

THE



BIDDENHAM



DISCOVER MAGAZINE

CREATIVE SUBMISSIONS

- Textiles Work
- Poems



INTERNATIONAL WOMEN'S DAY

Read about The Equality of Period Cramp Simulators

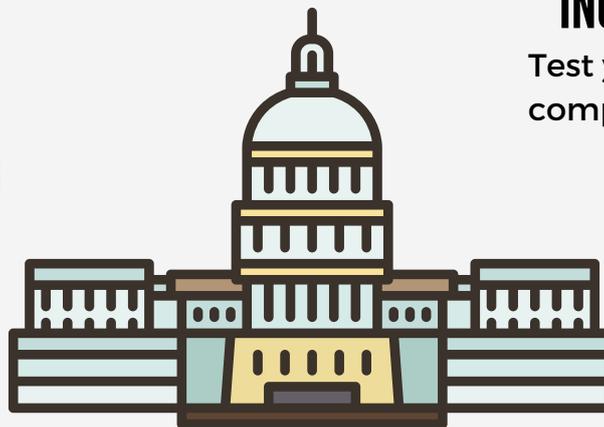


INCLUDES A WORD SEARCH

Test your skills by attempting to complete an Easter word search

AEROSPACE ENGINEERING

A little insight into an eye-opening career...

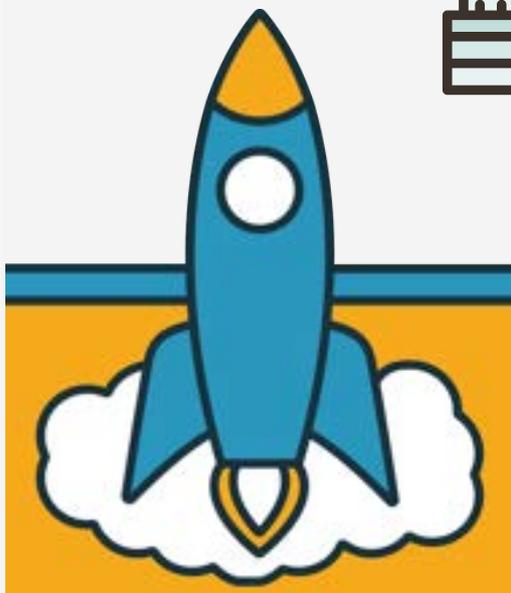


ROLES OF PARLIAMENT

Check page 16 for the ins and outs of Parliament as well as some of the major roles played

DINOSAURS

Find out the connection between dinosaur DNA and birds



"THERE ARE NO SECRETS TO SUCCESS. IT IS THE RESULT OF PREPARATION, HARD WORK AND LEARNING FROM FAILURE" - COLIN POWELL

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.

Editors -

Natasha Aitchison
Dharishna Reddy
Lucia Scozzari
Matilda Crafter

Contact:
biddenhamdiscovermagazine@mybiddenham.com

- 2 - Message From The Heads Of School
- 3 - Message From Sixth Form Director
- 4 - Message From The Magazine Editors
- 6 - Physics of Formula 1
- 7 - Golden Sun Poem
- 8 - How Does Attendance Affect Grades
- 9 - Interview with Miss Saggu
- 11 - Dinosaur
- 12 - Girl Made of Fire Poem
- 13 - International Women's Day : The Equality of Period Cramp Simulators
- 15 - Biological Reactions
- 16 - A Brief Introduction to the History and Roles of Parliament
- 18 - Behaviourism Learning Theory
- 19 - Easter
- 20 - Easter Word Search
- 21 - The Procrastination of Mobile Phones
- 22 - Minimalism
- 23 - Discover Society
- 24 - STEM workshop
- 26 - Aerospace Engineering
- 27 - Catherine Morland
- 29 - I Tend to Take Walks by the Sea Poem
- 30 - Textiles work
- 35 - Dark Matter and Dark Energy
- 37 - Answers To Easter Word Search

WELCOME TO THE BIDDENHAM DISCOVER MAGAZINE!

Welcome to the fourth edition of the Discover Magazine! We are very excited for you to read this and we hope you enjoy what the students within Biddenham have to say. To start with, here is a message from the heads of school.

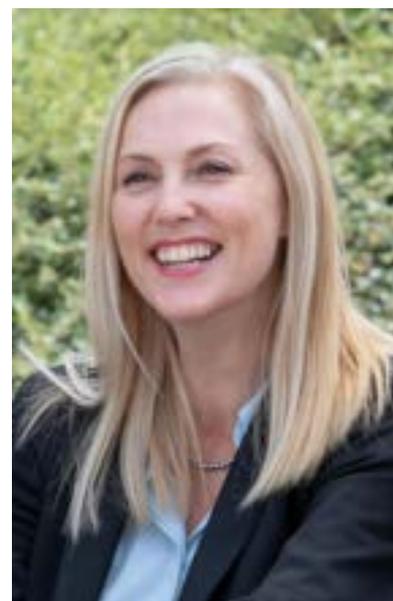
Dear readers,

You are about to read another wonderful edition of the 'Discover' magazine - the magazine that supports the Discover society at Biddenham, which also runs talks and workshops by the students for the students.

As with all the other editions, the magazine contains articles on a multitude of topics from a multitude of people illustrating thoughts, ideas and learning from many different disciplines and subject areas. There is something for everyone here...

This magazine has become an integral part of what we do at Biddenham and reflects the intellect, hard work and commitment of our students - it is not an easy job to coordinate and produce and I would like to pay tribute, and give thanks, to the outgoing editorial team of Natasha, Dharishna, Lucia and Matilda, who once again have produced something they, and we, can be rightly proud. We will miss them being around next year as they have contributed so much to Biddenham in their time with us - but they are definitely destined for great things and we wish them every success in the future.

MR D BAILEY AND MS E GRYLLS



MESSAGE FROM THE SIXTH FORM DIRECTOR

It really does not seem that long ago that the idea of a student magazine was first discussed as an outcome of the brilliant Discover Society. Our lives have all become significantly altered from when the first edition was published. Who would have thought that lockdown, isolation and centre assessed grades would have all become second nature in the last few years. Throughout this time it has allowed us to develop a set of skills and attributes that we would not have considered as much in previous years. It has made me incredibly proud how this group of students has coped with the



issues the pandemic has thrown at them, the resilience students and staff alike have shown has been remarkable.

For the students in their final few weeks with us I wanted to wish you all the very best for the exam season and all that lies ahead for you. The opportunities beyond life at school can be both exciting and daunting, but rest assured you have all developed the necessary skills to succeed in your chosen pathways. We hope that you will always look back on your time at Biddenham with a smile on your faces and that there will be a time you come back and visit us with stories of your success.

Finally, a massive thank you to those students involved in the production of this magazine. You have truly left a legacy and we hope that current students will build on the incredible foundations that you have set down.

Good luck, take care and work hard until the exams.

Mr A Brown

MESSAGE FROM THE MAGAZINE EDITORS

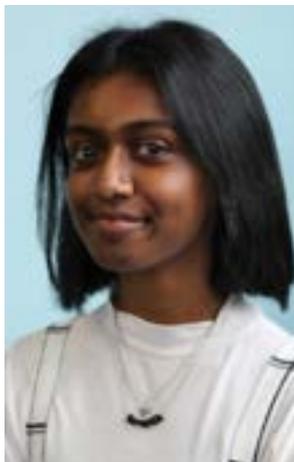
It has been a busy year on the Discover Magazine, as we are in our last year of A-Levels and have been working very hard on the new additions alongside our revision. Since the start of Sixth Form we have compiled four issues that contained all of the hard work students across the school submitted to us. The articles have been getting better and better, so we are very excited to see what the students come up with next.

Our fourth edition of this magazine is very important to us as the current Year 13 Discover Magazine Team have to pass the gauntlet over to the current Year 12s who will be in charge of the magazine when we leave. This edition has been a busy one with a lot of students handing in their amazing pieces including information about Aerospace Engineering, the History of Parliament, and Poetry.

This is a very bittersweet time for us as we have to pass the Discover Magazine over to the Year 12s just as the year group before us did. We have all gained a lot of skills during our time on the magazine including building our confidence, working as a team, and communicating with other year groups and teachers. It will be a very proud moment for us to finish this edition of the Discover Magazine, but also sad as the last edition marks the end of our school lives and the beginning of adulthood.



NATASHA AITCHISON



DHARISHNA REDDY



LUCIA SCOZZARI



MATILDA CRAFTER

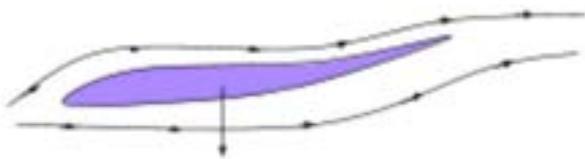


The Discover Magazine Team has worked very hard this year and we are very proud of our accomplishments. We would like to thank all the students who have worked on and sent in articles for the magazine; the extra work you put in is greatly appreciated and you should be very proud. We would also like to thank the new Year 12 Team, and we're sure you will make us proud and create each edition of the Discover Magazine to the best of your ability. Thank you so much for your support and we hope the Discover Magazine will continue to be cultivated and loved after we have finished our Biddenham Journey!

