

September
2022

5th Edition

THE



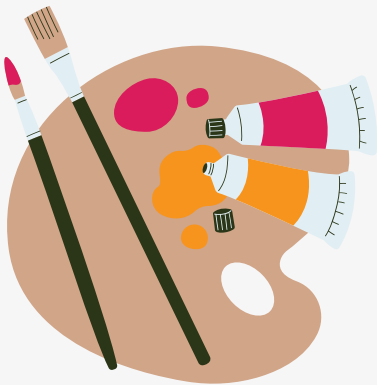
BIDDENHAM



DISCOVER MAGAZINE

CREATIVE SUBMISSIONS

Some great pieces,
including poems and
art work



FIND THE TEACHER!

Find this teacher hidden
in the magazine. Can you
guess who it is?

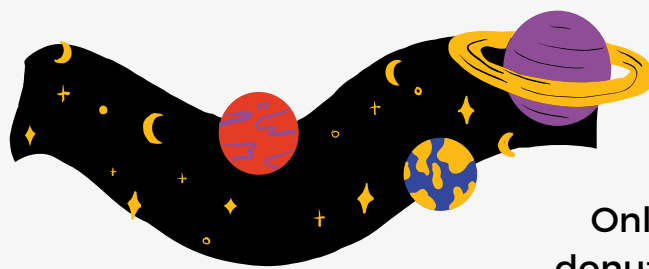


LANGUAGES

Learn a few new phrases in
Ndebele

HOW IT ALL BEGAN...

Read about the famous
"big bang theory"

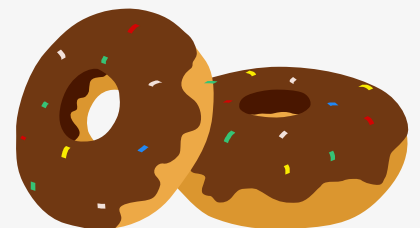


DONUTS!

Only the best finger
donut recipe out there -
tried and tested!

MEDICINE

Gain an insight into how you
can start a career in medicine



DO THE DIFFICULT THINGS WHILE THEY ARE EASY AND DO THE GREAT THINGS
WHILE THEY ARE SMALL. A JOURNEY OF A THOUSAND MILES MUST BEGIN
WITH A SINGLE STEP.

- LAO TZU



Contents



Thank you to everyone who submitted their articles. We at the Biddenham Discover team apologise to those who have not had their submission put in this issue of the Biddenham Discover Magazine. We would appreciate more submissions for our next issue so please send them in (details in the poster). Thank you once again.

Editor in Chief - Alisha Kauser

Editors -

Fauzia Begum

Joverea Malik

Zaynab Hussain

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MESSAGE FROM HEADS OF SCHOOL

Dear Readers,

Welcome to the latest edition of Discover Magazine - the written version of the Sixth form concept of providing talks, workshops and discussions that allow all our students to grow through learning from each other - what a super idea that has been playing out in our sixth form now for our students, by our students.

We've talked a lot about the concept and students in past introductions so this time we'd like to talk about the 'Discover' concept: If you look at the dictionary definition it comes up with two possible meanings:

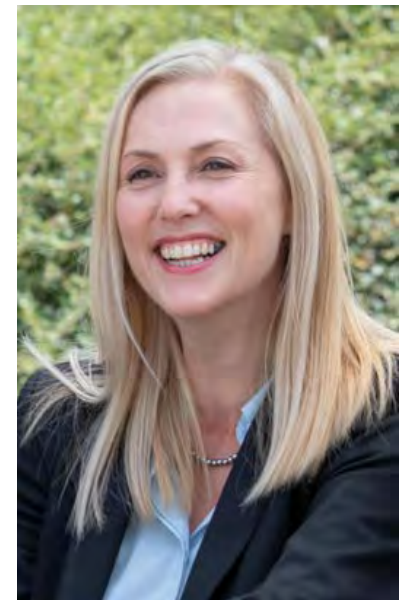
1. To find information, a place, or an object, especially for the first time.
2. To notice that a person has a special ability or quality and to help them to become successful.

So, this is all about peer to peer learning, about our students recognising a need and doing something to develop them, increase their knowledge and develop their talents. Our students have taken on the role of teacher and adopted the role of mentor, coach and guide.

We've always said that as soon as students work out what they need to do well in exams, in life and what will move them forward it is at that moment they will fly. Not waiting to be told what you need to do for homework becomes the best homework and you will, unsurprisingly, go on to do well.

So, welcome to the 'Discover' magazine where the message really is to discover what you need to do to get to where you want to be in life and go off and do it - don't wait to be told!

Enjoy reading this and go off and take control of your future: You'll discover it's liberating.



Mr D Bailey & Ms E Grylls

MESSAGE FROM MR BROWN

Dear Readers,

Welcome to the first edition by our new editorial team! It is also welcome to all of our new staff and students, I hope that you enjoy the magazine as much as we do.

The magazine has become a key element of what we offer here at school. The contributions from across the year groups make this a true representation of the skills and interests of our students. It will be exciting to see how the new editorial team takes the magazine from strength to strength with their own ideas and values.

Last term life began to feel a little more 'normal', we had our first exam season for two years, we were able to have an in person Sports presentation evening as well as the year 11 and sixth form prom. It was heartening to be able to return to these brilliant events prior to the summer holidays. The excitement and interest around these events always brings out the very best in all of our students and, having had such a disrupted few years, the sense of 'normality' was a relief.

Moving forward we all have so much to look forward to in what hopefully will be an uninterrupted year, fingers crossed!! I hope that you all enjoy the content of the magazine and please remember that if you have a passion or an interest that you want to share then you could be part of the next edition.

Mr Brown



YOUR NEW EDITORIAL TEAM

Welcome back from your summer holidays. We hope you had a great summer and are ready for the new academic year. Of course, the Discover Magazine has been passed onto a new team and we just wanted to introduce ourselves as the new editors. As our new Editor-in-Chief, we have: Alisha Kauser and as our editors we have: Fauzia Begum, Joverea Malik and Zaynab Hussain.

We have had many amazing submissions from lots of students this term and are very grateful for anyone's input into this magazine. The articles, the art and stories showcase the extraordinary talent that we have here at Biddenham.

This is the first magazine that we have edited ourselves and we hope you love it as much as we do. Thank you for taking a moment to have a look through the magazine and we hope you have a good first term back.

Lastly, if you have anything that you would like to be featured in the next edition of the magazine, then please have a look at the email on the back of the magazine. We are excited to see what you come up with!



YOUR NEW SENIOR PREFECT TEAM

HEAD PREFECTS



Hanifa Begum

Hi all. My name is Hanifa and I am one of the Head Prefects for the coming year. I would like to express my gratitude for this position and hope I can represent ideas of my peers well. I am excited for this opportunity and looking forward to working with you all!



Elisha Kaur

My name is Elisha Kaur and I'm now one of the Head Prefects here at Biddenham. This year the prefect team and I are aiming to create a more social environment within our school for all year groups. I look forward to working with the Prefect team and helping to improve Biddenham.

SENIOR PREFECTS



Fauzia Begum



Zaynab Hussain



Joverea Malik



Khadija Hussain



Insharrah Mahmood



Hafsa Luqman

MS GRYLLS' DANCE CAREER

For those of you that may be unaware of this, Ms Grylls had a career in dancing before she became a teacher. It was never in her plan to become a teacher. She wanted to pursue dancing but life took her through this journey to an unexpected future. We were interested in this part of Ms Grylls' life so we had a small interview with her about it.

How did you start in dance?

"When I was a really little girl my grandma took me to see a pantomime in my hometown, a professional pantomime, I was about 5. I was sitting in the pantomime and there were always dancers, you get little girl dancers and big girl dancers and I looked at them and I thought to myself I want to do that. Then when I was about 11 years old, I started doing 1 lesson a week of ballet as that's all my family could afford at the time, then bit by bit the dance lessons increased until I was doing many dance lessons! I was also in school so whenever there were any musicals or productions, I would always try and get involved. Then, there was an audition for the pantomime that I had gone to see, and so I auditioned and I became one of the big girl dancers! I also got paid for this, so it was essentially my first professional job."

Later on in Mrs Grylls' dance career:

"I then began my A-Levels alongside my dancing lessons but I sort of lost my mojo so I dropped out to go work in a news company. I soon came to the realisation that I didn't want to sit in an office and work, so I joined Sixth Form again and performed quite well in my A Levels. I was also out doing little choreography jobs at schools in the area for musicals, performances and workshops. This led me to my degree in Performing Arts, majoring in dance. There was also a dance agency that I was working with across London and did some television work for a show called Dance Energy, which was a programme at the time.

