



BEST OF THE BETHS



THE BEST OF

MARCH



BEST OF THE BETHS

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Edited and Designed by Levi 10B

Interview with Ms Takeda

1). Why and how did you get into teaching?

So, when I left university, I went to live in Japan and I taught English as a foreign language there, so I was teaching from quite a young age – that was from about 21. I had no desire to go into teaching; when I was at school. I couldn't wait to leave. I thought you'd have to be a mug to want to be a teacher because you'd be back in school, and I thought, "No way – I'm never gonna do that," but when I lived in Japan, I really enjoyed teaching and then when I came back from Japan, one of my very good friends trained to be a teacher,. They were telling me how good it was, and I literally didn't really know what else to do, to be honest with you. So I thought, "Well I'll give it a try," and the minute I started teacher training, I absolutely loved it. That's why I became a teacher – I never ever expected it, but now that I do it, I don't think I could do anything else.

2). Why is it important that children receive a good education?

I think it's important because obviously we want people to be qualified and have a lot of knowledge about the world, so they can get a good job. I mean, ultimately, I think that is one of the primary goals of education: so that people can leave school, support themselves, and have a job that satisfies them. However, I think fundamentally, school is about *much much* more than that – school is really about learning to socialise and be good human beings. The next generation should be able to interact with people, to work as a team, to collaborate, to help each other: those skills are much more important, so you can leave school, perhaps with little qualifications or academic success, but still be successful in life, so it's more about the experiences and relationships that you have at school and how you use those to your advantage in the real

Interview with Ms Takeda

3). Why is English, in your opinion, a core subject?

So, I guess English is a core subject because it's all about communication. Obviously, English Literature is slightly different because it focuses on different literary texts. But English language definitely needs to be a core subject as it's about how we communicate with each other, how we interact with the world around us, and everything that we do, and with everything that we interact with, we have to read. If you think about when we move through our day, we're reading from the moment we wake up. So, English is really important to enable people to read and understand the world around them. Also, it allows people to be able to communicate with people around them, get what they want done, and most importantly, to express themselves. Part of being human is being able to express yourself and being able to get your ideas across – to a certain extent, you have to use English to do that. Therefore, you'd need to communicate effectively, both through oral and written means. Fundamentally, English has to be a core subject because if there are students leaving school at 16 or 18, without the basics of being able to read and write, then they aren't going to be able to express themselves in the world.

4). What makes for a memorable (English) lesson?

It's difficult to pick out one particular lesson, but the ones that are most memorable for me, are the ones where students just get it. For example, looking at little bits of language and students *really really* understand the value of individual words and phrases, and how powerful they can be. Exploring them, and then students writing about them in an articulate manner – those kinds of lessons, where everything just slots in together, are very satisfying. I think for me, this happens the most with KS3; I enjoy teaching all year groups, but I think I'm probably a little bit more geared towards teaching younger students, Year 7 students in particular. I find Year 7s really exciting to teach because

Interview with Ms Takeda

they're like sponges - they just absorb everything that I tell them, and when I see their written work, and they've written exactly what I've told them to, it gives me great pleasure-

At this point, the interview was interrupted by Ms Stevens:

"Everyone, there's a bake sale in the sixth form centre – KS4 are allowed to go and buy some, they've made lots!" she exclaimed, while happily devouring a cupcake. She then noticed our interview, contorted her face in pure horror, and whispered, "That's very professional," before backing out of the room, hand over mouth.

... yes so, I've taught really difficult things, such as Julius Caesar, to KS3 and they just get it, and really engage with it.

5). How do you motivate yourself (and your students?)

I, personally, like getting things finished, so I motivate myself by: making lots of lists, by asking myself "What do I need to get done today? What do I need to get done this week?" and I try to get to the point where I can cross those things off my list. Unfortunately, being a teacher means that you cross things off, but have to add other things on – the list never ever ends. However, it is satisfying at the end of the day, to think, "I got – 1, 2, 3, 4, 5... different things done today."

With students, I motivate them by showing them how they can improve their organisation, their work ethic, and how they can succeed in the lesson. Rather than have them think about the bigger picture, I like to have them take it one step at a time and only think about that particular lesson, rather than the future exams. I think it's quite effective, because young people live in the here

Interview with Ms Takeda

and now, and find it very stressful to think about the future, which is why I encourage them not to.

6). If you could give one piece of advice to students only, what would it be?

Always try your best. If you're quite able, but you're lazy because you think, "I don't need to try because I'm able," you might succeed, you might even do very well in your GCSEs, but ultimately, when you're an adult, you'll look back and think, "Did I fulfil my potential? Did I waste any of my potential? Did I do everything that I could to be successful?" and I think as long as you know that you're trying your hardest, no one can ask you to do anything more. Teachers and parents can't know if you're trying your hardest, the only person that will know that is yourself. So really, what you're doing is asking yourself whether you're doing as much as you can to succeed. You need to have limits, you need to have boundaries, and some students perhaps push themselves too hard but deep down, if you ask yourself if you've done as much as you can do, and the answer is yes, then that is enough. Anything more than that is too much, anything less is not enough – just work as hard as you can.

By Jayden 10H

Sports Interviews



INTERVIEW WITH ZION ANENE

Q) What are your current passions and hobbies?

Well, currently football, basketball, and volleyball are 3 of my favourite sports but I do just enjoy sports in general and it's my main passion

Q) Why do you enjoy basketball so much?

It's a sport that challenges me and is also a good way to stay healthy. It allows me to meet new people... **"and I'm amazing and extremely talented"**.

Q) Who is your role model and why?

It's tough for me to say just one, but the players Russel Westbrook and Giannis Antetokounmpo are role models to me. Russel Westbrook is like me; a man of small stature in comparison to the NBA players, sharing my fiery passion for the game. I can also relate to Giannis, as he came from humble beginnings showing me that anything is possible.

Q) What are your average weeks for training and with whom?

To run you through my average week, On Mondays, I'll only do some light lunch training with the school basketball team. After school I have lessons with my tutor. On Tuesdays, it's the same plan. But on Wednesdays, I train with my **Under 16's** team (the Greenwich Titans) for 2 hours, where we run various drills and match scenarios. On Thursdays, it gets a bit more intense, as I train with the **Under 18's** team. This brings a lot more intensity and competition to training, but I think its good to better myself as a player, especially with aggressive matches against players bigger than me. On Friday- more tuition. On Sunday, it's time to put my skills to the test, as I do competitive matches with my team against other teams in the national league, and then go to training after. And on Sunday I finish the week with football training.

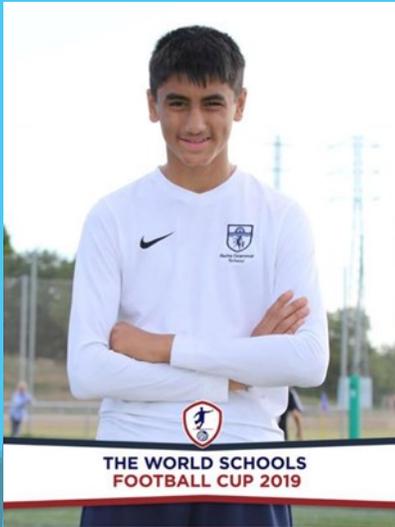
Q) What are your future aspirations?

My main goal is to go professional in basketball, I love the sport and the culture. But I know if it doesn't work out, I always have a Plan B with becoming a banker

Q) What advice would you give to people who want to become better at basketball?

Practice. Work hard. Seek opportunities; they won't come to you.

Sports Interviews



INTERVIEW WITH ARJAN THIND

Q- What are your current passions and hobbies?

I have a great passion for football, basketball, and cricket. Currently, I play football for my club JR Reds Sabres (where I am the captain) and I also play for the school football team. I also really enjoy playing basketball for the school team and hope to maybe play in a team (outside of school) one day.