PHYSICS OF FORMULA 1

Physics is at the heart of Formula 1. Without the practical application of physics, the sport would cease to exist. Each F1 team has a huge team of engineers and aerodynamicists that take into account every variable that could affect the performance of the car. Some of the most impactful features of a race are the down-force that the car can generate, the tyres that are used and the car's ability to corner.

Downforce is one of the most important factors in F1 cars. The shape of the car allows the air travelling over the top to travel slower than the air travelling under the car. Bernoulli's principle states that as the speed of a fluid (air being the fluid in this example) decreases, pressure increases. So the air going over the top of the car has a higher pressure than the air under the car which pushes the car down towards the track and prevents the car from spinning out when taking corners at high speeds. The force is so high that the car could theoretically drive upside down on the roof of a tunnel. The diagram shows the basic shape of an F1 car and how the air travels over it, the front and back wings are highly responsible for the movement of air and downforce. This principle is used in reverse on aeroplanes in order to lift them off the ground.



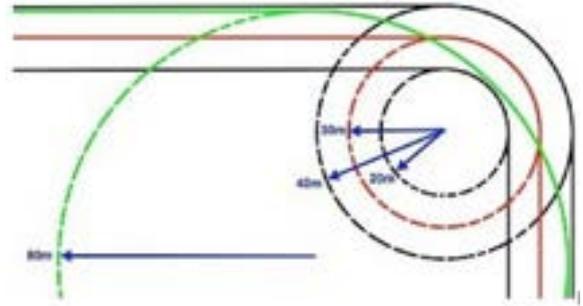
Tyres are also extremely important, all F1 cars use the same range of tyres from Pirelli. There are two main types of tyres: wet and dry.

Wet tyres are also split into two types: 'extreme' tyres are used when it is raining and 'intermediate' tyres are used when there is water on the track. These have grooves which allow the tyres to make contact with the track and the water to flow through the grooves, which prevents aquaplaning.

Aquaplaning is when a layer of water is in between the tyres and the track this causes the car to lose grip and spin out. The dry tyres are smooth and range from compound one to compound five, compound one being the hardest and compound five being the softest, meaning they have more grip. The harder the tyres the longer they last, but the softer the tyres the faster the car can travel; this is why F1 teams need to be thinking about when to change tyres. The tyres are also heated to 80 degrees celsius before the race and can reach up to 100-110 degrees celsius during the race - this is important as it makes the rubber sticky, consequently the car can reach higher speeds.

If you have ever watched F1 you may have wondered why the drivers take the longest path when taking corners. The answer again is because this allows them to reach higher speeds (a higher speed is better than a shorter distance). When the car corners the tires experience centripetal force and to counteract this force they need friction. The larger the radius of the corner the smaller the centripetal force means the car doesn't need as much friction to not spin out. This in turn means the car can reach a higher speed.

The friction on the tyres is dependent on the friction coefficient of the track, different materials have different friction coefficients, whether it is wet or dry also affects this. As the race progresses rubber from the tyres get logged in the track, in the dry this rubber increases the coefficient of friction, in the wet however the coefficient is decreased, so this can also affect a driver's racing line and the speeds they can reach.



SCARLET BROUGHTON

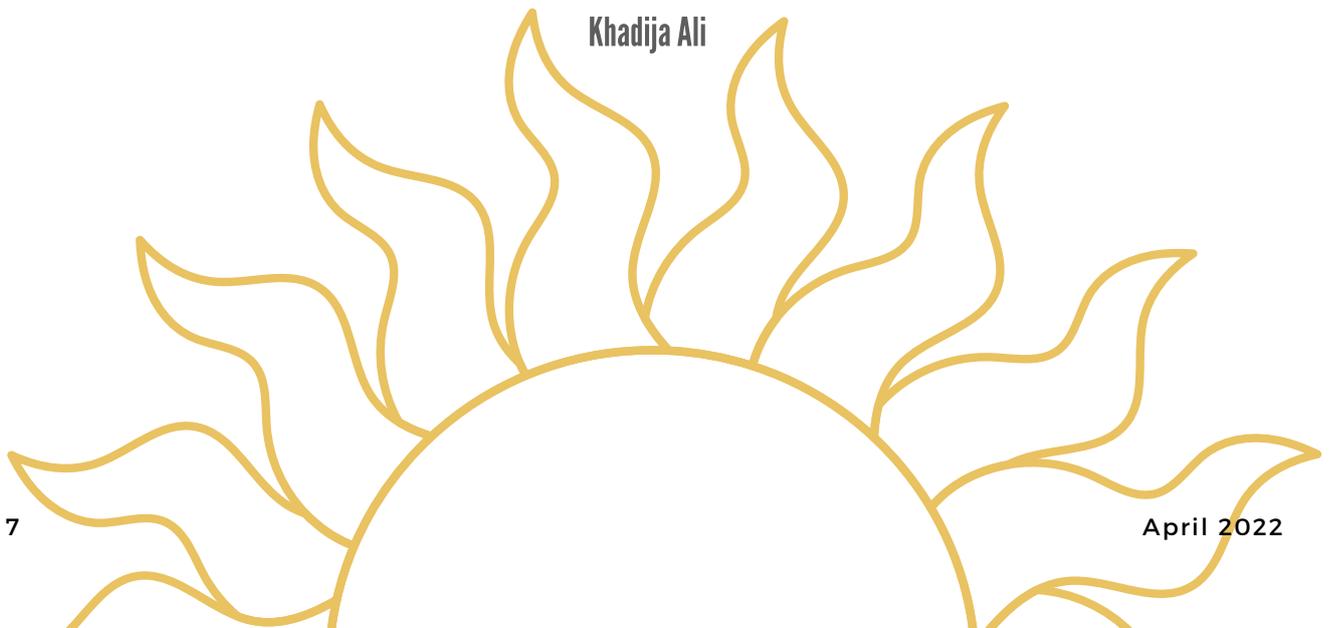
GOLDEN SUN

Golden Sun,
I was not a believer of religion,
but you came to me and shown me heaven,
made me hand in hand with God.

Golden Sun,
please don't leave me
for if you leave I will be without light,
and stay in a plagued darkness
I cannot survive without the flame you lit.
It has centred my being
and I will starve from the lack of warmth that comes with your love.

But Golden Sun if you go,
I'll find another,
and rise from the dust, that were my dreams.
I'll listen to the waves as they move me
and I will dance to the moonlight.

Khadija Ali



HOW DOES ATTENDANCE AFFECT SCHOOL GRADES?

Attendance plays a very significant role in terms of school grades and success. For example, studies show that for pupils with absences over 50% only 3% managed to pass 5 or more subjects. Most schools, colleges and sixth forms say that anything under 90% attendance is when your grade will visibly change which amounts to around 19 days of absence.

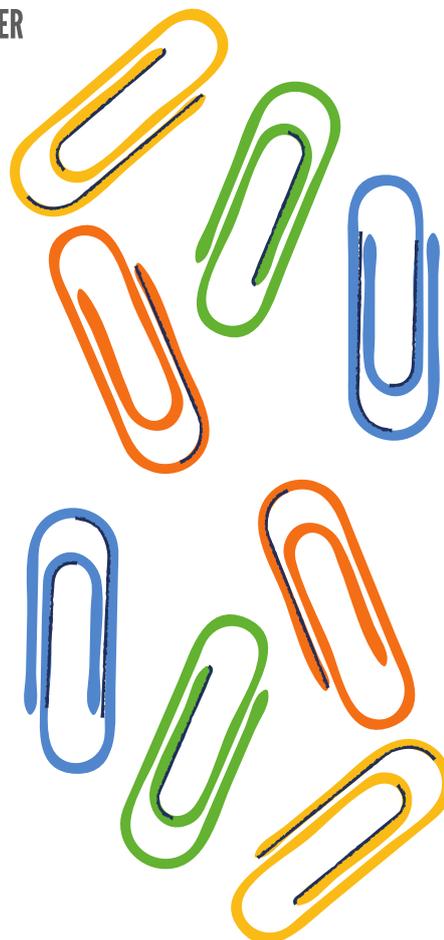
4 weeks of school absence seems like a lot of time, however it is equivalent to missing one day of school every two weeks in a school year. The average attendance last month in the UK was 90.3% which was more than last year. Another thing that has increased since last year is the average school grades for all years. This proves that having higher attendance will positively affect your grades for any subject you do.

Having a routine is also shown to develop a positive school mentality, which can further evolve students' progression in school, allowing them to spend more time without stress and could give them a greater feeling of comfort within school. If a student was to have poor attendance they would be behind in lesson content and would struggle to catch up unless they diligently put in work at home. Students tend to learn better when in a comfortable environment and being in

school allows them to build on this comfortability.