After I had completed my degree, I began to get contracts and started performing in Greece. This was the time in which I just did dance and got paid for it, so a win-win situation for me!

One day, my grandad called me and told me to come home from Greece and wanted me to get into the academic side of my life but I had also got to a point in my life where I wanted to do that too, so came back home. I then went to London and got a job at a head office which was completely different to dance of course."

How did you get into teaching?

"I picked up some of my dance teaching again to then complete a PGCE in Dance at the University of Bedfordshire. Of course as a part of my degree I was on placements, so I had a few placements when I was offered a job at Sharnbrook as the Head of Dance. This was part time, so I was doing contemporary dance performance work so I still had the dance element in my life. I then began full-time at Sharnbrook and was offered promotions until a job came up here at Biddenham for Head of Dance and Head of Year so I came in for the interview and started here in those two roles. Now I am here as Head of School and responsible for Data, Assessment and Achievement, but if you had told me that when I was in my Sixth Form days, I wouldn't have believed you.

So it really just pushes the point that you should always try something and experience it because you don't know what it is going to teach you or what it will lead you to."

Do you do much dance now?

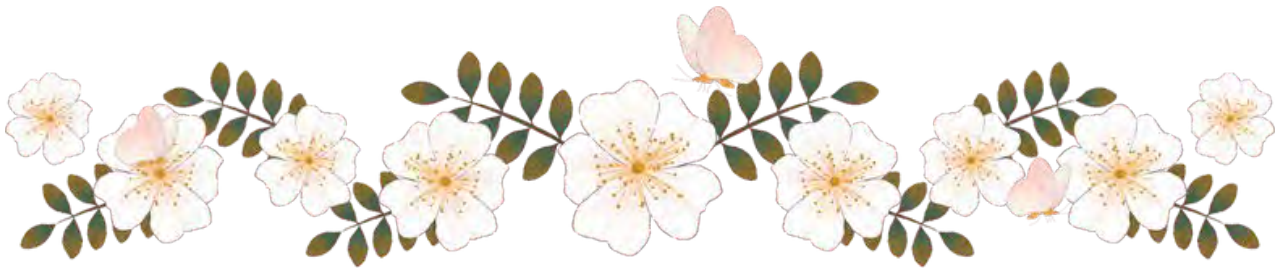
"Now, I don't really do much dance, a little bit of yoga for myself but no."

What advice would you give to students wanting to pursue multiple careers?

"The advice that I do have for students wanting to pursue multiple career paths is that you do have to be prepared to work hard and in performing arts especially, you have to be thick skinned and that often it's not personal and the role just may not suit you. You also can't just allow one thing to define you, you can be a myriad of things and lots of opportunities will turn up your way."

Lastly, what was your favourite part of the journey?

"My personal favourite part of this journey was being young and free and being paid just for dancing as there's an amazing feeling when you're in a performance and dancing together but I absolutely love being a teacher and often tell people that it's the best job in the world. I mean if you're going to make a change to the world, what better place to do that than education?"



THE BIG BANG THEORY

There are many theories as to how the universe came to be, however the most popular theory supported by scientists is known as the big bang theory. Essentially, it states that all of the matter and energy of the universe was at one point concentrated at a single point, much smaller than the size of an atom, with an incredibly high density and temperature, and that the sudden explosion of this singularity caused the birth of the universe. Due to detailed measurements being taken about the expansion rate of the universe, scientists have been able to place the occurrence of this event at around 13.8 billion years ago.

After the initial explosion, the universe reached incredibly high temperatures of about 10^{32} °C , and began to expand rapidly, at speeds much faster than the speed of light. As time went on the universe began to cool down, which allowed the formation of subatomic particles such as protons and neutrons to occur. Then, after about 379,000 years, these subatomic particles combined to form atoms, which were mostly just hydrogen atoms.



Subsequently, these atoms formed giant clouds, which due to the force of gravity, merged together to assemble the stars and galaxies that we observe in our universe today.

There are lots of pieces of evidence which support the idea of the big bang. For example, Edward Hubble's experiments in 1929, in which he analysed that galaxies were in fact drifting apart from each other, which verified that the universe was actually expanding, and therefore pointed towards the idea that the universe was originally a single point, which then began to expand rapidly in all directions. Similarly, the discovery of the cosmic microwave background radiation in 1964 validated the big bang theory, as the big bang theory predicted that due to the high temperatures and densities of the universe in the past, it would produce a uniform background radiation throughout the whole universe.

The big bang theory is the most popular scientific theory today about the beginnings of the universe. Although there have been other theories suggested, such as the steady state theory. This states that the universe is eternal and does not have a beginning, and that the density of matter throughout the universe is constant. However, these theories have been disproved by recent scientific discoveries, leaving the big bang theory as the only current viable scientific theory on how the universe came to be.

TRANSACTIONAL LEADERSHIP THEORY

The transactional theory is based around leadership. This theory was first developed by Max Weber in 1947 and then further developed by Bernard Bass in 1981. This theory was used mainly by managers of enterprises and it focused on many factors like organising, short term planning and management control. This ensures that everyone within the group is performing at their full potential, as they will have a leader conducting everything and ensuring everything goes perfectly. These types of leaders value structure and order and completing everything to perfection. In order to achieve these goals, transactional leaders would entice/motivate their employees by offering incentives like rewards for meeting a target and offering punishments if a target was not met or for unacceptable performance. This made sure that the employees would be focused at all times because if they did not, then a punishment would be waiting for them.

The types of characteristics you would see in a transactional leader include their ability to make sure there are no rules being broken in the team, inflexibility, meaning they do not adapt to changes and stick to their original plan, employees getting rewarded when the target is met and punishments when the target is not met and they are always focused on short-term goals! Short-term goals are extremely important for these leaders because they believe it minimises procrastination. And that with every short term goal being completed they essentially lay down a clear and defined path to success, allowing them to focus on one thing at a time. This focus will not only help their employees stay motivated, but it will also help their productivity, and have the business achieve long-term goals quicker.

In conclusion, I believe that the transactional theory has its positives as well as negatives. The reason it is good is because it's used to bring out the best out of the employees and it also brings out the maximum leadership potential out of the leaders. On the other hand, a negative to this theory is that someone might abuse their power and let it get to their head, making the relationship within the group fall apart and the focus will start to slow down.

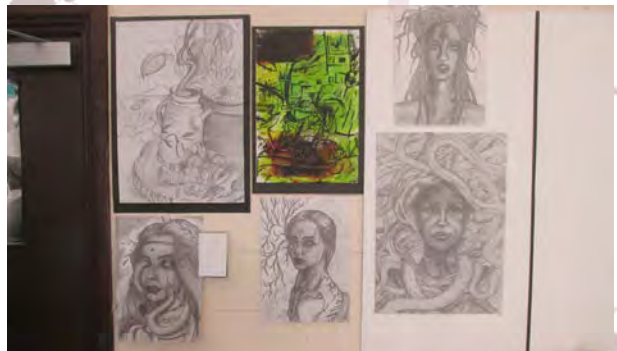
DRAWING INSPIRED BY KAM HUGH



STEFANO FILOMARINO

ARTWORK

STEPHANIE OMOROGBE



LEARN NDEBELE!

English	Ndebele
Hello	Salibonani
How are you?	Linjani?
Goodbye	Lisale kahle
Family	Imuli
Friends/Friend	Abangani/Umngani
Parents	Abazali
Music	Ingoma
Dancing	Ukugida
Knock	Qoqoda
Morning	Ekuseni
Good morning	Livukile
Afternoon	Emini
Good afternoon/evening	Litshonile
Evening	Ebusuku
Midnight	Emadabukakusa
Start	Qalisa
Finish	Qeda
Water	Amanzi
Food	Ukudla
Chew	Hlafuna
Snot apple	Uxakuxaku

MELISSA KHUMALO

THE MUSLIM CONQUEST OF BABYLON

In the 7th Century, Arabs invaded North Africa three times, bringing with them the message of Islam, a new language, culture, tradition, literature and customs - the likes of which were never seen or experienced before by the native Berber tribes that lived there. When the Prophet Muhammad ﷺ, passed away in the year 632 AD, Islam was growing and spreading very quickly both in terms of the message as well as the Empire that was built alongside it. The Arabian Peninsula had been quickly conquered, so the Arabs continued their advancement reaching Non-Muslim Egypt by 639 AD. Author and Arabist, Eamonn Gearon states: **“This conquest, from the Nile to the Atlantic, was more complete than anything achieved by previous invaders and the changes it wrought proved permanent.”**

Egypt was a land which was desired due to its riches and productivity it provided in the ancient world. This resulted in its landscapes being invaded constantly and experiencing settlements from many different empires. From the Mesopotamian civilization, the Assyrians, to the Persians, continued by Alexander the Great, accompanied by the Greeks and finally the Romans. Egypt experienced a constant alteration in control, accentuating its prominence and crave for future empires. The Muslims of the time thought no less of Egypt as any other empire and therefore prayers and plans were cultivated and the Muslim campaign in Byzantine Egypt began.