Q- Why do you enjoy Football so much?

I have been playing football since I was 3 years old and some of my best memories are from the football pitch. What I love most about football is the team camaraderie. It's a sport that I believe, more than any other, demands the best from all players in a team and demands that they do not play as individuals but rather as a team. I also enjoy the routine and discipline you get from playing football, and value its many lessons, such as always being on time, listening to your coaches and learning from your mistakes rather than dwelling on them.

Q- Who are your role models and why?

Kobe Bryant. He demonstrated that, with hard work and dedication to your craft, there is no limit to the amount of success you can achieve.

Q- What are your average weeks for training and with whom?

I have basketball training at school on Monday and Thursday. Then, I have football training on Saturdays and a game every Sunday.

Q- What are your future aspirations?

To get to the highest level I can, playing either football or basketball. Or to excel at, and lead by example, in any job I do.

Q- What advice would you give to people who wants to play football or basketball?

Work hard, listen to your coaches and don't be afraid to take risks.

By David A 10H



Wizard of Oz Reviews

My Review of The Wizard of Oz

On Thursday, 17th March, I went to Beths Grammar School with my mum (one of the teachers) to see The Wizard of Oz. I was very excited because The Wizard of Oz is a play I've never seen before, although I have seen the film.

As soon as I entered the hall, I could see Dorothy's house at the back. I thought that was very creative. I was very lucky because our seats were right by the Yellow Brick Road. However, when the witch came down, I started clinging on to my mum because it was a bit scary!

At the other end of my row, was the orchestra. Before it started, I could hear them warming up. The sound was very melodic.

My favourite character was Dorothy as she was a very good actress and I liked her singing voice. She sounded like the Dorothy in the film!

I also liked the part when the trees turned around and on the back of one of the trees, Tin Man had carved his (and his true love's name) in a heart.

I enjoyed the play very much and I hope to come back to Beths to see another show soon!



By Betty Quinn

Wizard of Oz Reviews

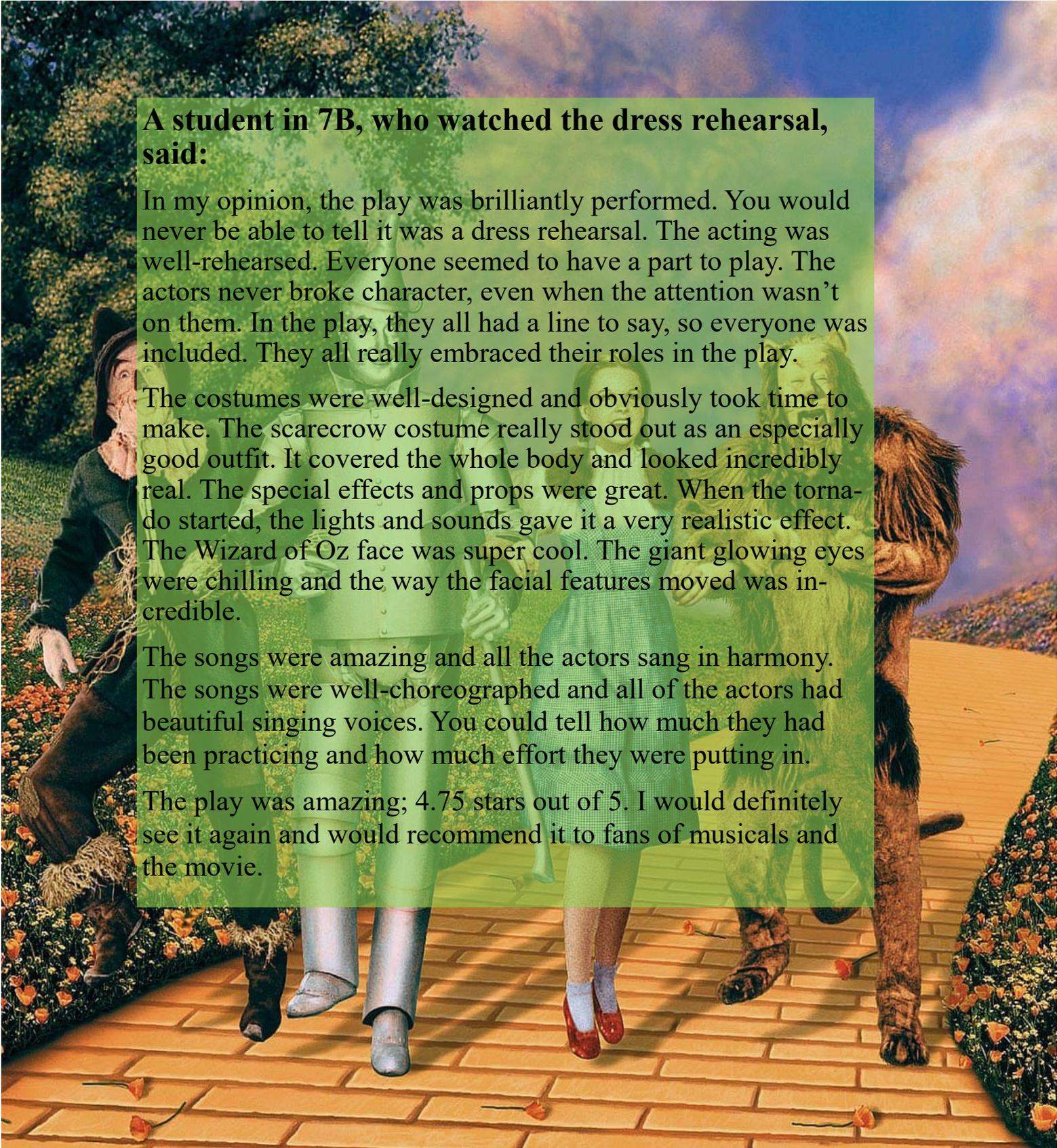
A student in 7B, who watched the dress rehearsal, said:

In my opinion, the play was brilliantly performed. You would never be able to tell it was a dress rehearsal. The acting was well-rehearsed. Everyone seemed to have a part to play. The actors never broke character, even when the attention wasn't on them. In the play, they all had a line to say, so everyone was included. They all really embraced their roles in the play.

The costumes were well-designed and obviously took time to make. The scarecrow costume really stood out as an especially good outfit. It covered the whole body and looked incredibly real. The special effects and props were great. When the tornado started, the lights and sounds gave it a very realistic effect. The Wizard of Oz face was super cool. The giant glowing eyes were chilling and the way the facial features moved was incredible.

The songs were amazing and all the actors sang in harmony. The songs were well-choreographed and all of the actors had beautiful singing voices. You could tell how much they had been practicing and how much effort they were putting in.

The play was amazing; 4.75 stars out of 5. I would definitely see it again and would recommend it to fans of musicals and the movie.



Production Actor Day in the Life

Hello, my name is Gift and I took part in the production of the Wizard of Oz by playing a Winkie, one of the Witch's guards. We were supposed to perform 2 years ago but COVID meant that we had no other choice but to postpone it to March 2022.

At first, I wasn't happy with having to stay at school until 5 because I was so used to being at home by then. But as I got used to it, I gradually looked forward to doing rehearsals because it meant that I had a chance to get better at my role and socialise with the other actors.

At rehearsals, we were told to sing all the songs backstage (if we weren't onstage), to add more volume to each performance. We normally replayed scenes multiple times to make sure that each part of the play was done to perfection.

Many teachers were involved in the production, some including Miss Grady, Miss Marriot, Miss Patterson, Mr Hayman, Ms Smart and Mr Timothy. As well as this, some other members of the art department took part in making the sets for each act.

All in all, I really enjoyed being in the production as it meant that I met many new people and made new friends. It also helped me to build up my confidence as I was asked to say lines in front of a lot of people. As well as this, the memories I made from the production will more than likely last a lifetime.

By Gift 10E

What is Easter?