Some people may argue that attendance is not important as it doesn't necessarily mean that the student is working hard and paying attention in class, however it has been proven every year that, on average, students with higher attendance achieved higher grades in school.

KAI TURNER



INTERVIEW WITH MISS SAGGU

Firstly, what made you decide to study Law at university?

Having studied English, History and Economics at A level, History was a particularly strong interest of mine. Going to university and reaching my full potential academically was always a key priority for myself and my family and so I began to look at university courses relevant to the subject. An area that really stood out for me whilst studying History at A level was the importance of Parliament, democratic government and law making. This was through studying Charles 1st and his belief that he had the Royal Prerogative to rule without Parliament. The similarities between History A level and Law influenced my decision to study Law at university where the subject areas were aligned with my interest in History. In addition, studying Law gives you a wide skill set and is a gateway to a diverse range of career opportunities whether that be within the legal profession itself as a solicitor, barrister or exploring other routes such as teaching, the criminal justice system, social work to name a few.

What was your favourite area of Law that you studied at university and were there any challenges?

I wish I had the opportunity to study A level Law at the time as it would have given me a solid foundation in order to understand the specialist vocabulary, subtle nuances and principles that are a massive feature of law, given that the content is very detailed with several concepts that were challenging,

especially during the first year where the lectures and seminars are particularly fast paced. However, after becoming more familiar with the intricacies of legal language and the pace of learning the content, my favourite area was studying criminal law including homicide and property offences. I also enjoyed public law with many interesting and engaging concepts covering areas such as the role of Parliament, the power and rights of public authorities, including local and central government departments such as the home office.



Did you consider entering a career path in the legal profession?

After graduating from university I knew that I wanted to pursue a career still involving Law. I had secured a place on the Law Society's Final Exam course which was the professional qualifying course for solicitors (which then became known as the Legal Practice Course and now since 2021 known as the Solicitor's Qualifying Exams (SQE) at the Chester College of Law. I was fortunate enough to have been awarded a grant for the course by my local authority. I had also secured a two year training contract which you have to undertake after these exams to fully qualify. However, at this stage, I was still very unsure whether this was the route for me. Since teaching had always interested me, I also secured an offer at the University of Wolverhampton for a Postgraduate Certificate in Education (PGCE) on which I could specialise in teaching Law to post 16 students. I thought it was wise to have as many options available when making career-defining choices, especially since there was so much competition and uncertainty in the job market for solicitors.



How did you get into teaching?

On the recommendation from my personal tutor at university, I went to teach 'O' Level (now GCSE) Law to adults at an evening class at my local college. In addition, during my second and third year at university, I worked at the Citizens Advice Bureau and had completed some internships at law firms. Although working at the Citizens Advice Bureau and the internships were very interesting and rewarding, by comparison I derived far more satisfaction from teaching. I thoroughly enjoyed the interaction with people from so many different backgrounds. What also inspired me was when I began teaching law I developed a much deeper knowledge and understanding of the topics. This made me appreciate the subject to a totally different level. I then went on to study for a Masters of Law which helped me in my early teaching career when I taught Law in Further Education and Higher Education on professional courses like the Institute of Legal Executives, Banking and Accountancy Courses until I came to Biddenham 22 years ago when I introduced A level Law - it was extremely popular being so new then. The best part of my job now is the satisfaction I see in students when they begin to understand, master and make progress in a subject that initially they find so 'alien'! I also love the fact that my job has enabled me to meet 1000s of lovely, interesting people along the way!

LUCIA SCOZZARI

DINOSAUR

ZAYNAB HUSSAIN

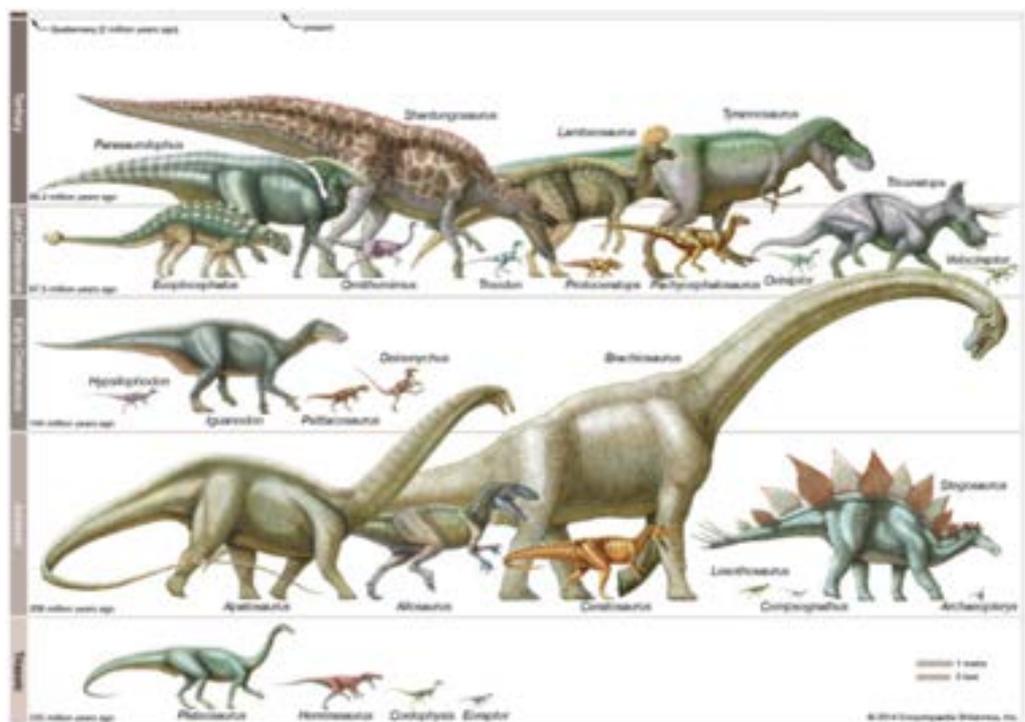
Dinosaurs are an animal theory that scientists have come up with after discovering fossilised bones in 1822. They were first discovered in Sussex by a woman named Mary Anning.

A group of scientists analysed the genomes of modern species. For example, chickens, zebra finches and budgerigars. The chromosomes of turtles and birds were also compared with them. They then traced how the chromosomes changed over evolutionary phases. The results show that with their DNA theropod dinosaurs may have looked like the modern day ostrich, duck and chicken.



The DNA of dinosaurs and birds are said to be very similar, almost identical. Birds usually have around 80 chromosomes and dinosaurs are thought to be closest in terms of DNA to them.

The large number of chromosomes could also be the reason why there are so many different shapes and sizes of dinosaurs. Their chromosomes also allowed them to shuffle their genes a lot more than other animals, allowing them to evolve quickly and help them survive so long on the planet. 150 million years to be exact!



GIRL MADE OF FIRE

She started with a spark
As all things do
She grew and withered
Burned and faltered
People trampled on her trying to put her out
They spat at her saying she was never good enough
She wasn't as strong as the others and could never be
They shamed her for her size
Used her for what she was made of
Not for what good she has to give
She was dying.
She choked and struggled
Felt the burden of trying too hard or not trying hard enough
She took her last breath of oxygen
Ready to be snuffed out of existence
But before the strongest wind came
She saw another fire
In the distance
Through the darkness
They were singing, dancing, shouting their sorrows
For everyone to hear not caring what they thought of her
She felt the words ignite something within her
For she could relate to the hardships
Of being fire
She rose out of the ashes
Hope lighting everything around her
She grew and grew till light blocked out the darkness
She joined the other fire
Sang and danced with her
Until they had to part ways
Filled with ambition she continued to grow,
helped others like herself along the way
Showed that she was a flame that couldn't be put out,
And was as strong as everyone else
She was girl made of fire
And you know what they say:
Don't play with Fire or you're Going to get Burned.

PAVITHRA REDDY

INTERNATIONAL WOMEN'S DAY : THE EQUALITY OF PERIOD CRAMP SIMULATORS



If you are on the feminist side of Tiktok you may have seen videos of women trying period cramp simulators on their friends or partners who are men. These machines have become a popular way to make men realise the scale of pain women can experience whilst on their period. My question is, does the use of these simulators improve equality between men and women?

This idea of equality through simulation came about when my form class discussed period cramp simulators in PSHE for International Women's Day. All of the girls in the class had been told by various boys and men that period cramps can't be more painful than being hit in the penis and that they were being 'too dramatic' or 'too sensitive'. Firstly, do not (EVER) let a person tell you you are being 'too' anything. You are entitled to every feeling that you have, don't let anyone tell you otherwise. This kind of behaviour encourages the patriarchal societal behaviour that we live in today.