Abu Bakr ﷺ succeeded Muhammad ﷺ after his passing in 632 AD. Abu Bakr ﷺ was a very close companion of the Prophet ﷺ and one of the first to accept the call to Islam. The Rashidun Caliphate was established as he was recognised as the first Caliph. He ruled for only 2 years until he also passed away due to old age. Succeeding him was Umar bin al Khattab ﷺ, a descendant from the same tribe as Muhammad ﷺ, the Quraysh. Umar ﷺ was the second caliph and having already taken control of Syria, Iraq and Palestine, he felt it was time to make a move towards Egypt. Heraclius was the Emperor of the Byzantine Empire at the time. He hindered the Muslim Arabs best he could from taking over Syria. Heraclius stationed Christian Arabs in Syria ordering them to attack the Muslim army. Commandeering one of the contingent army of Muslims was the ‘Sword of Islam,’ Khalid bin Walid ﷺ. Khalid ﷺ was successful in capturing Marash in Autumn 638 AD and returned with large amounts of loot to his base in Qinnasrin (Northern Syria). Despite the victories, Umar ﷺ became concerned that the Muslims accompanying Khalid ﷺ began seeing him as God and praising him. This wasn’t because of Khalid ﷺ’s extravagance, as he was a man who was steadfast on the path of Islam, but was due to his immense generosity and good character. Umar ﷺ however made the decision to relieve Khalid ﷺ of his military duties saying to him: “You have done, and no man has done as you have done. But it is not people who do - it is Allah who does.” Khalid ﷺ passed away in 642 AD ; replacing him was another Arab commander, forty-eight year old, Amr ibn al-As al-Sahmi.

Amr ibn al-As understood how prosperous the Nile region would be to the Caliphate and so proposed an idea to Umar bin al Khattab رضي الله عنه. He brought to light his plan to seize Roman Egypt for Islam declaring it can be done so easily as it was a land which was weak in defence. The Caliph was hesitant at first, as it was a task which is easier said than done, however, Amr's eloquence and constant persistence made the Caliph agree. 4,000 Yemeni soldiers under the control of Amr set course for Egypt. Along the journey, a messenger reached Amr and his army holding a letter from Umar bin al Khattab رضي الله عنه. Amr decided to not open the letter as he feared what may be the contents of the message and so continued on until they passed the borders of Egypt. Amr then opened the letter and as he rightly believed the letter contained orders to cancel the plan and return back with his army. However, the letter also stated if the army had passed beyond the borders of Egypt then they were allowed to carry on. So Amr continued.

Egypt's population and ethnic majority was made up of the Copts. The Copts were Christians however they practised a slightly different form of Christianity than that of Emperor Heraclius and his people. Therefore, the Copts were subject to much persecution when Egypt was under the control of Heraclius's Empire. The Roman governors in Alexandria were made aware of Amr's arrival so in response troops were sent to Pelusium, a city which was known as the 'key to Egypt.' In December 639 AD, Amr and his small army of veterans reached Pelusium, besieging it by land in what was a long 2 month siege due to the vast number of Roman reinforcements. Amr then marched on with his troops towards the city of Bilbeis where they were met by defenders under blockades keeping them at bay for a month. The Romans in Alexandria then had time to move their forces around to Babylon, where the Muslims were headed. As predicted, Amr and his forces starved the Bilbeis defenders into surrender in the spring of 640 AD and made their way towards Babylon. Babylon was guarded by 5,000 soldiers, who were commanded by Roman Augustalius Theodorus. Babylon was one of Egypt's strongest fortresses, with walls up to 60 feet high and 6 feet thick. When Amr arrived at Babylon he carried out daily attacks on the Romans. Their defence was strong, and in order to keep them in defence, Amr spread out his troops over a large area to make it appear as if he had a large army. This charade continued for 2 months and with no sight of gaining an advantage on the Romans, Amr reluctantly wrote to Umar رضي الله عنه asking for reinforcements. Umar رضي الله عنه then sent a further 4,000 troops to Amr. However, this was not enough to seize Babylon and Amr requested for more. The Caliph concluded by sending a further 4,000 troops, this time under the leadership of Zubayr bin Al-Awwam which arrived in late September.

Zubayr bin Al-Awwam pointed out to General Amr that Romans were also stationed at the city of Heliopolis some 10 miles behind the Muslims. This was a major threat as assaults from both sides could result in their demise. Therefore, Amr sent a large number of his 12,000 soldiers, under the leadership of Zubayr, towards Heliopolis. In a heroic attempt, Zubayr and a unit of handpicked warriors scaled the walls along the side of Heliopolis and breached the defences.

The Romans in Heliopolis saw defeat as inevitable and so agreed to terms of peace and therefore paid the Jizya (a tax paid by non-Muslims to their Muslim rulers). After the successful siege of Heliopolis, Amr called his troops to return to Babylon. In the absence of attacks from Babylon, the Romans reinforced their positions in their Babylon barracks. Theodorus realised waiting out the Muslims will not work and so in a change of tactics began attacking the Muslims by launching daily attacks against them. This continued back and forth, with the Romans generally losing more men than the Muslims. The Romans, however, were able to afford these losses whereas Amr could not as further reinforcements were unlikely to be sent by the Caliph.



A mighty Arab officer, Kharija bin Huzafa, proposed to Amr a risky plan which could potentially bring about a conclusion to the battle. At night, Kharija and a unit of cavalry rode round to the eastern side of Babylon a little way away from the Romans' trenches and waited. When the morning came, Theodorus launched a full fledged attack on the Muslims opposite them and both sides engaged in battle. Amr ordered his soldiers to pull back. Seeing the retreat of the Muslims, Theodorus pursued on further. However, this was a fake retreat, giving enough time for Kharija and his unit to swarm in from the eastern side. They took up their positions in front of the Romans' trenches which were at the gates of Babylon. Amr seeing their trap had worked, ordered his soldiers to charge back and push the Romans' back towards Babylon. To Theodorus' shock, Kharija launched his attack from behind them targeting them from their rear side resulting in an encircled engulfment of Theodorus' army. A few Roman soldiers managed to break free and retreat, re-securing their defences. Amr did not back down and followed them closely right up to the walls of their fortress. The gates to Babylon were closed and the Romans who made it within the walls were lucky as not a single Roman was left alive on the battlefield outside. Cyrus, a Byzantine prefect, was not a cold hearted military man and was shaken by the force and might of the Muslim army. He concluded to terms of peace in order to bring an end to the fighting. Cyrus offered a bribe to the Muslims in order to leave Egypt and not turn back, however Amr responded with three options: Conversion to Islam; payment of the Jizya or death. Cyrus was willing to accept the terms however his Roman colleagues were not and so the fighting continued.

Zubayr then noticed a vulnerable defence point on the northern side of Babylon, the 'Gate of Iron.' So at night, a unit of soldiers made their way round to the northern side and began climbing over the walls. When the signal was given, a deafening battle cry caused shock and alarm to the oblivious Romans who had no idea what was happening. Babylon had been sieged. The following day, Cyrus agreed to the Muslims' terms and the Jizya was paid and the entire country was submitted to Islamic rule and rule under the Rashidun Caliphate. The Romans who were left in Egypt were given the option to stay and remain in peace under the Islamic Empire or to depart safely. When Heraclius, the Emperor, heard of the news he was furious and began insulting Cyrus. As a result, Cyrus placed himself and the Copts under the command of Amr, devoting the Muslims with military assistance. With Babylon under the Muslim's control a push for Alexandria was able to be made. Eventually, the whole of Egypt was under the Islamic Empire and an end was brought to the seven centuries long period of Roman reign over Egypt by 654 AD.