Easter is one of the most important festivals in the Christian calendar. It celebrates Jesus rising from the dead, three days after he was crucified. The date of Easter Sunday varies each year, and it always occurs on the first Sunday, after the Paschal Full Moon. This year, Easter Sunday is on April 17th.

Holy Week

Palm Sunday is the Sunday before Palm Sunday. It is the first day of Holy Week and celebrates Jesus' arrival in Jerusalem, riding on a donkey. It is called Palm Sunday because crowds of people came out of the city to greet him, throwing down palm branches on the road. To remember this, Anglican and Roman Catholic churches give out small crosses, made from palm leaves.

Other Important Days in Holy Week

Maundy Thursday – This is the Thursday before Easter Day. On this day, Christians remember when Jesus ate the Passover meal, breaking bread and drinking wine. This is The Last Supper.

Good Friday – The Friday before Easter Sunday. It commemorates the execution of Jesus by crucifixion. In some countries, there are special Good Friday processions, or re-enactments of the Crucifixion.

The Meaning of Easter

PRESENTING

THE ACADEMIC FIX

The Academic Fix

Don't Sweat Academics

@theacademicfix



HI, I'M LAURA MEDLEY
FROM YOUTUBE AND
I'M A FREELANCER.



HELLO, I'M ILYA'S
CAMBRIDGE ADVICE.
I STUDY NATURAL
SCIENCES AT
CAMBRIDGE.



HI, I'M LOVE FROM
YOUTUBE. I STUDY
PPE AT OXFORD.



HI, I'M JETA FROM
YOUTUBE. I STUDY
ENGLISH, HISTORY
AND PSYCHOLOGY
AND I'M IN YEAR 12.



HELLO, I'M JADOES
FROM YOUTUBE. I
STUDY DATA SCIENCE
AT EXETER.



HI, I'M TENKYIU ON
TIKTOK. I STUDY
MATHS, FURTHER
MATHS, PHYSICS AND
CHEMISTRY AND I'M
IN YEAR 12.



HI, I'M
GCSE POTENTIAL FROM
TIKTOK. I'M IN YEAR
11.



HELLO, I'M SEAN AND
I STUDY PPE AT
OXFORD.

FOLLOW THE QR CODE AND WATCH
THE INTERVIEWS AIRING IN THE
FIRST WEEK OF MARCH!



The Academic Fix is an initiative, which aims to help other students navigate the challenges they meet, when going through school. Whether you aim to pursue an academic career or not, the truth is that we all have to do our best with the academic opportunities we have now. My channel is all about how to take advantage of this.

If I had to estimate how long this project took me, I would likely say at least 200 hours, from start to finish. Though it was quite tiring, the results are incredibly rewarding. Seeing others watch the videos and benefit from them is the best feeling.

On the YouTube channel, there are 8 interviews with incredible social media study influencers (which you can see on the preceding page). I'll be doing a giveaway of a £50 amazon gift voucher at 200 subscribers and 1000 views, so share the videos and do as much as you can to promote the channel, if you want to be in with a chance of winning the prize. Good luck!

By Levi 10B

Imaginative Writing

Bernard Poh and Matis Matarise, in Year 11, have been working together to develop their imaginative writing skills. Here is an excerpt from the opening of their text:

I looked out at the inky blackness of space from the viewscreen. I was feeling really tired and let out a long sigh, and continued drinking hyper-coffee from my flask. Being on guard duty is the absolute worst.

"Pay attention!" the commander yelled at me. I flinched and moved my gaze back to the wall in front of me, in that military-perfect ready position. I sighed again. The Space Force sounded interesting in the adverts, but where's the fun in standing in that same spot, while the rest are subjugating planet after planet? I sipped my hyper-coffee again.

Eventually the commander left me to go and shout at some other miserable workers. I was finally free! I put down my hyper-coffee and reached for my magazine. It was time to wind down and relax, after a long day of pretending to do work...

Suddenly, I woke up to blaring alarms. I growled in irritation. First, I couldn't even sip my hyper-coffee. Now, I couldn't even get through my rest without something happening. I stomped grumpily to my battle station and read my report.

ALIEN FORCES RETALIATING

I turned on my viewscreen, to see alien weapons being fired towards us. I scanned it; the weapon was a Class-9 nuclear war-head that (on Earth) would've eliminated half of Japan.

How primitive.

I yawned and pressed a button on my console. An array of mechanical arms reached out to the ship and swatted it into

Imaginative Writing

oblivion. Now I was really irritated. Calling me from my nap, just to swat away some pathetic nuclear bomb. They didn't even have any real weapons capable of killing more than a couple million people.

Now that I had already woken up, I could hardly get back to resting. It was the fault of those damned sirens; always rudely interrupting, just after I could finally manage to get in a bit of precious sleep. After tossing and turning a while, I decided I might as well go and refill my flask.

Stumbling out into the cafeteria, I was glad to see another fellow volunteer worker.

"Hiya," I said, "how are you doing?"

I got ignored.

I sighed. It seemed everyone here was still as irritated as I had been, at that unnecessary alarm.

I went to get my Average Workers Food™ meal and sat directly opposite him.

"What a terrible meal today, dontcha think?" I continued.

"Just leave me alone, " he growled impatiently.

I took a moment to look more closely at him...

He seemed even grumpier than usual today, as he silently ate the bland and chewy food. He was a heavily built man and far older than I was. You could see in his eyes a certain tiredness, not just from the long hours that were demanded of us but it was as if he had seen and done everything before.

Minutes passed as we finished off our meals when, out of nowhere, he slammed the table.

Imaginative Writing

"Always just smiling there, you never took anything seriously. You never cared about anyone!"

"Alright now, calm down there," I said, as I slowly backed away.

"Just shut up for once!" he cried, grabbing me with both his arms and looking me right in the eye.

"We were scared for real, you know, when the alarm went off. Everybody on this ship could have died there! But some idiot was sleeping when they came. You were sleeping!"

"Hey, relax, the aliens were nothing, " I interrupted nervously.

"How stupid can you be? We got away this time but you can't even begin to comprehend what horrors are out there in space. All you know is doing nothing all day. Did you know I have a family? I'm not here because I want to. I'm here because this is the only chance I have for a future. Why are you here? What thought have you given for the future? You might as well eject yourself. You only ever think about yourself and I am sick of it!"

If looks could kill...

He stormed off in a fury, with the other workers shooting me dirty looks, before leaving as well.

Soon, I was just standing there in the middle of the cafeteria, alone with my thoughts.

I sat down, somewhat shaken.

"It's all because of you!" he had yelled.

Was it? I pondered.

Surely not.

By Benard P and Matis Year 11

Hi, my name is Noah and I am going to explain my book and the thought processes behind it. I hope you enjoy it.

What inspired me to write this book?

I know that kids are always hungry, so I thought that this would resonate with them. Sandwiches were the most simple combination of food I could think of. However, there is such a wide berth of opportunities for creativity and the limit is whatever you can stick between two pieces of bread. Because of this, I thought it would be the perfect food to star in my book.

How does it feel to be a published author?

I feel humbled to be an author in the first place, as it has been a lot of hard work to get to this stage. I am happy that someone, other than me, can experience one of my creations and to read the product of a lot of hardwork and dedication. I hope that my book can bring a smile to someone's face and do credit to Baby Chummy.

