



THE WRITE ANGLE



A Letter From The Editors:

Welcome!

Welcome one and all! If you are new, you may not be aware of The Write Angle's existence - a burden you shall not bear for much longer.

Founded in 2020, 'The Write Angle' is Exeter Mathematics school's official student newspaper. This is an accumulation of works from our students, run by a collection of student editors and technicians, running through the Winter and Spring terms and posted on a biweekly basis. Here you can find articles, opinions and insights into life at EMS. We encourage all students to participate, whether by submitting articles or becoming a part-time editor.

Now you may be thinking - "Why on earth would I want to waste my time on English in a maths school?" And, unfortunately, you will not be alone in thinking this. However, here is a list of reasons why joining the newspaper may be a good idea for you:

- **UCAS** - Is your UCAS personal statement kind of bleurgh? Are you struggling to find things to fill the space to prove to universities that you truly are a capable and enthusiastic student? If your answer is yes, then you won't be alone. The COVID-19 pandemic over the last two years has meant that many supra-curricular activities or events were unable to go ahead. Do not fear - there is still time to spice up your applications! Sign up to become a regular columnist for the student newspaper and tadaa! You will now have multiple skills and achievements to add to your university applications as well as your CV.
- **Freedom** - Being a student run and student lead resource, the Write Angle allows each contributor to customise it to fit their own creative outlet by separating each issue into personalised sections. If you become a regular member, you will be able to request your own section. This could be a good news section, a history section, a fashion section - whatever your heart most desires!
- **You may actually enjoy writing** - Yes, you are not alone. Many of us enjoy the various outlets of English to varying degrees. Whether it is your love for song writing, poetry, Wattpad, or classical novels - we will help you to find a role within our little newspaper community.
- **Non-competitive** - This is a no judgement zone. Hate punctuation, or paragraphing, or just spelling in general? That is fine! There are plenty of people who take joy in such activities who

can either support you in your writing process or work collaboratively in whatever project you chose to embark on.

- **Free biscuits?** - okay so, you may have just completely skimmed over the last 5 points in our list. So here's our final selling point: Kerry is supplying biscuits. Yup, that is all.

If you are interested in getting involved, come find us in Descartes next Wednesday (22/09/21) from 1-2pm. We will be happy to answer whatever questions you may have, supply you with answers and of course with biscuits too.

Competition **Winners**

Thank you to everyone who submitted entries for our LGBTQ+ History Month competition! We were greatly surprised by the number of entries that we received. If anyone is interested in how the winner was chosen, we assigned numbers to each of the entries and used a random number generator (linked below) to avoid bias in our choosing. Better luck next time if your entry didn't get picked! As per the wishes of the entree, this submission will remain anonymous.



Alan Turing

Alan Turing was a war hero who was greatly important in the development of theoretical computer science, providing a formalisation of the concepts of algorithm and computation through the invention of the Turing machine. After the war ended, Turing continued to work on computing innovation. In 1950 he proposed the "Turing test" to determine whether a computer was artificially intelligent, this is used in the testing of AI to this day. He died in 1954.

-Anonymous

Land Of Maths

A brief history of pi:

Pi has been a topic of great interest in humans for thousands of years. Various approximations of the number have been used spanning back into the era of Antiquity - these values included $22/7$, $25/8$, $(16/9)^2$, $339/108$, $142/45$, $335/113$ or even the square root of 10. It wasn't until centuries later that the true nature of pi was revealed.

In 1761, Johann Heinrich Lambert proved that pi could not be written as the quotient of two

whole numbers and therefore was irrational. Ferdinand von Lindemann expanded our understanding in 1882, when he proved that pi was transcendental, confirming Euler's conjecture that pi could not be written as the solution to a polynomial equation. Today with modern computers and iterative methods for calculating pi, we know the number to 31 trillion digits of accuracy but only about forty or so are necessary to be able to perform all calculations in our observable universe with negligible error.

Pi Pie Recipe



Ingredients:

For the crust:

- 375g flour
- 3 tbsp of sugar
- 1 tsp salt (trust me on this)
- 225g cold vegan butter
- Approximately 4tbsp cold water

For the filling:

- 1kg (approximately 75 tablespoons) of chopped apples, peeled and cored
- 100g sugar
- 2 tbsp NON-LUMPY cornstarch
- 2 tsp of cinnamon (or you can be a rebel and add 10)

- The juice of $\frac{1}{2}$ a lemon (when life gives you lemons...)