To finish, an ode of praise towards the Prophet Muhammad ﷺ was written by the founding Emperor of the Ming Dynasty of China: "Since the creation of the universe, God had already appointed his great faith-preaching man, From the West he was born, And received the holy scripture, And book made of 30 parts, To guide all creations, Master of all rulers, Leader of the holy ones, With support from the Heavens, To protect his nation, With five daily prayers, Silently hoping for peace, His heart directed towards Allah, Giving power to the poor, Saving them from calamity, Seeing through the Unseen, Pulling the souls and the spirits away from all wrongdoings, Mercy to the world, Transversing to the ancient, Majestic path vanquished away all evil. his religion Pure and true, Muhammad, The Noble High One."

SHAHBAAZ ZEB



THE JURY

Who are they and what do they do?



Roles and composition

Juries are a commonly known term in everyday life with 180,000 people summoned for jury service a year in the UK. But what is a jury, and why are they important? The jury is a group of 12 people (known as jurors) randomly selected to hear cases in court and witness justice being served firsthand. Jury service is the process in which these 12 randomly chosen people hear a series of trials, the process usually lasts two weeks and is compulsory. Failure to attend is a criminal offence. Trials with a jury date back to the signing of the Magna Carta in 1215 when it was established that people have the right to be 'tried by their peers', or in simpler words, judged by their equals. Juries can be used in multiple areas of the law like in the civil courts, coroners' court and most importantly, the criminal courts.

The main role of the jury is to carefully consider all evidence presented to them in a trial, and then work together with the other jurors to decide whether a defendant (a person being accused) is guilty or not guilty. Examples of the serious cases that juries can hear are murder, manslaughter and serious theft. So now you know the basic roles and composition of the jury, let's look at who is eligible, how the jury process works and the offences and crimes that the jury can commit.

Who can be a juror?

Members of the jury are randomly selected by the Jury Central Summoning Bureau. They have a long list of people called the electoral register and a computer is used to generate people on the register.

If your name is chosen, you must confirm that you will attend service in a reply form. Jury service is compulsory, but what happens if you cannot attend because you're a carer or if you've booked a holiday? Thankfully, you won't be in trouble if these are your reasons for skipping jury service, as you can apply for a deferral. A deferral means that you do not have to attend the current service but will be expected to in the future. In order to be eligible, a person must be aged 18-75, on the electoral register and must have lived in the UK for at least 5 years since their 13th birthday. If a person meets this criteria, they have a chance at being a juror. Those three points seem straightforward, but jurors can actually be disqualified for certain reasons. A person can be disqualified if they have served more than five years in prison, are on bail, or if they suffer from a mental health issue or a disability which would interfere with judgement.

Jury service and the rights of jurors

Jurors are sole judges of the facts presented to them. They cannot be ordered by the judge to convict a person if they do not feel that it is right. They also cannot be punished for a verdict, even if it is not legally fair or correct. So, if a jury decide that a defendant is not guilty, they can acquit them (let them go free of criminal charge), without any legal punishment. When sitting a trial, the jury are expected to carefully listen to all the evidence and then they are given a separate room to discuss and reach a verdict (decision of guilty or not guilty). As a form of privacy and respect, the jury can lock the room that they are in, and their discussions are secret, not even the judge can listen. The jury must come to a unanimous verdict, meaning that they all agree.

But a ratio of 11-1 or 10-2 votes also works - if the judge declares it so. And so, the decision of the jury determines whether a person is guilty or not guilty.

Jury offences

There are many offences that the jury can commit in which they could face serving time in prison. The courts take participation in jury service very seriously, and failure to attend if a juror is called is a criminal offence known as contempt of court. In the case of *R v Banks*, Matthew Banks was jailed for 14 days for missing jury service to see a musical in London; the case had to be postponed due to his behaviour. The Contempt of Court Act 1981 states that jurors cannot share information of the case to anyone, and news reporters cannot ask jurors about court activity. Other offences include: falling asleep, pretending to be a juror and refusing to make decisions. These have all happened and people have faced jail because of this. In 2016, Ms Deane shared contents of jury discussions on a case he was sitting, she was jailed for three months and suspended for twelve.

Now you know how the jury works, who can be a juror and some of the strange crimes that juries can commit, and actually go to prison for! The concept of the jury is great as it allows the public to see how the legal system works and actually be a part of it, therefore jury service is very beneficial to the English legal system.

ELISHA KAUR

STRESS

Well, what is stress? Let's start by talking about the basics and how it affects the body. People generally talk about stress given that it's an emotion and like the immune system it is with us. It is also something many people experience. Studies show that 2 in 5 people will currently be stressed due the situations they are facing in life. Why don't we start with school life, like pupils when they are facing exams, or even for subjects that have course work and you have to keep up with all the work and the management of time. These are cases that occur academically in the lives of many people, you may also have situations where you have fallen out with a friend or just are not having a good day. All of these scenarios can cause you stress. Stress is a hard wired physical response which travels through your whole body. In the short term stress can be advantageous, but holding on to the same worry for a long period of time can affect you negatively. The primitive flight or fight response not only changes your brain, in fact it has the potential to damage many of the other organs and cells in your body. Your adrenal gland releases the stress hormones cortisol, epinephrine (which is also known as adrenaline) and norepinephrine (which is known as noradrenaline).

These hormones are released into your bloodstream and therefore have the ability to reach any part of the body. For example, when adrenaline reaches your heart it can cause the heart to beat faster. This increases heart rate, and so this raises blood pressure, which means your heart beats at a faster pace than normal. Cortisol can also cause the inner lining of blood vessels to not function normally. Scientists now know that this can cause fat to build up in your blood vessels.

Together these changes increase your chance of a heart attack or stroke. When your brain senses stress it activates your autonomic nervous system. Through this network of nerve connections, your brain communicates stress to your digestive system. Besides causing butterflies in your stomach, this brain-gut connection can disturb the natural rhythm or flow of contractions that move food through your digestive system, leading to irritable bowel syndrome, and increases your gut sensitivity to acid making you feel more likely to feel heartburn. Via the gut nervous system, stress can also change the composition and function of your gut bacteria, which may affect your digestive and overall health. This also increases your chances of gaining weight as cortisol can increase your appetite. It tells your body to recover your energy stores with energy food and carbs, causing you to crave comfort foods. It is an organ that actively releases hormones and immune system chemicals called cytokines that can increase your risk of developing chronic diseases, such as heart disease and insulin resistance.



While stress hormones affect the immune system in a variety of ways, initially, they help prepare to fight invaders and heal after injury. However, chronic stress can dampen the function of some immune cells, make you more vulnerable to infections, and slow down the rate you heal. You may be a little stressed after reading all this and may have realised that some of these habits are a part of your life. This is a good sign as now you have realised that stress is eating you from within.

Many people will face a lot of things in life and stress like explained above does not go away as it's built in you, so it's what you do and how you handle stress that matters. The question now may be, "How do you deal with it and how do you overcome the difficulties in life?"

In my life I have dealt with a lot of situations, some that I was not able to handle but managed to find ways around. There is not a problem in the world that arises and doesn't come with a solution, like every lock has its own key and that key is only specific to that lock. In mathematics a question can be answered in many ways and you may still get the right answer, and this is how people deal with real life situations. You have your own way of dealing with a difficult situation.

The way I like to think of stress is by comparing it to a glass filled with water. You can hold the glass in your hand for a few minutes and nothing happens. Over time your arm will start to hurt. We know that the weight of the glass has not changed, but your arm is in pain. This shows that the longer you hold onto stress the more difficult it becomes to deal with. One way of relieving your pain is if you put the glass to one side and now it does not bother you, "By all means if you're thirsty then you can drink it".

ABUBAKAR AHMAD



PATHWAY TO MEDICINE

There are many accessible paths to a career in medicine, whether that's studying here, in the UK, or abroad. All medicine applications are completed through UCAS. The one downside of the medicine application process is that it is always an early application. For instance, for this year's medicine applicants, the UCAS deadline is the 15th October. Many universities don't take personal statements into consideration when looking at the applicant, but they instead use your UCAT/ BMAT score. Alternatively, some do take personal statements into consideration. This all depends on the university and the type of course.

The most common pathway to medicine is by applying to undergraduate courses. In order to be applicable for this type of course you need to consider choosing relevant GCSEs and A Levels, completing a personal statement, gaining work experience, sitting UCATs or BMATS (some people may do both), choosing your university course and interviews. Most medicine courses require GCSEs from 9 - 4, with a minimum of 6 in English and Maths. Choosing the right A-levels is crucial in applying to medicine. This is because medical schools are really competitive, so it's imperative to have eligible A-level grades. Most medical schools require Chemistry and Biology with grades requirement of A and A*. The last subject can vary, however some universities have specific encouragement of what this can be. For further information visit the official site of UCAS for comparison.