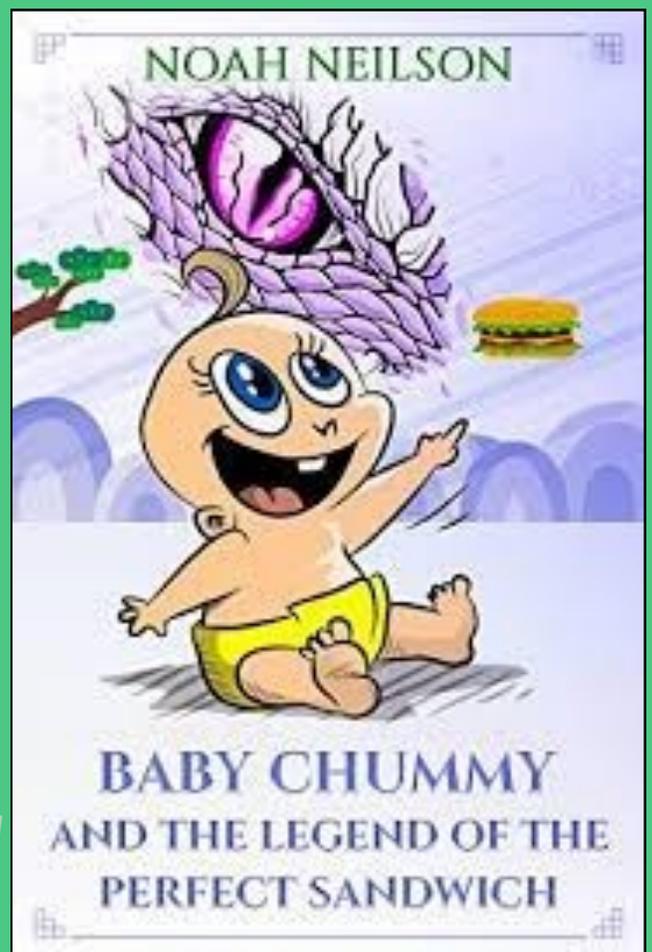
To conclude, I hope you check out my book. If you feel like it, please give me feedback that I believe can only help to develop my work in the future.

Thank you for reading.

Buy the book here:

[Baby Chummy and the legend of the perfect sandwich: Amazon.co.uk: Neilson, Noah: 9798424049323: Books](https://www.amazon.co.uk/dp/B0798424049323)

By Noah 7W



Beths STEM Club

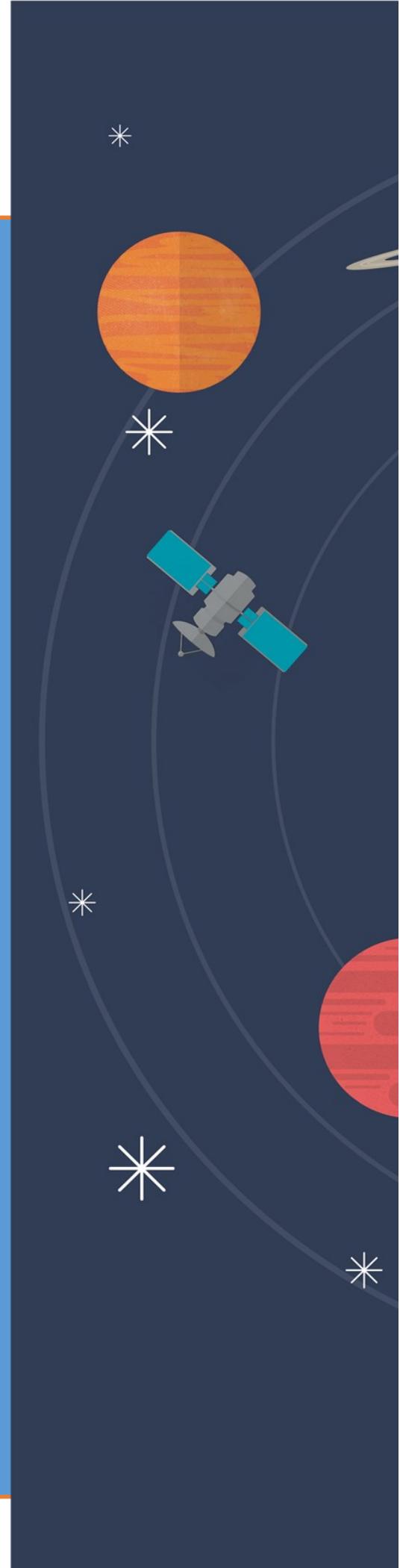
STEM Olympiad clubs at Beths

Participating in one (or more!) of the five Science Olympiads is a great way to expand your knowledge of Maths, Physics, Biology, Chemistry or Informatics (i.e. Computer Science) and give you a chance to solve stimulating and engaging questions. The Beths Olympiad Committee is proud to announce that the following clubs are available for you:

KS4 Physics Club in S1 on Monday lunchtimes *(for the Junior/Intermediate Physics Challenge and Experimental project)*

KS3/KS4 Biology Club in S3 on Mondays after school *(for the British Biology Challenge)*

KS3/4 Mathematics Club in S3 on Tuesdays before school *(for the Junior/Intermediate Maths Challenge,*



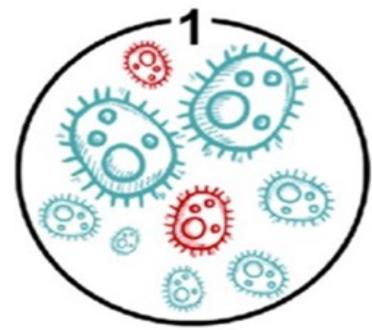
Beths STEM Club

Method of predicting which bacteria are likely to become resistant to antibiotics recently developed

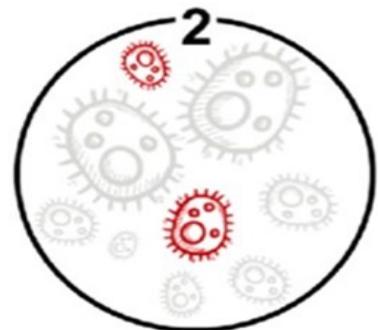
Antibiotic resistance occurs when an entire strain of bacteria evolve to become antibiotic resistant. This often occurs when antibiotic treatment was not carried out for long enough and is one of the most major global health threats.

Scientists at UCL and Great Ormond Street Hospital developed a process to predict the emergence of drug resistance, particularly in tuberculosis, a bacterial lung infection which killed 1 billion people in the last 200 years. They sequenced the genomes of 3,135 tuberculosis samples over a 17-year period and compared these samples to identify key changes in the genetic codes of the bacteria, a kind of tuberculosis family tree.

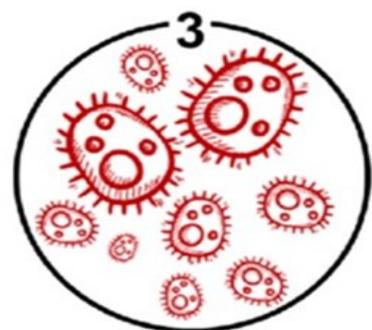
Variations in the tuberculosis genome allowed them to see predicted which particular branch of the family tree would become drug resistant. This new method could help scientists to effectively combat drug resistance, which could be vital for areas in the world where effective drugs may not be available.



