography Club after school on Tuesdays have been exploring Spring in Nature this term, especially the bluebells we get around the Princethorpe site. Year 9 pupil Ethan Wright has captured these beautiful close-up images of bluebells just opening up! Well done, Ethan.







Mr Isaacs was so impressed with the work of his students in Religious Studies that he sent them in for publication in *The Pinnacle*.

Here is the work that Evie Marston in Year 10 and Isaac Frith in Year 7 produced in their end of unit tests.

The Parable of the Sower



Year 7 pupil Isaac Frith wrote this superb and insightful answer under exam conditions.

Explain the meaning of the Parable of the Sower (6 marks)

I think that the Sower represents Jesus or God spreading the seeds which I think are depicted as the Word Of God. The different types of soil and sediments are the different types of people that hear The Word Of God. The seed falling on the path represents the people who listen to God's word and think nothing of it and it is eventually taken away by

Satan (depicted as a the birds in the gospel) I think that the rocky ground represents someone who hears God's message and lets it grow but as soon as they get bullied or hurt emotionally for their beliefs, they give up. The thorny ground represents someone who hears God's message but money, power and other materialistic things get in the way. Last but not least, I think that the



good soil represents someone who hears God's message and lets it take hold in their lives and become part of who they are.

Here is a scene from the highly successful 'The Chosen' series which has Jesus telling the parable but also shows how it was remembered and shared by his

<u>Teaching With The Chosen: Jesus Teaches the Parable of the Sower, Matthew 13, Mark 4, Luke 8 -</u> YouTube

BY EUIE MARSTON, Y10

Judaism Beliefs - End optiopic test

\$0 What do sews mean by The shekmah? (2 morks)

The divine presense of 600- where view think they confeel 600s presense Most shongly. It is believed that this some or felliat the temple before it was dainty d'in 78 AD.

@ Describe Icuism beachings about the Messiant (5 mains) Jews believe that the mession will tend on the moranic age, in the toran,

It states must be will tring all the jews to set whetem and rebuild the temple. in the followed, it doors must be will to bear resurect energone, however, ne form Jews do not believe this but some almoder years do. Also some years becere that the Messiah will be a discendent of king David. The Messiah is the thosen are from God. He will bring world peace, many referrndews however, reject the idea of a nussian and where the vessianic ago will be when there is

world peace with is constell by humans. (1) The Most unportant belief in Judaism is keeping the comment (15 mores) Sense Jaw may agre with the diatement, This is because is is A covenant of a somen agreement made between 2 parties, they are wanty conditional, in the judaism, the 2 main that are with Albraham and Marie.

-> spell it out Many sews may agree with mis because the relationship between God and humans was built on this covenant. In the covenant with abraham, God gave him the promised land and told him his desernaunts would be hings. @ God tells Abraham your decendants will be kings of all nations; and all his decendants are Jeas. As a sign of encursarision, cod gove abraham circumwing a sign that should be made on a boys he a of 5 days to 5 how the covenant between and this shows us the imperiance of the covenant to coo. Also another common the amade was with moses, this was given to him witer he lead the inus out of expt away from storery. A oig not this covenant was the 613 without and the 18 commondments, which may very live by and fellow daily as they believe that by fellowing mede it will a build a relationship with God, therefore, multing this a very important principle

Jueves, el veinte deapru

Mis vacaciones

Hace das semanas, sui de vacaciones a barceiona. en el olote de españa con mis aos hermanos y mispaares viajamos En avión y el viaje auro aas noras y sue muy asum ao y nombre Nos que a amos en un novos de uyo o me encarso: Lo Lospasamos bomba porque nabia mucroque nacer El primer dia sali y visité parkgieu después vi casa de morera jul estupera o ! mas la de por La noche pui a rambia de catalunya y ceré come paeua-isue priparte! Ourante las vacaciones comi comida aui a asa, compré recueras, prové platos tipicos, visité el castino y tursmo pero, la mejor rue cuarao vimos un partido de suitor en el spatifu estadio campnou y conocía un crico guapo. IHasta unego! A lovely range of past tense verbs and plenty of detail. This is excellent retrieval work. Well done!

Mis Vacaciones

Year 9 MFL pupil, Amber Sandhu, has been working hard to go the extra mile in Spanish as she recognises that one of the skills of a strong linguist is the ability to undertake independent learning and she wants to lay down strong foundations before starting the IGCSE course next year.

Earlier in the year, she created a revision resource on the topic of 'Mi móvil', and more recently she wrote a lovely retrieval paragraph on 'Mis vacaciones', which included a range of preterite verbs in the 'I' and 'we' form, as well as plenty of extra detail.

Well done for your hard work, initiative and creativity, Amber!





This piece of outstanding homework was completed by Annabel Leigh during the Year 9 Design Technology Resistant Materials rotation.

HOMEWORK TWO

Fonts and Logos

We have thousands of fonts for a variety of uses. Select a word-from the WORDS TO USE

box and design one font in each box.

3733373977 CheapFire

()ALT DISNEP SNICKERS Frail&Bedazzled

HarryPotter

WORDS TO USE Broken Hollywood Bright Shadow Loud Rarot Hard Electric Traditional Нарру



by Annabel Leigh, Y9

M

Lucas Ross and Drew Ovens Gibbs have shown excellence in mathematical thinking.

In Year 7 our top sets have been working through a series of mathematical investigations. This particular task, called T-Numbers, was previously used nationwide as a coursework task for GCSE students. Lucas was successful in finding the algebraic formula for any T-Number and Drew was able to extend the formula to work for any grid size.

20 21 22 23 24 25 26 27 29 30 31 32 33 34 35 36 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 3 84 85 86 87 88 89 90 357 362 367