On the other hand, if you don't have the right A-level subjects, the right grades, or meet other eligibility criteria for specific universities etc, then you may be able to apply for a foundation course in medicine. The two types of foundation courses include medicine with a foundation course and the extended course. The foundation course is a 6 year programme, with science - based content in the first year and then afterwards joining the standard 5 year medicine course.



This course essentially is to prepare you for medical content and teaching. The extended course is a 6 year programme with basic content being taught alongside advanced content. Some universities that offer this course are University of Aberdeen, University of Southampton, St Andrews and University of Bristol.

Another method is via transferring to a medicine degree from a similar degree such as biomedicine. Not all universities offer this option, so it may be worth exploring your options in the future. The Brighton and Sussex Medical School offers a guaranteed interview scheme to biomedical, biological and pharmacy students from Brighton University. There are two options to this scheme. The first one is to transfer after the first year, and the second year is to transfer after the third year, although both have differing eligibility criterias. There are similar or different transfer schemes to this example, in which the competitiveness rates are high and the scheme may possibly change annually.

The graduate entry medicine pathway is for degree-holding applicants. This course takes 4 years to complete and there are only 18 medical schools in the UK that offer these. 10 medical schools consider applicants that don't have science degrees however they may have a requirement for a science A-level. To be eligible for this course you need to have at least a 2:1 degree, take the GAMSAT, UCAT or BMAT, work experience, references and a personal statement. Universities such as Cambridge and the Imperial College London currently offer this course.

Studying medicine abroad is dependent on what different universities offer, student finance, the country, entry requirements etc. For example in European medical schools there are lower A-level grade requirements, no UCATs or BMATs to sit and usually the cost of living is lower. However there may be an alternative admission test. Some international universities also don't offer undergraduate medicine offers. For instance, USA medical schools only provide post-graduate courses for international applicants. Applicants mainly use the American medical college application service (AMCAS), although you would use the Texas Medical and Dental Schools Application Service (TMDSAS) if you were applying to the MD scheme at Texas university. With any international university there are always pros and cons that come alongside it. To further explore your options head to the UCAS website, where they list many of the benefits and the downsides of this pathway to medicine.

Overall when you are making your decision for your medical school, consider all the various factors that have been mentioned. For example, admission tests, course content, student finance, costs of living, A-level and GCSE grades and especially different pathways to medicine.

O, COME BACK DEAR SUN!

O, come back dear Sun!
Thy splendid Heavens so great and certain
and thy honeyed Rays no burden
That flourish through dizzy and dozy clouds
And bloom the most tender Roses
Indeed, thy love is sweet!
Like gleeful dreams left incomplete
When eyes open to a night of woe and misery.

O, come back dear Sun!
Thy hast hidden her Grace that thou so dearly
craves,
So do pave thy glittering rubies over my water's bay.
For when thine golden thread doth weave through
a heart's strings
Perfection does it bring.
See lazy lilies and drooping daisies,
So Do heal them with thine strengthening remedies
And Do lift them with thine soothing melodies.

O, come back dear Sun!
Bat away the tendrils of winter,
Which slither their crimson trail upon mighty
thunder.
Thy crisp day doth shine softly a rosy hue,
So why let night replace you?

HALA ELABD

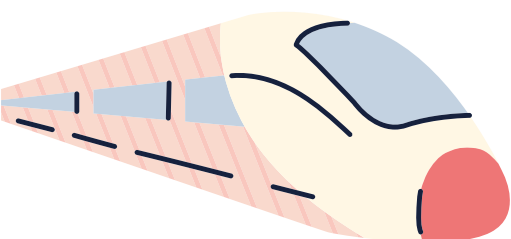
MY BIDDENHAM JOURNEY

Looking back on my journey at Biddenham from year 8 until the end of my A-Levels, I feel like a completely different person.

I started year 8 knowing only one person in the entire cohort. I was shy, introverted, could hardly hold a conversation due to nerves, hated anything to do with exercise and had an obsession with books. Whilst I still have that book obsession and I would still consider myself an introvert, I believe I have come a long way. Nowadays I confidently make presentations and speeches, I am happy to talk to anyone who says, "Hello" and most surprising of all I actually enjoy playing sports. All of the teachers at Biddenham helped me become the person I am today but I believe there are three teachers to thank in particular; Miss Simpson, Miss Copley and Mr Berrill.

Miss Simpson was the first teacher I met at Biddenham, she showed me around the school on my open day and delivered me to my new classroom on my first day in September. After the first few weeks of school Miss Simpson encouraged me (a student she hardly knew) to join the Student Forum. I can only assume that Miss Simpson thought I needed a way to boost my confidence by getting me out of my comfort zone and in a group of like-minded individuals from different year groups. I have always felt passionate about politics and social issues so Student Forum was the perfect way for me to find my voice and speak my mind eloquently. I strongly feel that Miss Simpson's decision to recommend that I join the Student Forum benefitted me and my dwindling confidence greatly. So for that I have to thank her, I also have to give her double the amount of thanks as I might not have met Mr Berrill if I hadn't joined Student Forum.

Mr Berrill is the next person I have to thank firstly for his incredible teachings about how to shake someone's hand properly (those of you who have met him will know what I mean) but I also thank him for his incredibly clever yet absolutely terrifying triads. In Student Forum we had to be in mixed groups based on year group and gender, this meant that every other week for a meeting I was split up from my friends and actually had to talk to people who were older than me (cue gasp sound effect with blue-faced surprised emoji). This absolutely scared the living daylights out of me as a supremely shy year 8 but as I got to know the people in Student Forum I realised that we were all there because we wanted to hear each other's opinions about issues within the school. We were all fighting for the same goal so I thought I might as well speak up. I have grown more and more confident due to my time at Student Forum and I have realised how it is much more important to share your opinion than it is to keep quiet. I strongly feel that Student Forum helped me find my voice.



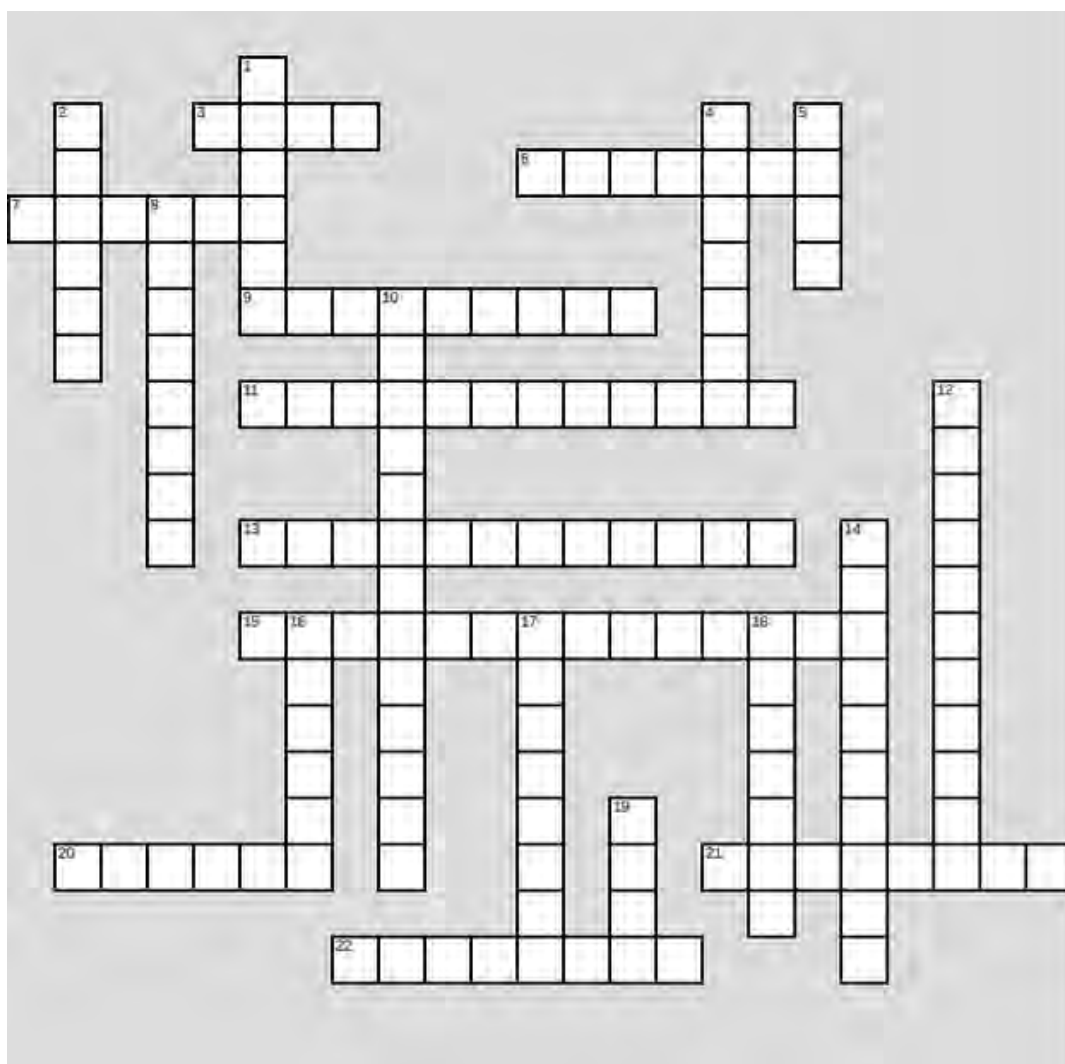
So, now I'm officially finished as a student at Biddenham. I feel that I am leaving Biddenham as a strong, independent, confident young woman who is still a little bit introverted (as evidenced by my slightly short social battery) but can hold a conversation much better than she could when she started. I have so many teachers that I want to thank for my time and journey through the school but there are too many to list so I think it's best that I just thank everyone.