The first International Women's Day was held in 1911 in Austria, Denmark, Germany and Switzerland. Over one million men and women attended rallies campaigning for women's rights to work, vote, be trained, hold public office and end discrimination. The day was decided following a Conference of Working Women in Copenhagen in which a woman called Clara Zetkin proposed the idea to over 100 women from 17 different countries. The suggestion of an International Women's Day was met with unanimous approval from all attendees. I think that we can all agree that from this point onwards Clara Zetkin became an official icon!



Period cramp simulators work by applying pads to where the uterus is situated on the body. It is connected to a remote that has levels usually from 1-10, increasing the pain of the cramp each level. The cramps are artificially created using transcutaneous electrical nerve stimulation (don't worry, I don't know what this means either!). Essentially, electric pulses are sent to the surface of the skin and supposedly simulate a period cramp.



Upon seeing these videos many women called for it to be 'mandatory' for a man to try the simulator at least once to understand what it is like for women when they are on their period. The comment sections of these videos are often full of women expressing feelings of validation when the men trying the period simulator express the pain of the cramp and even have that pain travel down their legs. In one video someone said that 'seeing this makes me feel invincible' and I have to agree, watching these videos truly validates that I am not being 'too sensitive'. Everything that I feel is perfectly valid, now we just need to make sure it stays that way.

In this sense I feel period cramp simulators have caused a step forward in equality. Yet, women do not have the ability to stop their period cramps. Of course there is medication we can take that could help them, but ultimately women will experience this sort of pain for 5-7 days of every month, for some women longer have several friends and family members who have their period for two weeks out of every month.

These period cramp simulators on the other hand, can be stopped and taken away whenever the wearer wishes, experiencing these sensations for one minute does not equate to about 40 years of period cramps. On average, women lose about 2 ounces of period blood per period. In total that is 80 ounces (or 2366 millilitres) of period blood in their 40 years of periods. For a better reference, if period blood was normal blood (it's not) you would need to lose 81 ounces in order to die. I feel I should probably clarify that you will not die as a result of losing this amount of period blood, so please do not panic!

In essence, I am saying that period cramp simulators are a step towards equality as it allows people to understand the experience of a period cramp. As a result it removes the stigma surrounding the pain scale of period cramps compared to getting hit in the private area. Yet, this type of equality can easily end by simply turning the machine off. A better way of ensuring equality in our so far fractured existence is to create long-lasting changes. Equal pay for job roles, paying the same insurance prices, having an equal gendered government. Important events such as International Women's Day encourage these changes; on this day our voices are heard not just by our local MPs but by the men and women who are rallying and supporting women across the world. So, I hope you celebrated International Women's Day to the best of your ability.

BREAK THE BIAS

MATILDA CRAFTER

BIOLOGICAL REACTIONS

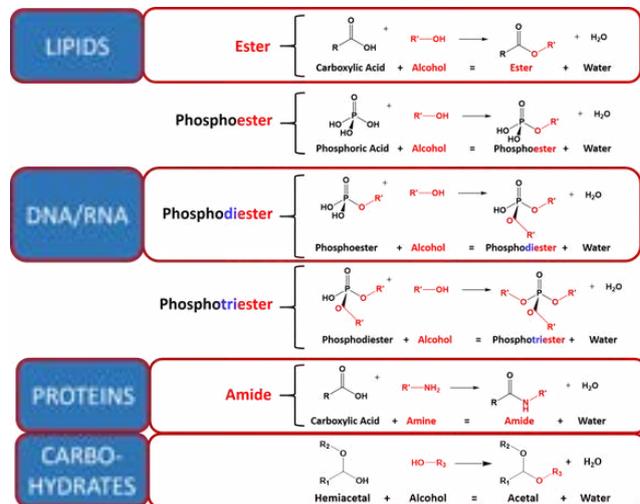
TATENDA GONERA

A biological, or biochemical, reaction is the transformation of one molecule to a different molecule inside a cell. Biological reactions are controlled by enzymes, which are biological catalysts that can change the rate and specificity of chemical reactions which are inside each cell. The most important property of enzymes is the ability to increase the rate of chemical reactions occurring in living organisms, a property known as catalytic activity. Enzymes speed up the rate of reactions because they lower energy required to get to the moving part of the reaction (activation energy).

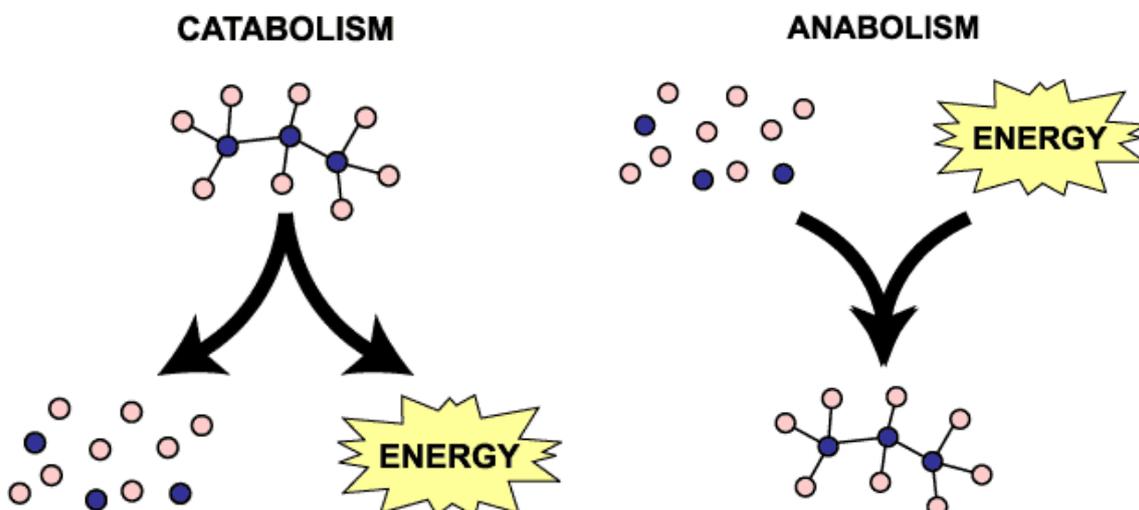
There are 4 types of biological reactions:

1. Oxidation/ Reduction (Redox reactions)
2. Hydrolysis
3. Condensation
4. Neutralisation

The diagram on the right shows different biological reactions that take place within the human body.



Exothermic reactions are known as catabolic reactions. An example of a catabolic reaction is the breakdown of glucose, which releases energy that cells need to carry out processes. Endothermic reactions in organisms are called anabolic reactions.



A BRIEF INTRODUCTION TO THE HISTORY AND ROLES OF PARLIAMENT

The word 'parliament' is likely to be familiar to most people. We hear about Parliament everywhere, from the news, culture magazines and even on social media platforms, but what actually is the role of Parliament? Healthcare, crime, education, environments and international aid are just a few examples of the issues in our lives that are shaped and managed by Parliament. The UK Parliament consists of three parts (also known as chambers), these include: the House of Commons, the House of Lords and the Monarchy (currently Queen Elizabeth II).



The House of Commons is the elected chamber of Parliament. They consist of the Prime Minister and 650 MPs, who are people elected by their local regions to express their views in the chamber. The House of Commons are responsible for proposing laws, amending them and debating important issues. The House of Lords is the second chamber, they share the responsibility of making and shaping laws with the House of Commons. This chamber includes 800 peers, who are selected for their knowledge and experience. Lastly, the Monarch's role is to meet with the Prime Minister weekly and formally approve of laws passed by Parliament which is a process known as "Royal Assent". Due to the large volume of work Parliament has, many people work behind the scenes such as librarians and legal workers to help support Parliament.

You now know what Parliament is in charge of and who they are, but how did this all begin? Parliament has evolved throughout history to what we see today in order to keep up with societal needs and changes. There are two crucial historical events that formed Parliament. In 1215, King John signed a declaration called the Magna Carta, which agreed to a set of 63 rules stating that not one person was above the law. Fifty years later, for the first time, representatives of the towns and shires of England gathered in Parliament. This gathering was led by Simon De Montfort and was the first real House of Commons. Both these events set out the key idea of democracy, which we still use today where everyone has the right to vote and is entitled to an opinion. From this point onward, the decision making power in England slowly began to pass from the Monarchy to Parliament.

It is important for Parliament to be the main decision making body in England because they voice society's thoughts and opinions. One of the great advantages of Parliament is that they are accessible to everyone. If you have a certain issue in your local area or something important that Parliament should pay attention to, you can easily write, call or email any MP or Lord. If you're really passionate then you can even write a petition or join campaign groups. Overall, Parliament is a flexible and democratic governing body, which greatly benefits Britain and the order in which it functions.

ELISHA KAUR



BEHAVIOURISM LEARNING

THEORY

The behaviourism learning theory was developed by Burrhus Frederic Skinner (1904-1990), who was an American psychologist, behaviourist, author, inventor, and social philosopher. He was a professor of psychology at Harvard University from 1958-1974 and was best known for his influence on behaviourism.