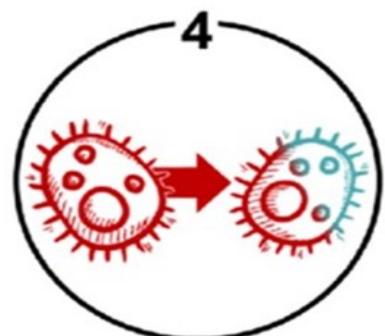
In a bacterial colony some cells express AMR genes



Antibacterial agents kill most bacteria, but some resistant cells might survive



Remaining resistant bacteria proliferate without competitors



Horizontal gene transfer enhances the spreading of drug-resistance encoding genes

Beths STEM Club

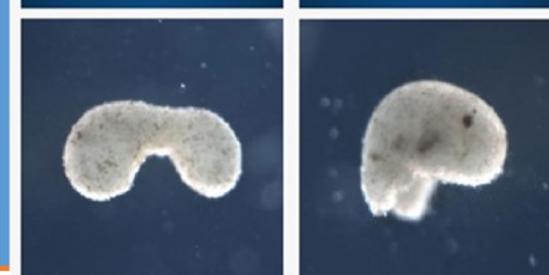
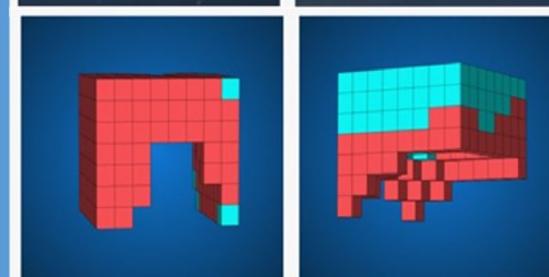
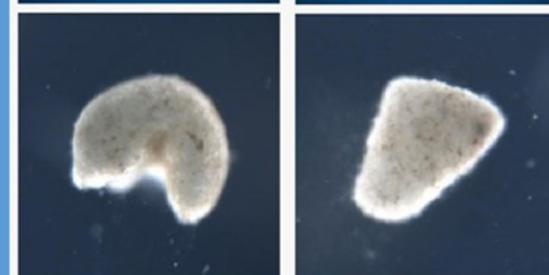
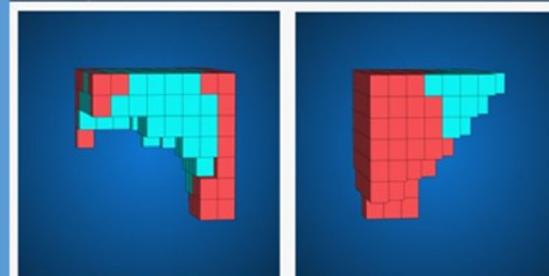
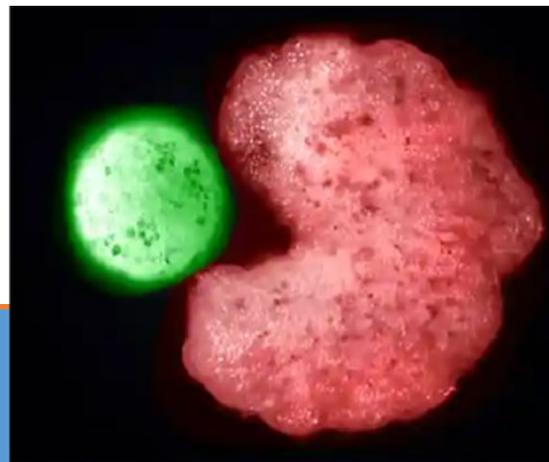
Living robots capable of self replication

Scientists at Harvard University and Tufts University have created living 'robots' that are able to grow and regenerate, to model growth and replication in the natural world. These 'xenobots' were first modelled using computer simulations but were then created from frog stem cells.

Stem cells are undifferentiated cells that can divide by mitosis, to form specialised cells. These frog stem cells were manipulated into just two kinds of tissue: heart muscle and skin, as well as xenobots made just of skin tissue covered with cilia, which are hair-like structures. The resulting xenobots are smaller than a grain of sand.

Kind of like electronic devices, xenobots are charged - they are preloaded with energy like the yolk of a chicken egg. So, they are self-powered and biodegradable. In the future, they may be used to clean up microplastics or other particles from lakes, and xenobots made out of human cells could be used for intelligent drug delivery.

By Dinu 11H

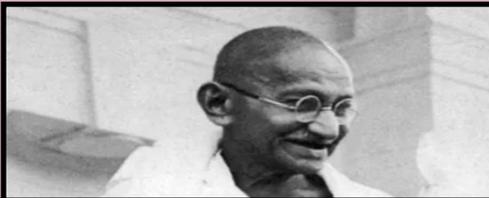


On This Month in History- March

History is an extremely important aspect in our lives, and this page is dedicated to recording and remembering things that happened in, not just our history, but around the world as well.

15 years ago...

On March 11th 2007, the Russian Federation reportedly launched an attack on the Republic of Georgia, downing a plane in the disputed separatist region of Abkhazia. This eventually led up to full-scale war in 2008, often regarded as the first European War of the 21st Century. And now, a decade and a half later, we see history repeating itself.



100 years ago...

The famous activist, Mahatma Gandhi, was arrested by British authorities in 1922 for "sedition" (rebellion against the sedated order). Gandhi was released 2 years later instead of serving the full 6 years, and became a leading figure in the struggle for Indian independence.



Traditions & Holidays

On March 2nd this year, Lent began. Lent is the 40 days (not including Sundays) leading up to Easter. For Christians, it was when Jesus fasted for 40 days and resisted temptation, and more importantly, it is a leading up to their most important holiday, Easter. For non-Christians, it can be interpreted as a time to better yourself reminds them to reflect on their actions and try and improve.



By Olamide 10H

Trip to Globe Theatre

Between Tuesday 8th and Wednesday 9th of March, certain students in Year 10 (including myself) had the opportunity to travel to the Globe Theatre in order to watch “Macbeth”. For those that are unaware, the Globe Theatre was built, (and then rebuilt after a fire), by William Shakespeare’s playing company, Lord Chamberlain’s Men. This made the experience



of seeing Macbeth (a well-known Shakespearean play) even more organic and immersive – like watching your favourite football team’s game at their home stadium. Fortunately, we got to stand at the very front, adjacent to the stage; this allowed for the play to become even more interactive than we could have possibly anticipated. At many times, we as audience members, had to move out of the way for the actors, which made the play engaging and thrilling – we were constantly kept on our toes by the cast members!

After attending this trip, I would strongly encourage anyone interested in performing arts to go to the globe and watch a Shakespeare play. The Macbeth actors were convincing, compelling, and

demonstrated extreme flexibility, as many actors had multiple roles to focus on rather than a singular role. Even if drama isn’t a particularly appealing subject in your eyes, I’d still encourage you to go as it allows you to obtain a better grasp on the plot of MacBeth, a text you are bound to study at some point in your school career.

By Jayden 10H

Trip to Globe Theatre

On Monday 7th February, a relatively large group of us went to the Globe Theatre to see the play 'Macbeth' by William Shakespeare. Having been to the Globe twice before, I was sure I was ready for what was about to come, but then again, I had only known I was going on the day of the trip! The coach ride there was very relaxing, yet all of us were so excited for what was about to come. The journey was about an hour, but it felt like 3 since we were so restless and wanted to get there quickly. Getting to the venue at around about 1pm, we were told that we should eat before going into the Globe. That gave me an opportunity to admire the design of the external building once more, and I was mesmerised. Having a chance to be directly in front of a building that is such an important part of London's history was a pleasure. While we ate, our eagerness turned into impatience as we watched people from different schools go inside, waiting for our turn. After some time waiting outside, we were finally called to go into the building, and we almost rushed at the entrance. The view inside had my heart racing as I looked up and saw all the seats being filled up gradually by the minute. After some moving around, we got to our spot thanks to the staff at the globe, who were very well-mannered and polite. Minutes before the play was about to start, I could feel the atmosphere of the crowd getting livelier and more energetic, but we tried to contain our excitement so the play could go on. When the play finished, there was a standing ovation, which was fully deserved with how well the actors did. I liked the play mostly because of the way the actors allowed us as the audience to interact with the play and include us in the scenes meanwhile staying in character. Even with a limited cast, the actors fully got the plot across with little trouble. As we were leaving the globe and walking back to the coach, I was still trying to process the experience and I couldn't explain how surreal it all was. I wish I could talk about what happened on the coach journey back, but I was fast asleep, and I know I wasn't the only one. Finally, I just wanted to say a big thank you to Ms Quinn, Ms Brobbey, Ms Amin and Ms Cooper for making it all happen.