Instructions:

- Preheat your oven to 180°C - or in the case of accommodation ovens, please preheat to 200°C .
- In a large (but not too large) bowl, combine the flour, sugar and salt. By the end of this process all named ingredients should have remained in said bowl.
- Add butter chunks and combine with a wooden spoon. Hands may be used to substitute a wooden spoon at this stage, but this substitution comes with the warning that The Write Angle may not be held accountable for whatever future global catastrophes may occur because of this.
- Add the cold water to your possibly bread crumb-y looking concoction so as to transform it into our desired dough.
- Allow the dough to chill out in a fridge with it's music of choice while you continue with the next stage of your adventure.

- Take a new, relatively large bowl and sift in the sugar, NON-LUMPY cornstarch and cinnamon.
- Then, a separate task, cover the chopped apples with the juice of $\frac{1}{2}$ a lemon.
- Toss the lemony apples in the NON-LUMPY powder mixture until they are well coated. These can now be set aside.
- Swap the music over to your favourite spotify playlist and transport your (hopefully zenned-out) dough out of social isolation.
- Proceed to bash your newly formed dough friend with a rolling-pin on a floured surface until they have reached a uniform thickness that could be approximated to the thickness of a pound coin.
- Divide the dough in half, and form one half into a shape that could be construed as a circle, then attempt to carefully transport it into a greased pie tin.
- Gently press against the bottom and sides of the dough in a vain attempt at convincing yourself that you know what you are doing.
- Poke varying degrees of holes into the bottom of the pie crust with a fork (don't over-do it), then fill with your apple-related mixture.
- Fashion your remaining dough into a desired mathematical symbol so that you may regain a sense of superiority with the universe, then place it on top.
- Bake the pie for 50-60 minutes until golden brown. If it begins to surpass golden brown in this time, you may cover it with foil.
- Let the pie cool after baking, and then attempt to decorate it to hide any 'whoopsie' moments.
- Enjoy?

-Jabez Kent

Land Of Science

Looking Back: February

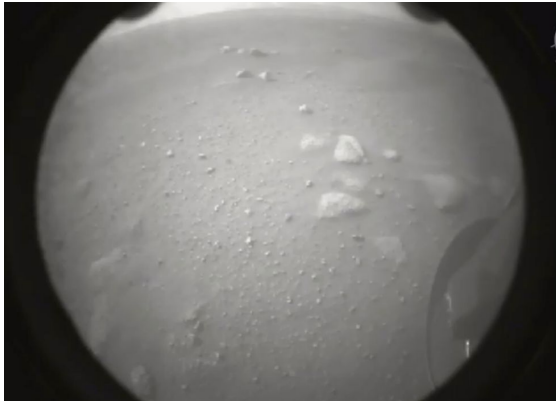
- A New Rover in Town - NASA's Perseverance Rover Successfully Lands on the Surface of Mars

Confirmation that NASA's Perseverance Rover successfully landed on Mars was received on 18 February 2021 at 20:55 UTC.

After its launch on 20 July 2020, nearly seven months travelling through space and a steady cruise into the Martian atmosphere at 19,000 km/h, NASA's Perseverance rover has successfully landed near its target destination of the Jezero Crater. Confirmation of this achievement followed what NASA calls "the seven minutes of terror" - the seven minutes where the radio signals travel from the Red Planet to the Jet Propulsion Laboratory (JPL) in Los Angeles, California.



Caption: Amongst the received signals included images of the Martian surface. The shadow produced comes from the rover.

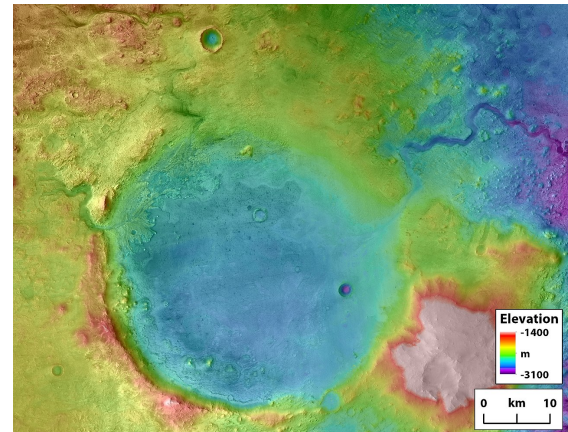


Caption: Image taken from behind the rover.