What is behaviourism? Well, it is a theory that human and animal behaviour can be influenced through conditioning. This means that all types of behaviours, negative or positive, can be influenced depending on their environment. Burrhus Frederic Skinner found this by conducting experiments using animals and placing them in a 'Skinner Box'. This 'Skinner Box' was used to record an animal's behaviour.

The way the 'Skinner Box' worked was by placing a hungry animal (it would typically be a rat) in the box and letting it run around inside the box. Inside the box contained a lever, a container for the food to be placed, an electric grid for the rat to move around on, a wire connected to the electric grid to shock the generator, a food dispenser on the outside of the box and signal lights. So when the rat starts running around inside the box looking for food after a certain amount of time a light would turn on signalling that something bad will happen.

If the rat ignored this signal it would receive an unpleasant electric current which caused discomfort. But if it pulled down the lever it would stop the current, this can relate to being a punishment. And this will continue to happen throughout the experiment but eventually the rat will recognise that when the light is about to be turned on it must be ready to pull down the lever to prevent getting punished.

But the 'Skinner Box' also contained rewards so when the rat pulled down the lever it would also pour food into a container for it to eat and this can relate to a reward. This made the rat recognise that if it continued to pull down this lever it would get rewarded instead of receiving punishments. This can also be compared to humans, if a teacher was to reward a student for giving in their homework or working hard this will encourage them to repeat this and help boost their academic performance and provide better results.

But if a student was to do something that is bad like messing around during lessons their learning will be affected and they will most likely receive a punishment like detentions. But students may continue to do this because other students may encourage this and make them think it is a good idea but gradually the punishments will get worse like calling parents into school or exclusions. With parents involved students will most likely stop repeating these actions as they wouldn't want to receive further punishments. So if they stop performing these actions they will start doing actions

that are right and will also receive rewards for these actions and this will help encourage them to continue doing these positive actions.

In conclusion Burrhus Frederic Skinner's behaviourism theory was to show that whatever happens around people or animals will influence their behaviour and that behaviour can relate to learning because if students were to receive praise or they are in a positive mood they will be more willing to learn. This will then impact their academic performance giving them better results.

Mohammed Miah

EASTER

The fulfilment of prophecies in the Old Testament and a revelation of God's sacrifice for humankind is the reason why Christians celebrate Easter. Easter commemorates the Resurrection of Jesus and the defeat of death as well as the hope of salvation.

Beginning Ash Wednesday, Christians go through the season of reflection leading up to the celebration of Easter. There is a follow-up of 40 days fasting and penance which is commonly known as Lent. Before the crucifixion of Jesus, Christians believe he went into a state of 40 days and nights of fasting, seeking the face of his Father (God). Christians replicate Jesus' sacrifice by giving up food, festivities and also a valuable asset in your life. Partaking in lent shows a sign of sacrifice as well as self discipline.

Easter begins with Palm Sunday when Jesus was received into Jerusalem, Maundy Thursday follows next, consisting of Jesus' last supper with his disciples. Good Friday, a day of significance when Jesus was crucified, they then end with the resurrection of Jesus taking place on the 3rd day after his death. Easter symbolises the opening of heaven with the gift of eternal life to everyone and withholding the power of sin and spiritual death.



Nicole Adusei

EASTER WORDSEARCH

Millie Sussams

E	T	A	L	O	C	O	H	C	Y	J	S	G	P
R	C	C	J	D	E	G	F	O	R	T	A	O	S
C	P	A	E	P	B	E	E	F	N	Y	C	O	A
S	S	O	S	S	G	U	F	E	A	Y	R	D	L
R	C	H	U	G	F	E	G	H	S	J	I	F	M
J	D	S	S	T	E	G	H	D	U	A	F	R	S
A	T	O	R	N	A	N	R	T	Y	S	I	I	U
R	S	J	G	E	G	I	E	C	I	E	C	D	N
S	S	D	R	L	P	R	G	N	S	A	E	A	D
C	O	N	E	U	S	P	N	E	D	E	F	Y	A
Y	R	I	D	I	F	S	I	A	E	N	T	C	Y
A	C	Y	L	U	H	B	U	N	N	Y	T	S	C
H	R	E	S	U	R	R	E	C	T	I	O	N	G
I	R	F	A	T	R	E	T	S	A	E	A	I	R

FAITH
EASTER
LENT
GOD
GOOD FRIDAY
SPRING
RESURRECTION
EGGS
JESUS
CROSS
PSALM SUNDAY
CHOCOLATE
BUNNY
SACRIFICE



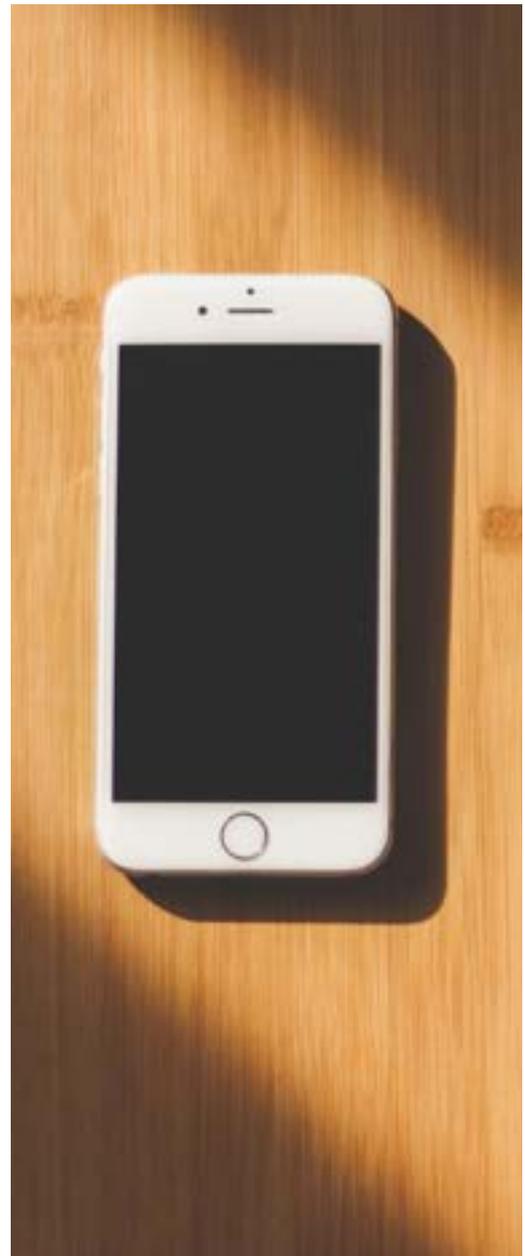
THE PROCRASTINATION OF MOBILE PHONES

Mobile Phones can be incredibly useful pieces of technology which can supplement your education. However, they can also be a distraction during lessons, time spent studying at home or lunchtimes. I am going to lay out a few potential strategies which you can use to mitigate mobile phone usage during lessons or revision time if you are easily distracted by your phone.

The most obvious strategy to try is simply turning off your phone, or putting it on silent. This should help if you get a lot of notifications and you keep answering them. Turning off your phone in lessons will also help the battery life of your phone which is useful if you don't have access to a phone charger after or during school.

If you are like me and you are easily distracted by having your phone out on your desk when you work then this method might be for you. Try putting your phone somewhere you can't see it - e.g in another room when at home or in your bag during lessons. This can be combined with turning your phone off in order to absolutely minimise distraction.

A strategy which can help you to study at home if you get frequently distracted is to take frequent breaks when studying. At first this seems counterproductive but it means that you're actually focused for the duration of each study session, rather than planning a long revision session the night before an exam in which you get distracted and end up getting no revision done.



SAMUEL ELLIS

MINIMALISM

Dictionary definition: Is a movement in sculpture and painting which arose in the 1950s, characterised by the use of simple, massive forms.

'Aesthetically, minimalist art offers a highly purified form of beauty. It can also be seen as representing such qualities as truth (because it does not pretend to be anything other than what it is), order, simplicity and harmony.' - Art Term from Tate London

A minimalist said 'A work of art should be completely conceived by the mind before its execution'



In 1913, Malevich placed a black square on a white ground claiming that 'art no longer cares to serve the state of religion; it no longer wishes the history of manners; it wants to have nothing further to do with the objects as such, and believes that it can exist, in and for itself, without things.'

Black Square is an iconic painting by Kazimir Malevich. The first version was done in 1915. Malevich made four variants of which the last is thought to have been painted during the late 1920s or early 1930s

Henri-Robert-Marcel Duchamp was a French painter, sculptor, chess player, and writer whose work is associated with Cubism, Dada, and conceptual art. 'He assigned aesthetic value to purely functional object by a simple mental chaise rather than through any excessive of mental skill' - Duchamp

What he wanted to demonstrate was that art making could be based on other terms than the arbitrary, tasteful arrangements of forms.