By Munachi 10E

The SCIENCE of Superheroes

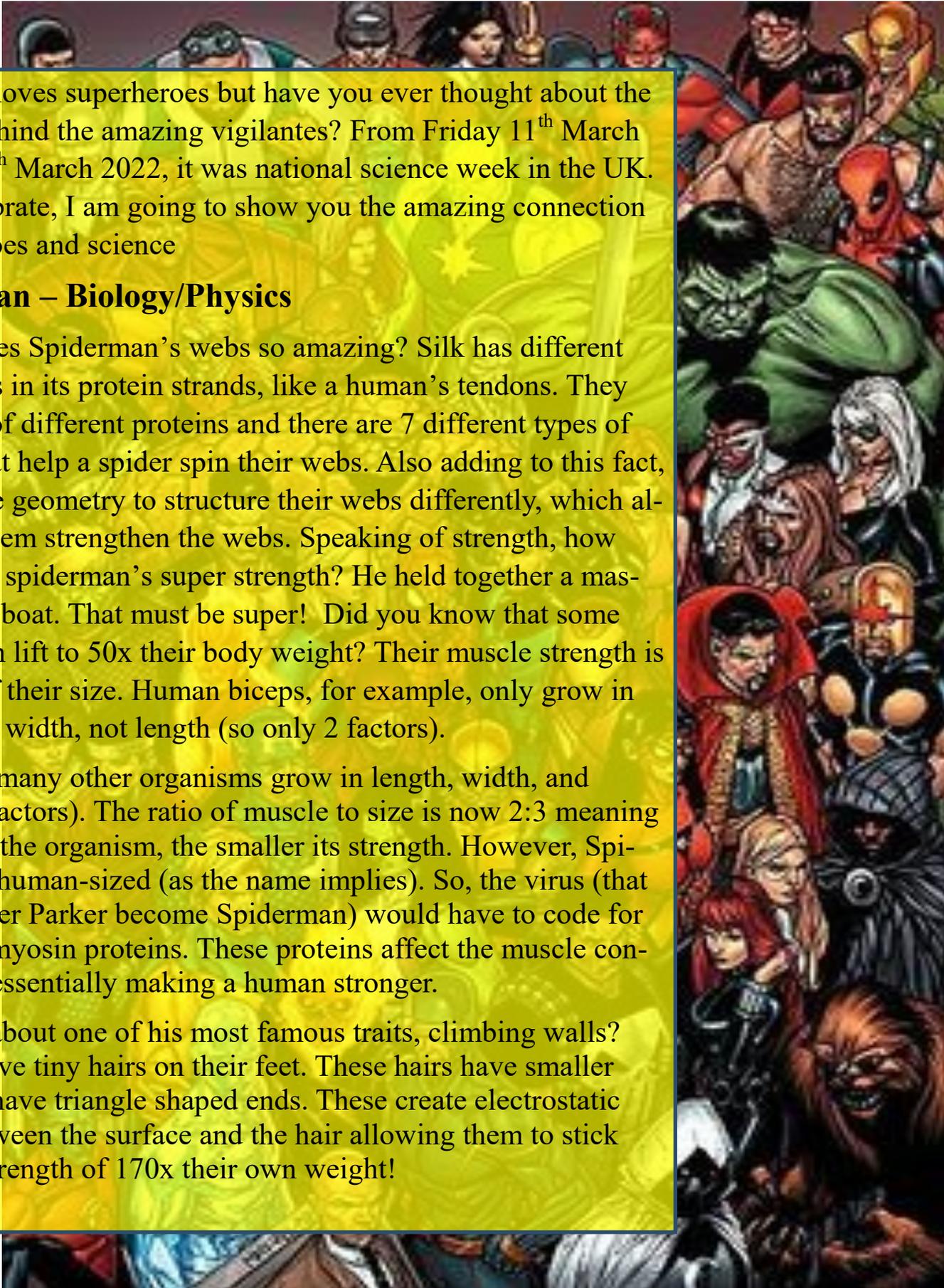
Everyone loves superheroes but have you ever thought about the science behind the amazing vigilantes? From Friday 11th March 2022 – 20th March 2022, it was national science week in the UK. So to celebrate, I am going to show you the amazing connection to our heroes and science

Spiderman – Biology/Physics

What makes Spiderman's webs so amazing? Silk has different alignments in its protein strands, like a human's tendons. They are made of different proteins and there are 7 different types of glands, that help a spider spin their webs. Also adding to this fact, spiders use geometry to structure their webs differently, which also helps them strengthen the webs. Speaking of strength, how possible is spiderman's super strength? He held together a massive cargo boat. That must be super! Did you know that some spiders can lift to 50x their body weight? Their muscle strength is because of their size. Human biceps, for example, only grow in height and width, not length (so only 2 factors).

However, many other organisms grow in length, width, and height (3 factors). The ratio of muscle to size is now 2:3 meaning the bigger the organism, the smaller its strength. However, Spiderman is human-sized (as the name implies). So, the virus (that helped Peter Parker become Spiderman) would have to code for actin and myosin proteins. These proteins affect the muscle contractions, essentially making a human stronger.

Ok, what about one of his most famous traits, climbing walls? Spiders have tiny hairs on their feet. These hairs have smaller hairs that have triangle shaped ends. These create electrostatic forces between the surface and the hair allowing them to stick with the strength of 170x their own weight!