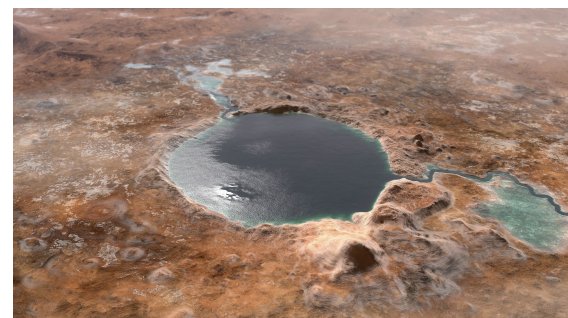
Celebrations followed the “seven minutes of terror” between masked mission managers separated by Perspex screens at the JPL. Also in the audience and commenting via Twitter was President Biden. “Congratulations to NASA and everyone whose hard work made Perseverance’s historic landing possible. Today proved once again that with the power of science and American ingenuity, nothing is beyond the realm of possibility.” said the newly elected President.

Following the initial excitement of the landing, post-landing analysis revealed the rover and the Jezero Crater to be 2 km apart with the rover having a tilt of only 1.2 degrees.

NASA’s particular interest in the Jezero Crater dates back to March 2015 when a group of researchers at Brown University published a paper claiming that on two separate occasions, channels which fed into the crater led to the formation of lakes. The researchers further suggested that these channels also deposited sediment in the base of the crater, which accounts for the unusually small depth for a crater of that diameter. It is believed that in these clays and carbonates, signs of ancient life on Mars can be found.



Caption: Elevation map of Jezero - ancient river (on the left) fed the crater; overflow flooding carved the outlet canyon (right)



Caption: Artist’s concept of Jezero filled with a lake.

If Perseverance is to find such materials, the mission will continue on. Perseverance, through on-board technology, will package the samples into tubes to be preserved and then it will be required that NASA and the European Space Agency (ESA) go and fetch the samples for analysis here on Earth. Any samples tested on the Martian surface by the rover will lack the accuracy of Earth-bound equipment and the results will inevitably be disputed.

Independent of these potential results, Ingenuity, a robotic rotorcraft aboard Perseverance is set to be groundbreaking in its own right. The aim of Ingenuity is, through short flights (up to 90 seconds), scout out points of interest on Mars and assist the driving of Perseverance. During its 30 test-campaign, Ingenuity will fly 5 times with the first flight marking the first rotor-powered flight on any planet beyond Earth.



Caption: Ingenuity, the robotic rotorcraft aboard Perseverance.

NASA's budget is only a minute part of the fiscal budget of the United States yet exploring the Red Planet is costly. Research by the Planetary Society estimates Perseverance to cost \$2.7 billion dollars over its project life-cycle. Breaking down the costs, that is \$2.2 billion in design and construction, \$243 million for launch services, and \$300 million. When inflation is adjusted to account for the project life-cycle, the cost is expected to be nearly \$2.9 billion, making it the 7th most

expensive spacecraft of NASA's planetary exploration program.

Perseverance is not the only current attempt to explore the Red Planet. The Tianwen-1 probe is on its way to Mars as a contribution made to the July 2020 Mars launch window by the China National Space Administration (CNSA). The probe consists of an orbiter, deployable camera, lander and rover, resulting in a total mass of nearly five tons, making it one of the heaviest probes ever sent to Mars. The next rover aiming to reach the Martian surface is the Rosalind Franklin rover. Rosalind Franklin, developed by the European Space Agency (ESA) and the Russian Roscosmos State Corporation, has similar objectives to Perseverance, in that it hopes to find signs of ancient life on Mars. Rosalind Franklin was supposed to launch during the July 2020 window, yet due to incomplete testing, is delayed until 2022.