Outcome of personal study

DISCOVER SOCIETY

This term in Discover Society we have had a series of presentations given by our current Year 13 students, all surrounding the subject of post-18 pathways.

First a presentation comparing apprenticeship with university degrees was given by myself and Matthew Brown. This included the benefits and drawbacks of both qualifications, which allowed for further discussion afterwards on which would be best for which career aspirations. In my opinion, the most interesting points to speak about were the employer opinions surrounding the two different degrees, as both have their merits. After a discussion, the group reached the opinion that both are applicable to different job titles, so it is a good idea to research which is preferable in your desired career.

The next presentation was given by Lucia Scozzari on the topic of attending universities abroad. This is a very interesting topic to learn about, as it isn't always an option that everyone considers, so it

was nice to discuss this option with some of the students who hadn't previously thought of it. Lots of people mentioned the fact that a language barrier would be present, but Lucia explained that it would give you a new skill set, as most people who live in European countries have enough understanding of English for you to be able to communicate and having another language consistently spoken around you makes learning it yourself much easier.



Matilda Crafter gave a talk the week after about gap years and university options. She started with an interactive activity where students wrote down their interests and potential future career ambitions. These were then stuck onto the board and one by one we discussed the points written.

One of the more interesting discussions was centred around the different pathways people can take when getting into a law-based job, rather than the traditional route of getting a law degree. Then the group spoke about what different skills and experiences you can gain from taking a gap year, which included time management skills and industry experience .

Another presentation was given in the next week by Jake Maule on how best to write a high standard personal statement. This is a very important topic to learn about, as everyone who wishes to apply for university needs to write a personal statement, and this can be quite a difficult and stressful process. One of the best pieces of advice given during this was to make sure that you start writing it as early as possible, because this gives you the maximum period of time in which to redraft and ensure it is to the highest standard.

Then, Evie Wright and Jasper Kellett gave a presentation on student financing.

This ranged from information on student bank accounts to maintenance loans. They also shared several useful links to government information pages on various topics. One of these was a student finance calculator, which can be used to estimate student loans and additional student funding. Another was an explanation of how students can apply for student finance, which is especially important for when students are looking to apply for university next year.

Finally, Matthew Brown and Cameron McLeod

gave a presentation on the process of job applications. They spoke about reasons students should consider applying for a job, and the way in which they can go about applying. This included information about online applications and job centres. Lots of students were curious to learn about how often jobs require an interview prior to application, and fortunately both Matthew and Cameron have been through the job application process so were able to answer all queries.

It has been exciting to see the range of knowledge



and skills that our sixth form students have spoken about. Not only has this activity helped inform the year 12 students on important information that they will most probably need in the next few years, but it also enabled our year 13 students to practice their presentation skills.

NATASHA AITCHISON

STEM WORKSHOP

The first thing that we did in the STEM workshop was watch a video. In the clip we learnt about a group of people who were lost in a forest on a mountain and they had very few resources. The essential objects they had were an orange, coins, foil, wire and a girl's phone. In addition, one of the girl's friends was injured.

Then we had a task to make electricity with an orange. They gave us an orange, crocodile clips, wires and copper. They also gave us a voltmeter to see how many volts we could generate with the orange.

We were then given some sheets where they asked about our interest in engineering. We then learnt that there are 4 types of engineers:

1. Humanitarian
2. Graphic designer
3. Pioneer
4. Maker



What is a humanitarian engineer?

A humanitarian engineer is someone who builds machines or prosthetic body parts. For example, some machines that humanitarian engineers have built would be MRI machines which are used to scan most body parts, or an echocardiogram which is essentially an ultrasound for the heart. They have also built prosthetic body parts such as arms and legs.



What is a pioneer?

A pioneer is a category that has different types of engineers. Some examples are aeronautical engineer (also known as an aerospace engineer), an army pioneer and civil war engineer. A pioneer makes things sufficient in our society like cars, houses, electricity and many more.



REHAN SHAH AND TALHA MIRZAGHANI



What is a graphic designer?

A graphic designer is an engineer that assembles graphical designs and arts to create a game, or something you can read online that has been digitally published in the electronic media. Some examples are brochures, newspapers and magazines. Companies that are involved in graphic design include EA Sports, Epic Games, Activision, Treyarch and Psyonix.



What is a design engineer?

A design engineer is someone that designs clothes for catwalk models and other similar people. These engineers design the future by imagining what it will look like. Design engineers study, research and develop ideas for new products and the systems used to make them. They also modify existing products or processes to increase efficiency or improve performance.

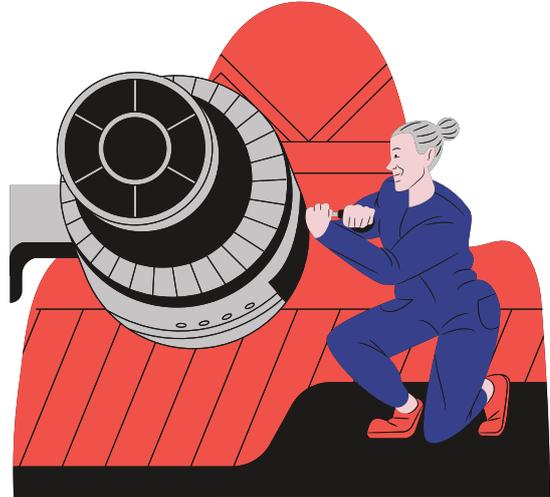
MATT BROWN

AEROSPACE ENGINEERING

A little insight into an eye opening career...

Recently, the year 13 physics class held a talk with Paul McMahon, who has been involved in a number of global aerospace projects to help shape science and technology. Throughout his long term profession, he has worked on over 40 projects, one of which provided him with the opportunity to visit Mars. His main projects that he felt were the most influencing included:

- Worked on the airbus and ESA satellites
- Produced reaction wheels for the Rosetta spacecraft to land on a comet near Jupiter
- Worked on a landing gear for the Ariane rocket.
- Part of a separation analysis to utilize space inside a rocket



For almost 20 years, he spent his career with the prime focus of landing probes and people safely on Mars. He designed and engineered the Beagle 2, an inoperative Mars space lander that was transported by the ESA with the main mission to discover evidence for past life on Mars. In addition, he helped produce the EXOMars rover, the first ever Rover to have successfully landed on Mars from Europe.

Evidently, engineers of all branches have helped not just manufacture, but work behind the scenes to design and innovate ideas to help improve the scope of science as we know it. Behind every career, every bit of infrastructure, nature, the world as a whole, there are engineers persistently working to make the scientific world more advanced and aspiring.



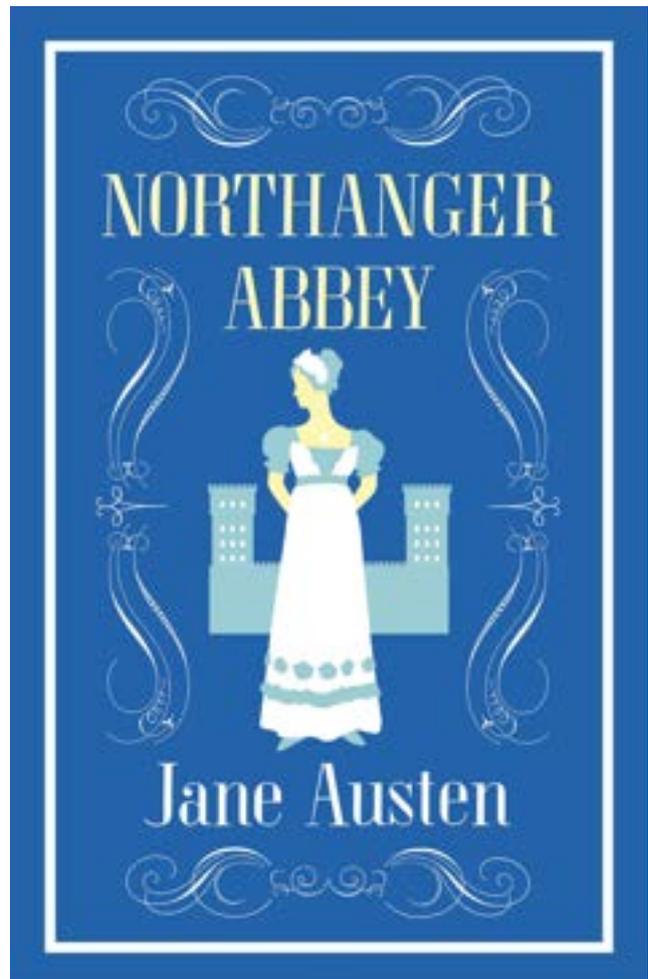
CATHERINE MORLAND:

WHO IS JANE AUSTEN'S MOST RELATABLE CHARACTER FOR THE MODERN DAY FEMALE?

The most famous Jane Austen heroine is inarguably Elizabeth Bennett however I believe the real heroine in the shadows is Catherine Morland of Northanger Abbey fame. What makes her a heroine is her untypical nature and pure relatability to a female Regency audience and also a modern one.