You have all been a wonderful help in developing the person that I have become today, so thank you Biddenham! I'll miss you!

MATILDA CRAFTER

MARVEL CROSSWORD



ACROSS

- 3 Wielder of Mjolnir
- 6 Ruler of the Dark Dimension
- 7 Robot that created Vision
- 9 "Friendly neighbourhood..."
- 11 T'Challa's alter ego
- 13 The fast guy's sister
- 15 Small man turned strong
- 20 Is powered by a yellow stone
- 21 Leader of the Ten Rings
- 22 King of New Asgard

DOWN

- 1 Big purple stone collector
- 2 Has a pet called Red Wing
- 4 The bow and arrow guy
- 5 ...SMAAAAASSSHHHHH
- 8 Has a secret red face
- 10 Possesses the Eye of Agamotto
- 12 The magic girl's brother
- 14 Red-head spy girl
- 16 Can shrink and enlarge
- 17 Created the Avengers
- 18 Genius, billionaire, playboy, philanthropist
- 19 Adopted by Thor's parents

DOUGHNUTS!

Ingredients:

- $\frac{3}{4}$ cup of warm water
- $\frac{1}{4}$ cup sugar
- 1 packet of yeast
- 1 egg
- $\frac{1}{2}$ cup of milk
- $3\frac{1}{2}$ cup flour
- $\frac{1}{2}$ tsp salt
- 2 tbsp vanilla extract
- Oil for frying



Method:

1. In a small bowl mix together warm water, sugar and yeast. Leave to rise for 10 minutes.
1. Add the egg and milk to the yeast mixture and combine.
2. In a larger bowl add flour, salt, softened butter and vanilla extract. Use a dough hook to combine. Add in the yeast mixture and mix together.
3. Let the dough rise for 1-2 hours and in a warm place. Get the bowl and punch the dough, releasing air bubbles.
4. Flour your surface and tip out the dough. Flour your rolling pin and roll out your dough into a rectangle. Cut into smaller rectangles.
5. Heat up about 4 cm of oil in a frying pan.
6. Fry all of the rectangles of dough until golden brown and crispy. Pat the extra oil off.
7. Sieve powdered sugar over the top.

Optional filling include- nutella, apple sauce, cream or caramel.

Lily Aitchinson



THE FEARFUL SCHOLARLY PURSUIT

When Eoin O'Brien and Fearghal Ó Cuillinn had been on stage at St Endas performing in the play of Ancient Irish sagas, Eoin had never imagined he would be where he was now. Headmaster Pearse was always full of ideas, spurring myth and Gaelic words to his students but Eoin believed he had grown out of that naivety when he left secondary school to pursue real history at Trinity Dublin and became interested in politics. Part of the reason why he had outgrown his old schooling was due to his Ulster born mother, with her sneering at the Irish Volunteers now she had more reason to show her opposition as her Catholic husband had long passed. The stubborn Saoirse refused for her constitutionalist son to even follow the now National Volunteers to France and he had given in, but kept the secret of sometimes attending the new Irish Volunteers meetings solely to keep an eye on his best friend Fearghal.

Fearghal had stayed behind at Endas to become an art apprentice to William Pearse. He was from a family of radicals and often travelled back to his family's village to paint the scenery he insisted was too beautiful and therefore unnatural to be in the grips of the Brits. Eoin had been studying under MacNeill who had also taken him under his wing due to their shared name and love of archeology and physical history, where they unearthed authentic artefacts even under a constraining budget. Professor MacNeill would complain to the faculty and even campaign to the radical Pearse that this history was of utmost importance to the nationalist cause. The studious life of the past brotherhood would end when violence attacked on Easter Day.

Fearghal had informed his friend of the Volunteers rising as soon as he had received the orders, assuming that he would join back up with the Irish Volunteers as he had been so passionate about it when they were school boys. As soon as he heard this news he rushed to MacNeill's office, slamming the telegram on his desk.

"You know about this?" O'Brien said, pointing angrily at the piece of paper. MacNeill just stared at him and nodded, O'Brien never thought he would truly go to physical means as he was a rational man compared to the impassioned Pearse.

"I can't do anything about it, they will win, I'm sure of it. Guns are coming in from Germany-"

"GERMANY?" the younger Eoin shouted. "Our good men have gone out there, hell my own cousins up in Ulster have gone to France to fight against these devils while you stand silent to borrow weapons from them?" For once he agreed with the sympathies of his mother.

"I do not... completely agree with it, I am one man and they're an army. You've seen it for yourself, you've been to those meetings. It may come at a price but I am sure they will win. As your friend and mentor I tell you this, when the time comes you either run to Ulster with your mother or stay here for the rewards." MacNeill placed his hand on the young man's shoulder and O'Brien shrugged it off, backing away.

"You're all mad men. Redmond.... Pearse- the guns... Fearghal, I-" Eoin was confused and bombarded with emotion. "You have to come to your senses Professor, I can't do this." He finalised his words and left the room. As he sat down at the dinner table with his mother chatting away he couldn't talk or look at her, full of fear that he would leak the Volunteers' secrets. Deep down he knew what his teacher had said was right but couldn't bring himself to choose what to do.

A few days before the Rising, news got out of a sunken German submarine along with a disgraced aristocrat. Following this, an ad came out in the newspaper of MacNeill calling off the rising and urging men not to take part. O'Brien let out a sigh of relief, the man had come to his senses and everything would be fine. This momentary peace was interrupted when there was a tapping upon Eoin's downstairs bedroom window on the morning of the 24th of April. He woke up in haze and wiped the condensation of the glass. To his surprise it was Fearghal donned in his Volunteer uniform, had he not received MacNeill's orders, he wondered.

"You coming or what?" Fearghal said in a matter of fact way as the window was rolled up. Eoin stammered, unable to produce a response, he had never said no to his best friend, not even at this moment.

"I'll- I'll come later." Eoin replied in a hushed tone as to not wake up his mother. Of course he was lying, he didn't at all intend on taking part in what he viewed as a pointless battle.

"You'll come looking like a scholar I'll bet," the cheerful young man chuckled.

"Shush, don't talk so loud. My mam'll hear."

"All right, all right mammy's boy. Just remember" he whispered, "the proclamation starts at the GPO, you don't want to miss Mr Shakespeare will ya?" Fearghal winked walking away leaving Eoin feeling once again perplexed.

Eoin hadn't meant to be there in front of the GPO on the other side of the road as he kept repeating in his head on the way there, there was something about it he couldn't resist, maybe to prove that politics was always the way. People were bustling about as if it was an ordinary day, their blank faces unaware of the change about to befall the city. A flag pulled up on top of the grand building of green, orange and white stripes as the Shakespearean Pearse stepped out accompanied by a group of guards and a large paper in his hand.

"We hereby declare to the Irish people in the name of God, a new Republic of Ireland." the man's voice bellowed. Eoin would have felt goosebumps if Pearse wasn't resurrecting the spirit of Robert Emmett in this manner, the man was mad surely? Some people stopped to witness the display of military enthusiasm, cheering as the proclamation ended. At that moment, Fearghal came out onto the steps making direct eye contact with Eoin, beckoning him to come to the other side as the other Volunteers heads also turned to him. He didn't know why he did it, but he crossed the busy street it felt as if time had slowed his walk.