The SCIENCE of Superheroes

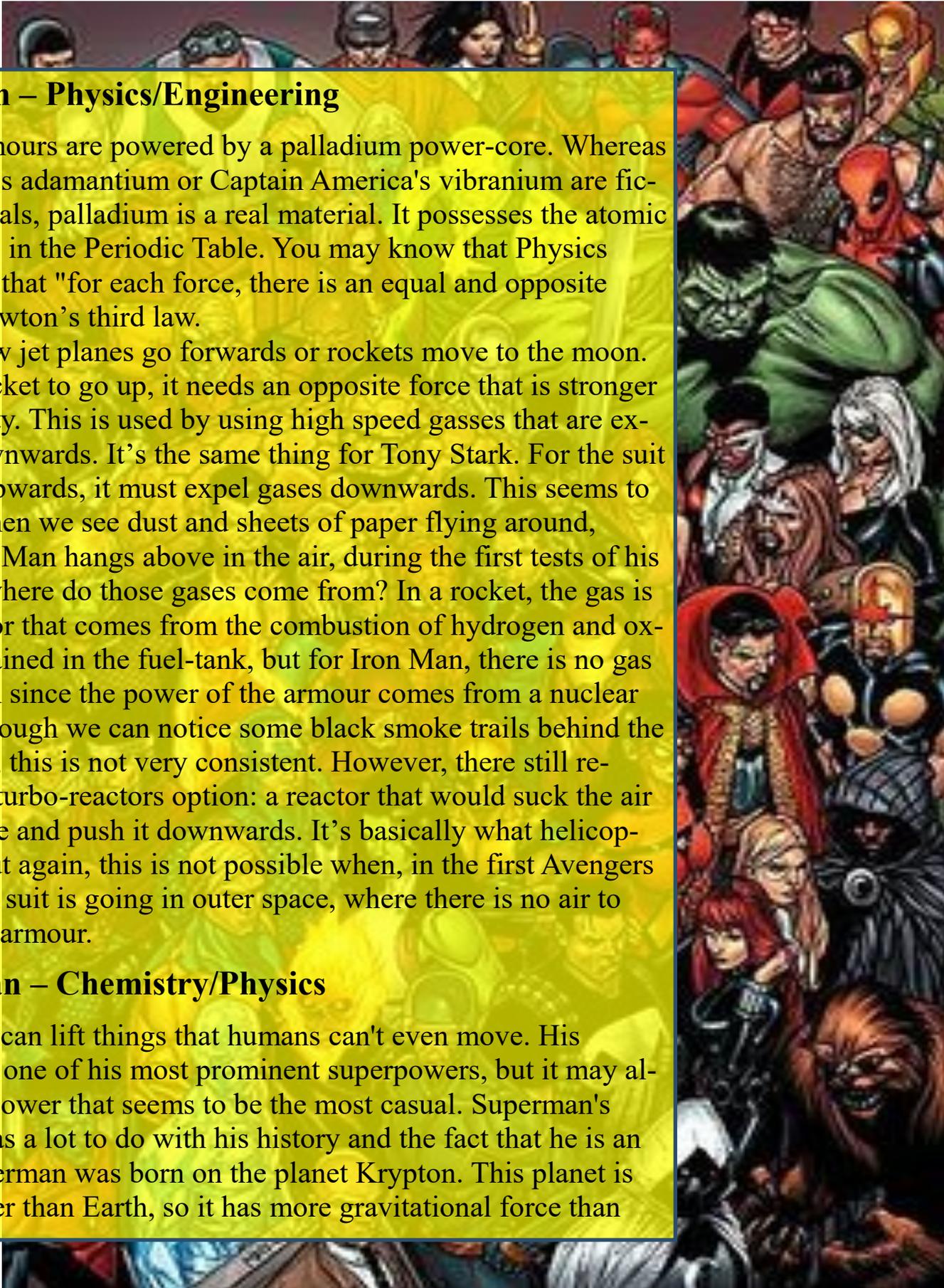
Iron Man – Physics/Engineering

Stark's armours are powered by a palladium power-core. Whereas Wolverine's adamantium or Captain America's vibranium are fictitious metals, palladium is a real material. It possesses the atomic number 46 in the Periodic Table. You may know that Physics teaches us that "for each force, there is an equal and opposite force"- Newton's third law.

This is how jet planes go forwards or rockets move to the moon. For the rocket to go up, it needs an opposite force that is stronger than gravity. This is used by using high speed gasses that are expelled downwards. It's the same thing for Tony Stark. For the suit to move upwards, it must expel gases downwards. This seems to happen when we see dust and sheets of paper flying around, when Iron Man hangs above in the air, during the first tests of his suit. But where do those gases come from? In a rocket, the gas is water vapor that comes from the combustion of hydrogen and oxygen contained in the fuel-tank, but for Iron Man, there is no gas production since the power of the armour comes from a nuclear device. Though we can notice some black smoke trails behind the flying suit, this is not very consistent. However, there still remains the turbo-reactors option: a reactor that would suck the air from above and push it downwards. It's basically what helicopters do. But again, this is not possible when, in the first Avengers movie, the suit is going in outer space, where there is no air to propel the armour.

Superman – Chemistry/Physics

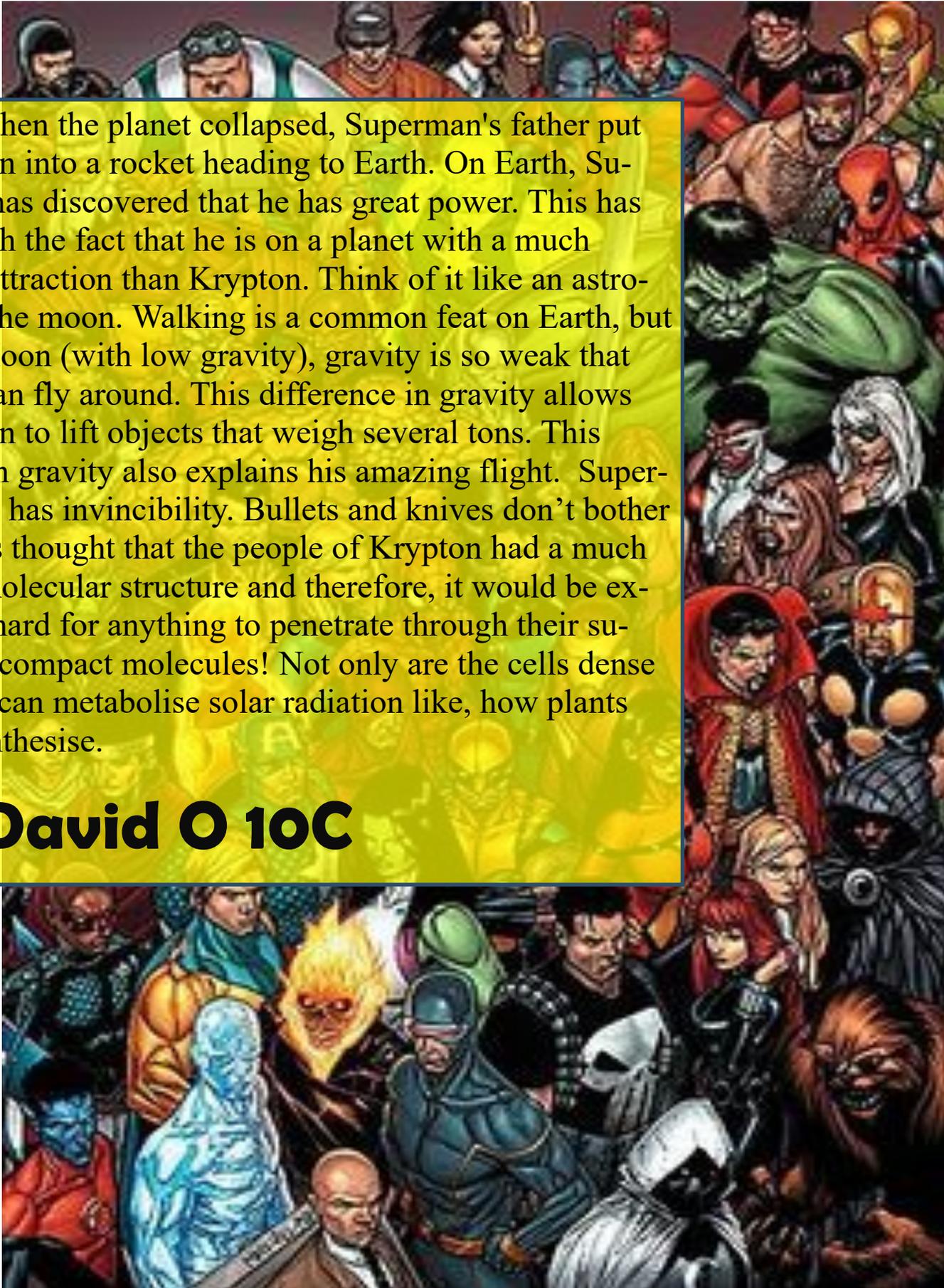
Superman can lift things that humans can't even move. His strength is one of his most prominent superpowers, but it may also be the power that seems to be the most casual. Superman's strength has a lot to do with his history and the fact that he is an alien. Superman was born on the planet Krypton. This planet is much larger than Earth, so it has more gravitational force than



The SCIENCE of Superheroes

Earth. When the planet collapsed, Superman's father put Superman into a rocket heading to Earth. On Earth, Superman has discovered that he has great power. This has to do with the fact that he is on a planet with a much weaker attraction than Krypton. Think of it like an astronaut on the moon. Walking is a common feat on Earth, but on the Moon (with low gravity), gravity is so weak that people can fly around. This difference in gravity allows Superman to lift objects that weigh several tons. This change in gravity also explains his amazing flight. Superman also has invincibility. Bullets and knives don't bother him! It is thought that the people of Krypton had a much denser molecular structure and therefore, it would be extremely hard for anything to penetrate through their supremely compact molecules! Not only are the cells dense but they can metabolise solar radiation like, how plants photosynthesise.