"No one who had ever seen Catherine Morland in her infancy, would have supposed her born to be a heroine." Catherine is the heroine of the novel because she is un-heroic; not every girl can be witty and sharp like Lizzy Bennett or Emma Woodhouse which is exactly where Miss Morland's relatability comes from. She is not as cynical or worldly as the characters mentioned, her beginning introduction is one of plainness, therefore displaying her as humble and naive, which many adolescent girls may feel a familiarity with.

Morland represents the everyday female reader that is looking for excitement, escapism and entertainment in a mundane life which Austen exhibits through the original 'girly' fandom: gothic horror novels. Although Northanger Abbey may be a 'hilarious parody of 18th century gothic novels', I am of the persuasion that it goes deeper than this. Are we really meant to laugh and poke fun at poor Catherine who jumps to conclusions or are we uncomfortable with seeing ourselves in a woman that takes her fictional obsession to reality? Gothic horror excited women in the past, it was filled with dark romance and mystery which we can see present in the 21st Century with the popularity of The Vampire Diaries, Twilight and Teen Wolf so who can blame Catherine for exhibiting the feelings of the original female led 'fandoms' that young women still partake in today.





Men in real life often make fun of women for their 'obsession' with the fictional world yet Jane Austen presents a fresh and positive male character in the form of Mr Tilney who doesn't berate Catherine but instead freely admits that he takes part in the same hobby of reading horror. This can be considered as challenging the traits of toxic masculinity by taking part in female activities in contrast to the loathsome John Thorpe who displays the petulant side of masculinity to attain the attention of Miss Morland.

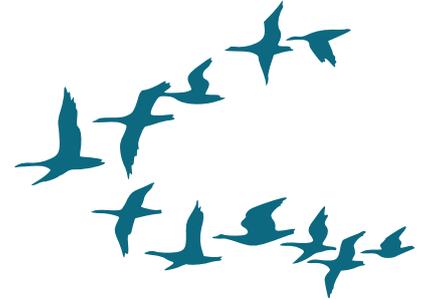
Mr Tilney is the pixy dream man of imagination which Austen often utilised in her novels. Imagine a man that doesn't make fun of every female thing on earth: *shocker*. However he does get affected by Catherine's horror fixation as she admits in her Scooby Doo-like mystery investigation that she imagines his father, Captain Tilney is an unemotional wife murderer who cold bloodedly killed in his perfect castle-like horror setting of a home; Northanger Abbey. In the end this matter is resolved and romance prevails; Mr Tilney gets over his daddy issues and marries Catherine.

Overall what can we learn from this other than Jane Austen constructing yet another male character that would have treated her right? Catherine Morland is the original fangirl and teaches women that we shouldn't be ashamed of feeling passionate about fictional worlds or typical female hobbies and men should take away from this that they too should not feel shame for the same. Gothic horror fans like Catherine created a cultural movement which rejected prejudices and patriarchal attitudes of the past which shouldn't be reduced down to a mere 'parody'. Women are the ones who have always popularised music, literature and media to which I predict will always be preserved in this way. In moving forward, women should not be made to feel embarrassed about their ardour for fiction and hobbies but to feel pride and relish in the enjoyment of these pastimes.



KHADIJA HUSSAIN

I TEND TO TAKE WALKS BY THE SEA



I tend to take walks by the sea,
at night when no one could hear.

I speak to the calm lappings of the water,
and its whispers were better than any doctor.

The night would be my key
to seal what was once,
what could never be.

The miles of coast just for me.
for worries to be spilled, for a sense of mercy.

Then I met you.

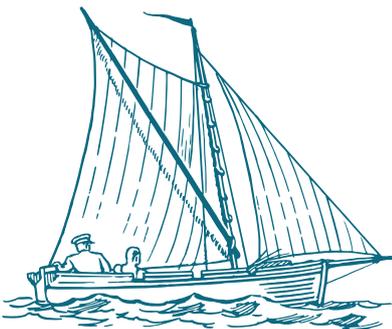
When I cried, it was you who caught my tears.
“Make a wish!” you would say
before you kissed it away.

Wherever the tear went,
following it was the pain in my chest.

Oh, to be the centre of your attention!
Oh, to be drunk on your affection!

But of course it would never last long.
Like the calls of a bird’s last song

or the
Tick
Tock
of a
dying clock.