Fearghal embraced him, that wide smile grinning at him as it had always done but now his eyes filled with a happier glint.

"How are you my boy?" Pearse suddenly appeared next to them, shaking Eoin's hand. "Have you come to join us? I knew you weren't truly like old MacNeill." Before he got a chance to answer, his friend answered for him in his zealous nature.

"Of course, he would never abandon us sir."

"Yes.. sir. I just need to go back home and get my uhh uniform." He couldn't believe that excuse had worked, at least his schoolboy forgetfulness remained in Pearse's memory as he sent him off with a pat on the shoulder. He needed to get as far away from this as possible, he was going to listen to MacNeill and try to get to Ulster. He rushed home trying to get there within the hour, panic rising through his head as he passed troops of British soldiers as the fear of destruction was sure looming. Eoin burst through the front door and went straight to his room to pack his belongings.

"Mammy, we need to go," he shouted from his downstairs room.

"What on earth are you talking about?" his mother said as she entered the room to be greeted by his worried face.

"Something's going to happen and we have to go," he insisted, stuffing clothes into a bag and rifling through his desk for his research papers.

"What is happening son, tell me." She tried to search his face for answers but he would not say.

"Please we need to go," he begged, tears almost welling up in his eyes. The papers and photos he was searching for were not in his desk. As more panic struck him, he had left all his research behind at Trinity. Luckily the university wasn't too far away from his home as it was also under an hour, the grounds itself were guarded by British troops and far from Volunteer strongholds.

He took his mother's hands into his. "Mammy please trust me, I need to go to the university but I'll be back in a while. Pack lightly, we have to get to Ulster," he explained quickly and left his mother without so much as an explanation.

It was sundown by the time he arrived at Trinity, he loved his work but knew if the rising was to succeed he could never step foot in his beloved city again. He had heard tales of brothers killing each other for the cause and swore to never let that happen to him and Fearghal, even if they became separated by time so violence could never end them, he had decided. He headed to the history department and unlocked the cupboard to stash his heavy research papers away, leaving the artefacts for a new generation of historians to contribute toward nationalism. He looked around the room that had once been a place of solace but now had to be left behind. Before leaving he tried to call MacNeill but to no avail, the turning of the metal for the second time almost covered the sound of ammunition as shouting echoed through the university. Eoin ran out of the room and into the corridor, turning into the hall.

"They're here, the bloody sinn feiners and rabbids from that volunteer group are here to raid the place." The young man looked scared and he followed him into an upstairs room with a small group of students that had stayed over the holidays. It was nightfall and Eoin had no plan, his mother would be waiting alone and confused, the hubris and pride in his university work had caught up to him and now he was worried he was stuck in the building he had always admired. They sat in the dark for what seemed like hours but there was no movement, although they could feel the presence of the opposition. Eoin was caught between two worlds, there could be a friend he once schooled with on the other side of the building yet he planned to run away from this altogether.

Finally some older students sent a message to come to the dining hall for protection as British soldiers had come. They entered through the backway and a gun was thrust into each student's hand unexpectedly. One Ernie O'Malley was spewing contempt for their coup-like position against the Volunteers and stood in front of the remaining students to try and rally them in defence of the 'empire'. If only they knew I wasn't like one of them, Eoin thought, or was he?

They spent the night sleeping, although Eoin on the other hand did not as he was racked with worry about his waiting mother. It seemed like nobody got good enough sleep as they were awakened by a barrage of gunfire from outside. The young man he had met earlier was shaking and kept his back to the wall as soldiers beckoned Eoin and some other students to go forward. As soon as they stepped into the foyer the two soldiers were struck down as the windows had all but disappeared and the small group ran back into the hall with their lives.

It carried on like this for two days as the young men were filled with fear and patriotism before they started receiving calls on the only telephone in the building. Magically, more students and teachers had come through the back exit and Eoin was in wonder that the Volunteers hadn't discovered it but chalked it down to lack of planning as the university was a British stronghold. They had barely used their weapons, the teachers carried messages with them revealing that the small group Volunteers were essentially surrounded by buildings filled with students and soldiers as they thought they would gain an advantage with most of the student body on holiday. The message ordered that when a flame went into the dark night sky they would come out of the buildings and shoot immediately into the middle of the square. Eoin may have once been part of the Volunteers but he had never shot a rifle, he was a scholar for God's sake and thought MacNeill's message in the paper would do some good.

Tensions were high as silence filled the thick air. Suddenly they heard a noise like a firework and the group pushed out of the building, the roaring of other students and gunfire replaced the silence and the violence collided into the centre. A bomb was thrown far from the group of Volunteers and students became scattered. That did not change their fate, as most had been fatally shot while the Trinity students were able to clear away from the ineffective bomb. Eoin's eyes widened and he ran to the bodies, he would recognise that tuft of hair anywhere. He waded through the small amount of bodies like a puddle before dropping himself to his friend, the man who may as well have been his brother and the person who had unconditionally supported him in the face of radicalism, politics and scholarly pursuits. He took him into his lap trying to stop the pooling of blood from his abdomen and Fearghal's eyes concentrated on him.

"No, no, no. This wasn't supposed to happen like this." Eoin gasped as if the air was leaving his body. "Please, please. Fear no don't go. Stay, there's things you need to do. You need to go back to Howth, the sea's are waiting for you," Eoin could not stop the onslaught of tears, his friend was nicknamed Fear ironically as he was never scared of anything. Eoin was the one full of fear now, and as always his friend maintained the same cheerful glint in his eye.

"Tiocfaidh ár lá." With the only strength he had left he placed his hand onto his friend's cheek as Eoin bent down his forehead to meet his. He felt his eyes close; those wondering eyes that always held hopefulness in them were now gone. Even in the face of death all Fearghal cared for in his youth was Ireland and now it had killed him. Eoin forgot there were onlookers, it felt like he was the only person left on planet earth as the person he had not cherished enough was gone.

The road from Trinity to his home was strangely quiet even with the distant shelling from the GPO and Shelbourne Hotel. As soon as he reached home, his wailing mother came through the door and made sure he was inside. She caressed his hair and bloodstained face with her motherly hands... the blood was Fearghal's. He felt paralysed and fell to the floor, racked with uncontrollable sobbing on his mothers feet. Saoirse could do nothing but hold him as she let his tears form puddles around her.

Three days later and the fighting had ceased. The young men who were under the influence of radical generals were considered innocent and let go. Eoin heard of the execution of Pearse and could not bring himself to feel sympathy, he blamed him for Fearghal's death and filling his head with the fiction that caused his demise. He had also heard of the arrest of his old professor, MacNeill. In his eyes had done nothing wrong but he understood the law and guilt of association. Eoin realised he had been so selfish only ever thinking about himself, he should have forced Fearghal out of the grips of Pearse and shook him till he understood the violence of their actions. The only way out of this violence that he could fathom was parliament and politics; it was a waiting game but that's what the headstrong Volunteers should have done. He would no longer side with his hateful Ulster family to which his mother finally understood but he would also not fall into the temptation of radicalism.

It was now 1917 and MacNeill had been released from prison. The two Eoins reunited, MacNeill was practically a hero and was seen as such by his young protégé who had finished his masters. The younger Eoin joined him in the growing membership of Sinn Fein and promised to continue the fighting legacy of his friend in the road to parliament. It was the right thing, it was his dream and Eoin O'Brien would do everything in his might to stop bloodshed in the name of Fearghal Ó Cuillinn.

GENETIC CLONING

Cloning is a technique where exact genetic copies of living organisms are made. This includes cells, tissues, whole animals and even human embryos. Bacteria, a single-celled organism, can make copies of themselves when reproducing. Similar to humans, when identical twins are born they are close to being clones. The reason for this is that they share the exact same genes when a fertilised egg splits into two.

Scientists usually make clones in a lab. This is done by taking DNA from a living organism and inserting it into a carrier like bacteria or yeast. Every time that specific carrier reproduces, a new exact copy of the gene is made.