By Jack Thomas

On the state of Table Tennis in EMS

Weird. That is all I can really say about this topic. Well actually i can say a lot. With the absence of accessible coaching, many people do not know how to execute possibly the most basic of shots, The forehand. How can one possibly expect to win if they don't have a decent finishing shot? Most resort to using some form of flat smash, which is great, if they knew the right technique for it (which the majority sadly do not).

Here's a tip- Just hitting the ball down on your opponent's side of the table will not work if:

- a) You do not take into account the spin of the ball
- b) You just hit 'any old ball', regardless of the positioning
- c) Your opponent is expecting it.

Please, for the love of all that is holy think: "Am i hitting the most optimal shot to get the point?" -before hitting the ball. Needless to

say, it is very painful when I am watching a game and all anyone does is block and fail to hit a smash.

An extra tip: Please watch literally any video on how to hit a forehand shot. Any will do-optimally from a professionally trained coach. An extra-extra tip: if your bat looks like it came out of the washing machine after being a dog's chew-toy, get a new rubber. Honestly, It makes a world and $\pi^{2/6}$ th of a difference in terms of the quality of your spin, and ability to actually train proper technique. I can even glue it on for you (even though I am no longer a student), for the handsome sum of a total of absolutely undeniably free. Just ask, and provide the Rubber. I personally use Galaxy Mars II on the forehand side (as it is what I can afford), but any aftermarket rubber is a good alternative to the lowest of the low rubber that is found on the Carlton/ Sports direct £2.99 bat (amendment: As of 12/09/21, I use either 'Yinhe Big dipper' or the 'DHS hurricane 3' on my forehand. This

is an article from 02/12/20 and thus some things have changed).
GLHF!

-‘Aimee’ - The undefeated EMS Table Tennis
Champion.

Good News

The End of the Tampon Tax

If you are unaware of what the ‘Tampon Tax’ is, then you probably don’t have a vagina. All products have a VAT, which is included in the price of the item. Some items however have a higher VAT than others, as being classed a ‘luxury item’ or ‘non-essential’ by the EU. Sanitary products for women fell under the classification, and due to this, the EU mandates that there be a *minimum* 5% tax on all sanitary products as they are clearly a ‘luxury’. This tax collected £15million in 2016-17.

No matter how your political leanings are around BREXIT, at least there was one thing good to come out of it!

As of the 1st of January 2021, the tampon tax was abolished. Although this is a little late for comfort, as this has been called for for a very long time, as anyone who agrees that sanitary products are a ‘luxury’ are quite interesting people, at least it has finally happened. We may still have to buy extra products that aren’t necessary for others, at least we no longer have to pay tax for the body we were born with.

In 2015, a fight against the tampon tax led to the ‘Tampon Tax Fund’, which dedicated the money made from the tampon tax to supporting vulnerable and excluded girls and has collected around £47mill total from the tampon tax. Although, yes this was a good idea, in my personal opinion it did not make up for the tampon tax, and such initiatives should be on the government’s agenda anyway and should not be paid for only by those who

purchase tampons. The group who needs a charity, should not be the only ones paying for it. However, the tax itself was due to the EU, and the UK was bound by EU law, so this was all they were able to do at the time, as well as in 2016 promising the abolishment of the tax as soon as they would be legally able. It was the EU that wasn’t willing to budge.

Now, the UK is no longer under EU law, the end of the tampon tax became legal and was met with excitement and optimism. Activists were pleased with the long awaited abolishment of the sexist tax and hope the government continues to make necessary steps towards equal rights in the UK. The chief executive of Fawcett Society (a women’s rights charity), Felicia Willow said, "It's been a long road to reach this point, but at last the sexist tax that saw sanitary products classed as non-essential, luxury items can be consigned to the history books."

The government has decided to continue on a scheme to send free sanitary products for all young people in english state schools and colleges. This is a great step towards making more sanitary products available to those who need it, and may not have easy access.

Overall, it seems the government is making steps towards equality. This article has nothing to do with views on BREXIT itself, merely on the tampon tax, a singular pro that came from the situation, it says nothing on either my, nor The Write Angle’s views on BREXIT itself.

By Molly Berridge

Devine's Problems

Take a meta sheet, cut a circle in the centre and remove it - leaving a hole in the middle of the sheet. Once the sheet is heated, will the hole get larger or smaller?