By David O 10C





Russia-Ukraine War

It is evident Putin has launched a full-scale invasion, directing its force to the capital Kyiv, forcing citizens to take shelter in underground shelters and metro stations across Ukraine. Putin now wants to redraw Europe's map by physical force. Although the two countries have shared a history, Ukraine has its own language, culture and political system, and Ukraine has fought hard for its independence. In the 1900s, the imperialist countries signed the North Atlantic treaty organisation, or NATO, and with countries like Russia and Poland signing the Warsaw pact, each side built its military to protect itself from the other. Later, the soviet sphere of influence began to weaken, due to a chain of independent actions carried out by countries like Ukraine, Hungary, and Czechoslovakia, overthrowing their communist government. Soon after leading into the 21st century, old countries under the Soviet rule joined NATO, like Poland, and NATO expanded into Soviet's old territory. In 2013, it was set that Ukraine were going to join NATO, but Ukraine's pro-Russian government refused, instead choosing to strengthen ties with Russia. This sparked a protest within Ukraine, demanding the NATO agreement to be signed. After months of peaceful protests, the president stamped on this, killing more than 100 people. This caused further civil conflict, driving the president out of office. This caused Russia to lose some of its political influence over Ukraine. As a result, Putin decided to use force, he invaded and annexed the Crimean Peninsula. Then Russia backed separatists, who captured a south-eastern part of Ukraine, declaring them independent of Ukraine. Ever since, Ukraine has been locked in a situation that has killed more than 14,000 people and displaced more than 2,000,000 people. For 8 years Putin has held on to these regions from diverting to



Russia-Ukraine War

the west. In November 2021, satellite images showed Putin was building up nearly 100,000 troops on the Ukrainian border. Although denying an invasion, weeks later, he sent out a demand to NATO, that they stop expanding and move back to their original borders in 1970. However, when this request was denied, NATO knew a Russian retaliation process could occur, so they reinforced their military on standby. On February 24th, Putin launched a full-scale invasion in Ukraine. This caused world leaders to speak out against it, calling it a “barbaric attack” with “cynical arguments to justify it” and that the “country will bear the consequences”. Anti-war protests have broken out across the globe, even in Russia despite risk of arrest, with neighbouring nations opening their borders and letting in hundreds of thousands of Ukrainians, as they attempt to flee the apocalypse. The world treads carefully however, due to the “immediate response” that will be met by Russia, who own the largest arsenal of nuclear weapons. This threat can cause another world war on a scale that hasn’t yet been met in history. Therefore, the passive aggressive actions, taken by countries around the world have been carried out, by imposing some of the “harshest economic sanctions” to slow Putin down, alongside with sending as much military aid to support Ukraine. For now, Russia keeps wading further into Ukraine, but Ukraine are retaliating to an extent, with the best capacity they can.

Alongside, the horrifying death and destruction this war is causing, one unique aspect that this war is impacting is farming in Ukraine and Russia. This is said to be a “crucial” aspect, considering how much food comes from Russia and Ukraine, totalling to having nearly 155 million hectares of agricultural land, accounting for 12% of all exported calories. To give perspective of how much this will impact food sources globally, together they account for: 31%- Barley, 26% Wheat, 10% Corn, 24% Rapeseed and 32% Sunflower.



Russia-Ukraine War

The agricultural land and development have been hindered and destroyed by bombing and farmers fleeing or joining the army, meaning exporting crops has become exponentially difficult. Estimates suggest that this year's harvest will be down by about 30%. If the fighting carries on and grows, Ukraine may not be able to plant new crops in the spring, which will result in an even smaller harvest for next year. The reluctance from banks to give money to Russian companies has also diminished their agricultural growth, limiting their export capacity. Additionally, the ability to buy equipment like tractors and fertilisers has also decreased, not only due to the sanctions, but also due to the fact the Rubel is currently a weak currency, making imports significantly more expensive.

A lower harvest in Russia and Ukraine will directly affect countries in north-west Africa and central Asia, of which some countries rely on up to 50% of their imported calories. For example, Egypt imports up to 80% of its wheat from Russia and Ukraine. Statistics show that since Russia's invasion, wheat futures have jumped 50%, corn is up by 15% and rapeseed by 70%.

Unfortunately, this won't just affect Russian and Ukrainian crop prices, but also mean higher animal feed prices, and as a result, higher meat prices. Not only this, but sanctions have been placed in Belarus and Russia on potash, and since an additional component of ammonia containing a natural gas is required to make fertiliser, this will increase the price of fertiliser. Already, natural gases are quite expensive, and according to reports, fertiliser's price is around £1000 per tonne, this will affect food prices everywhere. Brazil is a main exporter of food, being the largest exporter of coffee, soybeans, pork, chicken, and beef in the world. However, it



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imports most of its fertiliser, and relies on Belarus and Russia for nearly 50% of its potash. These sanctions restrict the imports of potash to Brazil, and will increase the price of these foods on a grand scale.

Furthermore, what adds to this is that food prices were already considerably high. Food prices are about 8% higher than prices than 2021, and 31% higher than those in 2020. These figures are worrying, and will immensely affect people living in less developed countries. In the average developed country, a person spends 5% of their income on food, but now is estimated to double to 10%. In sub-Saharan areas, people who spend around 20% on food will experience an increase, expecting to now spend 34% of their income on food.

This will most likely result in food protectionism. This is limiting the exports of a country to conserve its stock for domestic use, in order to try and prevent a food shortage on a national scale. Globally, this will push prices even higher, causing significant political ramifications. This humanitarian crisis will cause social and political unrest in the developing world, which will be very difficult to resolve.

By Erim 10C

YoungMind Charity

Fundraiser Event

Over the course of 6 months, the wellbeing champions in 10E organised a charity fundraiser event for the Young Minds charity, raising over £700 in total. This event involved students filling a recyclable plastic water bottle with coins in return for commendations. This event was exclusive to those in KS3, with a competition running between the separate year groups to see who could raise the most. In year 7, Abbey won by a small margin. In year 8, Wickham won and in year 9, Wickham also won. The event raised over £600 as well as an extra £100 from Ms Takeda's Christmas card sale.

The bottle charity fundraiser was organised by George Reynolds, a student in 10E, who is a new member of the wellbeing champions.

George was motivated to start a fundraiser event, as he wanted to raise awareness, not only about the wellbeing champions and the services they supply, but more importantly, about the whole topic of mental health. George states "I feel that the term "mental health" is overlooked and not many understand the true meaning and effect it can have on yourself and those around you". George also says that it is his duty to raise awareness and goes on to say "students can expect to see more events hosted by the wellbeing champions in the coming weeks".



By Fundraiser Organisers

Farewell from Mr O'Regan



As teachers we say, 'children are our best teachers'. Well it's no fallacy to say that for school leaders, 'schools are our best teachers'. Since joining the school under Dr. Maxim in 2016, I have learned a vast amount. The Beths community is remarkable in a wide number of ways. I have learned from many excellent colleagues in the school, who are dedicated to inspiring and bringing out the best in the young people here. I have also learned what is possible in the very best of state schools. Personally (and politically), being dedicated to free education for all, it has been an honour to serve what must be one of the most aspirational parental communities in South

East London. The potential of the talented young people here is boundless, and I hope I have inspired a few of them to reach for the leadership roles in the future, which they are eminently capable of. The current junior prefect leadership scheme is yielding brilliant results and is one such example of this. I hope also, that I have shown the students here about the importance of self-discipline, politeness, positive determination and compassion for their peers. The students across the school have been showing year-on-year improvements in attitudes to learning, over the last five years and the school is in a strong position to improve further, as it emerges from the trauma of Covid. I have also been lucky to work with a wide range of amazing parents: ranging from those who generously give up their time to fundraise; those who support the governance of the school; and those who work in partnership with the school, to help their children navigate the challenges of teenage individualisation. All-in-all, my time here at Beths has been inspirational for me and I hope to take some of the excellence, community and nurturing spirit to my new school, as I head out of London.



BEST OF THE BETHS

Thank you for reading this edition of the newsletter!

For our second official edition, we've been able to double the length, which is absolutely amazing. Thank you to all those who got involved in the production of this publication.

Please let us know what you liked about this article and what you would want to see more of, so that we can improve it for next month.

msstevens@beths.bexley.sch.uk

Also, please do your best to let people know about this newsletter, so we can establish a solid reader base and keep this going!

-Regards from the Newsletter team