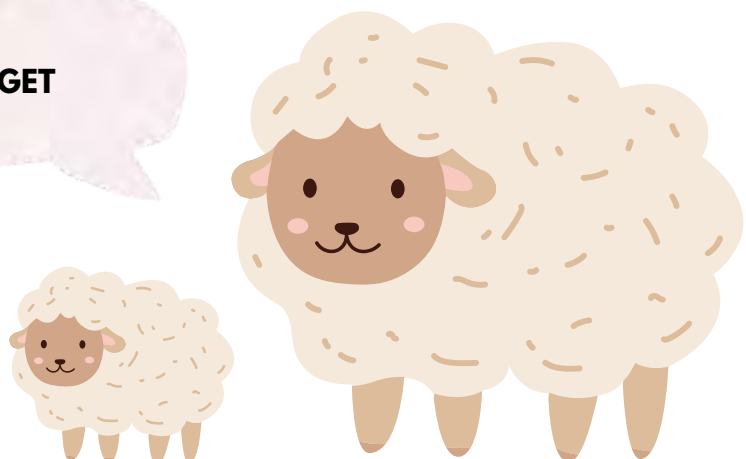
There are two ways of cloning, the first being embryo twinning. This involves splitting an embryo in half and then placing them into a mother's uterus. Each part of the embryo develops into an organism however they will share the same gene. The second method is somatic cell nuclear transfer. Somatic cells are what an organism is made up of - these contain two full sets of chromosomes. In order for cloning to happen, a scientist transfers the DNA from an animal's somatic cell into an egg cell that has its nucleus and DNA already removed. As the egg develops and grows it will contain the same genes as the cell donor, which is then implanted into the uterus of an adult female organism to grow.

What was the first animal to be cloned?

In 1996, a sheep named Dolly was cloned from a cell that belonged to a 6 year old Finn Dorset sheep and an egg from a Scottish blackface sheep. Dolly was a part of a series of experiments at the Roslin Institute, where they were trying to develop a better and sufficient way of producing genetically modified livestock. This meant, if such experiments were successful, fewer animals would be used for future experiments and there would be more control over livestock.

Scientists found that Dolly also had shorter telomeres (not fully developed) than normal sheep at her age. This was due to the fact that her DNA came from an adult cell, giving a reason to believe that she could be older than her actual age.

**DID YOU KNOW: IT TOOK
SCIENTISTS 276 ATTEMPTS TO GET
DOLLY RIGHT.**



Is human cloning possible?

Human embryo cloning has been around for several years. The first human clone was a baby named Eve. Born on 26th December 2002, she was a clone of a 31 year old American woman. Eve was said to have been born by Caesarean section, to a couple who were infertile. This process started with a woman donating her DNA for the cloning procedure, which resulted in the embryo being implanted into the uterus and like a normal pregnancy being carried for 9 months. When the child was born, tests showed that the genetic material of the child was the exact duplicate of her mother - (similar to identical twins). However, this then led to the banning of human cloning in many countries, areas and states. This was because the procedure was far too unethical - it went against many legislations and overall was a dangerous act.

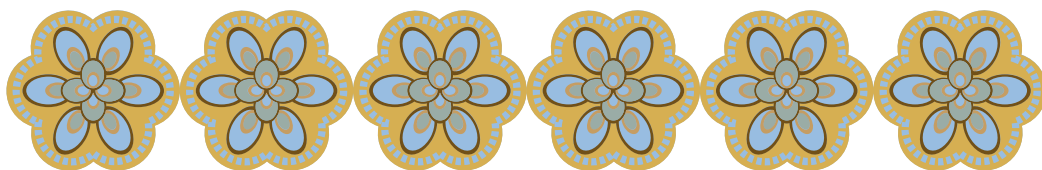
If cloning becomes successful, what are the benefits?

There are many benefits to cloning, such as new medical advances, allowing elimination of defective genes, allowing reproduction of favourable traits in livestock and even solving problems with fertility.

The possibility of sharing genetic information could help prevent or even cure diseases that may harm a person's life. By creating a duplicate individual it will allow a huge medical advance in the industry. Couples who have been unable to conceive naturally could get the chance to create children through human cloning to have an authentic genetic relative. Organ donations will be faster by learning how to duplicate organ tissues from existing resources instead of waiting for a random donation, doctors could proceed with cells taken from each patient.

However, the risks of cloning could lead to a shorter lifespan than an average human. This will follow with lower success rates as cells can die before being implanted which can then lead to miscarriages. Babies who have been cloned might suffer from genetic malformation, this can lead to abnormalities like heart defects, mouth/face defects and genetic defects (down-syndrome). Another major reason is that the procedure itself is very unethical to perform as it requires a lot of egg donations, many surrogates and can be life threatening for both mother and child.

SAMEENA HAMID



MY SIXTH FORM JOURNEY

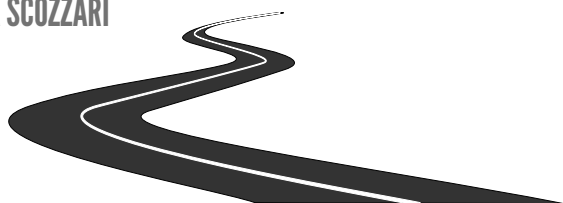
Before I joined Biddenham, I had been at my previous school for several years and I went to look around several sixth forms but none of them were as welcoming and supportive as Biddenham. Understandably, it would feel slightly daunting joining a new school and transitioning from Year 11 into Sixth Form but from the moment I joined Biddenham I instantly settled in thanks to the members of staff and pupils who went above and beyond to ensure that I felt very much a part of the school community and had an easy transition. Within the first few days I already felt as if I had been a part of Biddenham for years!

I can say that I have learnt so many different skills throughout my sixth form journey that I will no doubt carry on with me throughout my next steps. Firstly, the work experience opportunities I have been offered, including Deloitte and Clifford Chance, have been extremely valuable and they really made me confident and certain about wanting to study Law at university. A key piece of advice would be to take every opportunity that is offered with work experience as it can really help you to develop skills and enhance your knowledge as well as helping you to stand out above the rest with personal statements for university or applying for apprenticeships. Additionally, being a member of the Senior Prefect team has been very rewarding. It has been fantastic to see sixth form students working together on different projects and sharing new ideas to be so involved in sixth form life and a part of the school community, including Christmas in a box, culture day and our sixth form prom. Another great moment in sixth form has been the opportunity to help run the Discover Society where we have delivered many presentations including study skills, personal statement workshops and top tips about how to organise EPQ projects. This has not only given us the opportunity to develop our leadership skills but also a chance to meet new people in sixth form and really develop teamwork skills.

A-Levels can be challenging and have an element of stress with the many upcoming exams to prepare for but I have found that Biddenham sixth form is like a large family who always give you the motivation to achieve your full potential. The nurturing environment has given me and many others the drive to overcome those challenges and push ourselves to develop further as individuals. The core values and principles of the school are upheld, friendship, determination, compassion, and success are extremely evident in sixth form life. These are the key values that we will no doubt carry forward into our next steps, whether that be university, apprenticeships or everyday life, and that have made us grow as young adults. I can certainly say that being at Biddenham has taught me resilience and although the sixth form journey has gone by very quickly, I have built lots of memories and am proud and grateful to have been part of the Biddenham family!

My main piece of advice is to make sure that you are organised and dedicated to learning and wanting to develop your knowledge with the A-Levels you have chosen. That is key to aiming high and achieving your best as well as having a positive attitude, and approach towards exams and recognising that they are a gateway to your next steps. My most important message is just to really enjoy the sixth journey and embrace every opportunity that is offered, never be afraid to be ambitious and give things a go!

LUCIA SCOZZARI



AUTUMN WORDSEARCH

R	K	C	D	W	E	L	L	I	E	S	U	S	V
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A	S	U	M	A	H	N	E	D	D	I	B	Y	I
S	N	D	S	E	P	T	E	M	B	E	R	E	A
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AUTUMN
SQUIRREL
MOON
VEGETABLES
LESSON
SEASON
CLOUD
CORN
SNAIL
WELLIES
WEEKEND
HOLIDAYS
READING
BOOKS
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RAKE
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WORDSEARCH ANSWERS



CROSSWORD ANSWERS

ACROSS

- 3 - Thor
- 6 - Dormammu
- 7 - Ultron
- 9 - Spider Man
- 11 - Black Panther
- 13 - Scarlet Witch
- 15 - Captain America
- 20 - Vision
- 21 - Mandarin
- 22 - Valkyrie

DOWN

- 1 - Thanos
- 2 - Falcon
- 4 - Hawkeye
- 5 - Hulk
- 8 - Red Skull
- 10 - Doctor Strange
- 12 - Quicksilver
- 14 - Black Widow
- 16 - Ant-Man
- 17 - Nick Fury
- 18 - Iron Man
- 19 - Loki

FIND THE TEACHER ANSWER

Did you find Mr Shakoor? Take a closer look at the astronaut on page 8...



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