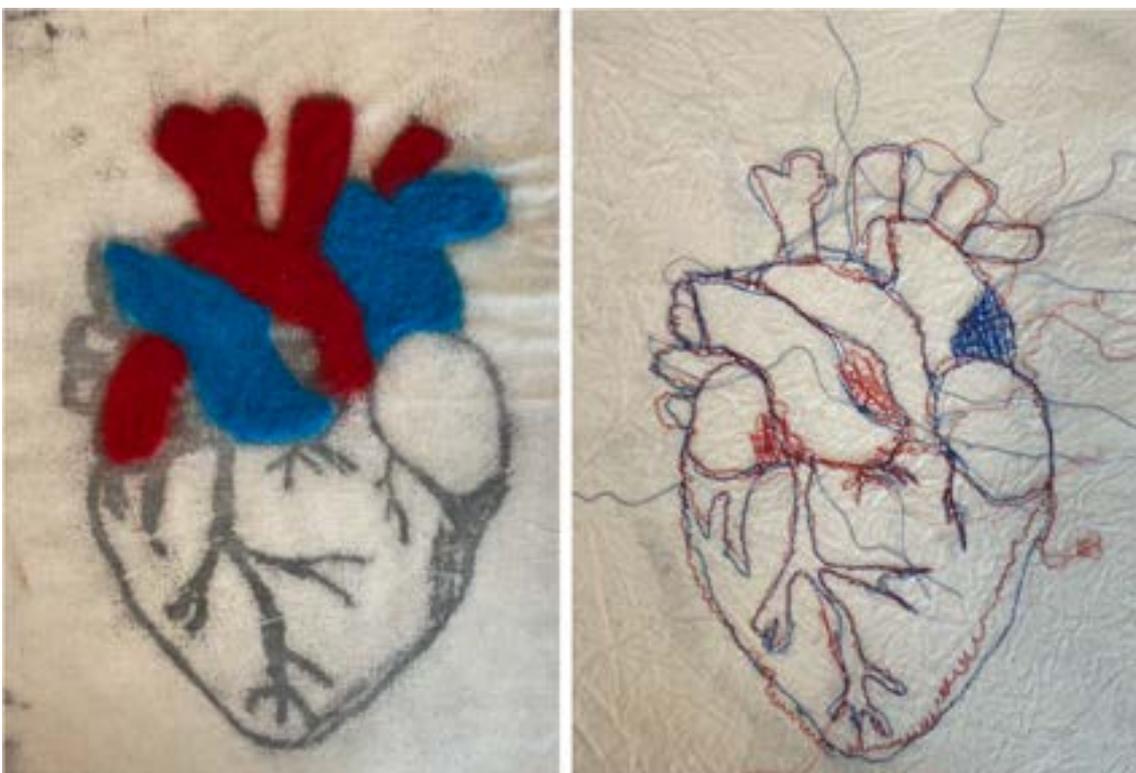


HALA ELABD

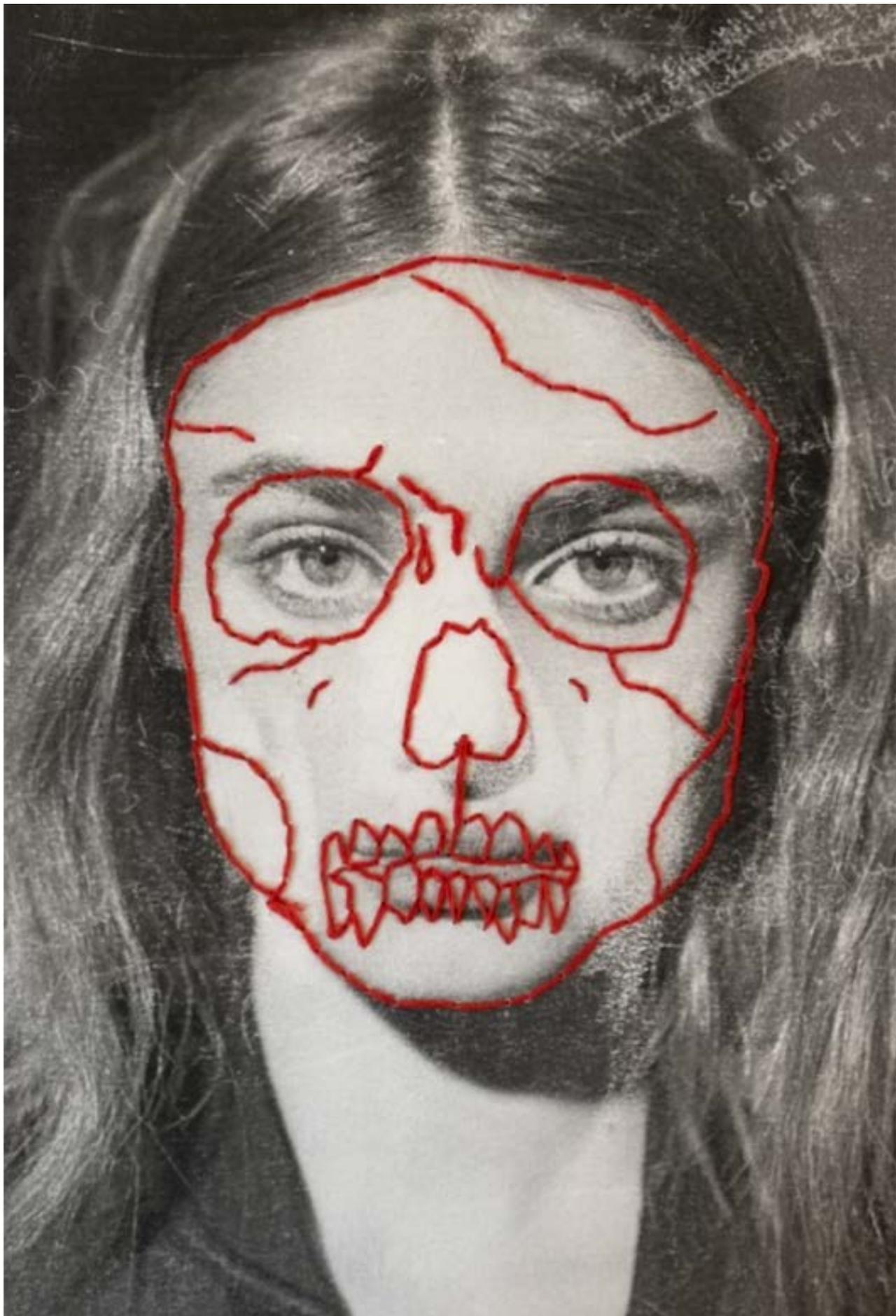
TEXTILES WORK



FARIHA CHOWDHORY, YEAR 11



ELIZABETH AITCHISON, YEAR 10



MAYA ALI, YEAR 10



HARMONY ALLEYNE, YEAR 10



ALESHA SHABIR, YEAR 9



ZUZIA PIECUCH, YEAR 9



SAFURAH NAHEED, YEAR 9



HUMAIRA ISLAM, YEAR 9



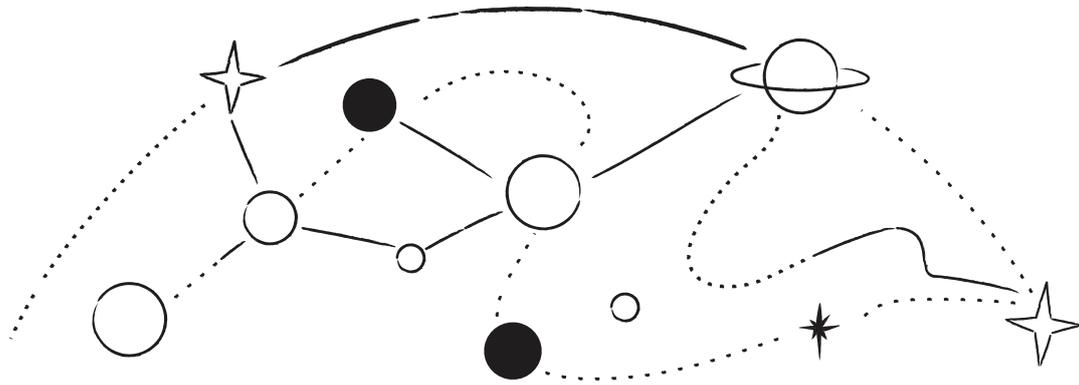
HALEEMA SADIA, YEAR 10

DARK MATTER AND DARK ENERGY

Everything that we can see in the universe, including planets, stars, and galaxies, is all made up of atoms, which also contain within them smaller subatomic particles, such as protons, neutrons and electrons. This is what scientists refer to as ordinary matter and, although this is the only type of matter that we are able to observe in the universe, it was discovered in the 20th century that this ordinary matter makes up less than 5% of the mass of the entire universe. So what is the other 95% made out of? According to scientists, 25% appears to be made out of an invisible and very mysterious substance known as dark matter, while the other 70% is made out of dark energy, a strange force which is thought to repel the pull of gravity.



Although dark matter has not been observed directly, scientists are confident that it exists, due to the gravitational effects that occur within galaxies. Essentially, according to standard physics, stars located close to the centre of a spiral galaxy should travel faster than those located near to the edge. This is due to the fact that most of the matter in a galaxy is concentrated in the centre, meaning that there is a stronger gravitational pull, however what is actually observed is that both sets of stars travel at roughly the same speed. Therefore, one idea that scientists have come up with to account for this is that the stars near to the edge are experiencing the gravitational effects of another unseen mass (dark matter) occurring as a ring around the galaxy.



Dark energy is another, even more mysterious phenomenon, and its existence was discovered during the 1990s. Its discovery is related to the expansion of the universe. Originally, physicists had believed that although the universe was expanding, the attractive force of gravity would cause this expansion to slow down. However, observations from the Hubble Space Telescope in 1998, looking at distant supernovae, found that in the past the universe was actually expanding at a slower rate than it is today. This means that the expansion of the universe has been accelerating, something which was completely unforeseen by scientists. Many theories had been put forward as to why this was the case, including that perhaps space is filled with a mysterious energy-fluid, or that Einstein's theory of gravity is actually incorrect.

Today, scientists believe that this accelerated expansion is due to quantum fluctuations in empty space, which generate a kind of repulsive force, and repel the attractive force of gravity, and this repulsive force is what scientists refer to as dark energy.

TANVIR UDDIN



ANSWERS TO EASTER WORD SEARCH

E	T	A	L	O	G	O	H	C	Y	J	S	G	P	FAITH
R	C	C	J	D	E	G	F	O	R	T	A	O	S	EASTER
C	P	A	E	P	B	E	E	F	N	Y	C	O	A	LENT
S	S	O	S	S	G	U	F	E	A	Y	R	D	L	GOD
R	C	H	U	G	F	E	G	H	S	J	I	F	M	GOOD FRIDAY
J	D	S	S	T	E	G	H	D	U	A	F	R	S	SPRING
A	T	O	R	N	A	N	R	T	Y	S	I	I	U	RESURRECTION
R	S	J	G	E	G	I	E	C	E	C	D	N		EGGS
S	S	D	R	L	P	R	G	N	S	A	E	A	D	JESUS
C	O	N	E	U	S	P	N	E	D	E	F	Y	A	CROSS
Y	R	I	D	I	F	S	I	A	E	N	T	C	Y	PSALM SUNDAY
A	C	Y	L	U	H	B	U	N	N	Y	T	S	C	CHOCOLATE
H	R	E	S	U	R	R	E	C	T	I	O	N	G	BUNNY
I	R	F	A	T	R	E	T	S	A	E	A	I	R	SACRIFICE

December 2020 Vol 1 - 1st Edition

THE BIDDENHAM

DISCOVER MAGAZINE

DNA: WHAT IS IT?
The structure behind the universal genetic code in all living organisms.

THE UNIVERSE
Is it actually expanding?

Merry Christmas

THE CHRISTMAS SPECIAL
Fun fact about Christmas Christmas activities

CREATIVE SUBMISSION
Artistic Piece
A Poem

BLACK HISTORY MONTH

MENTAL HEALTH
The importance of mental health in a pandemic

CELEBRATING BLACK HISTORY

LOTS OF INTERESTING ARTICLE INSIDE

THE BIDDENHAM DISCOVER TEAM
"EVERY POSITIVE ACTION MAKES A HUGE DIFFERENCE"

MAGAZINE AVAILABLE

July 2021 Vol 2 - 2nd Edition

THE BIDDENHAM

DISCOVER MAGAZINE

CREATIVE SUBMISSIONS
Artistic Pieces
A short story

DISCOVERY SOCIETY
Find out more about the Biddenham societies!

FLORENCE NIGHTINGALE
Learn about 'The Lady with the Lamp' and how she founded modern nursing.

EXPLOSIONS
Find out what makes them bang!

CORONAVIRUS PARTICLE
We've been hearing a lot about Coronavirus, but do you know what it looks like? Look inside to learn more!

ROYAL NAVY CAREERS
Interested in a career in the Navy? Read about Zaki's experience.

MINDFULNESS
Increase your ability regulate emotions & de-stress

"SUCCESS ONLY COMES TO THOSE WHO BARE TO ATTEMPT." - MALLIKA TRIPATHI

December 2021 Vol 3 - 3rd Edition

THE BIDDENHAM

DISCOVER MAGAZINE

CREATIVE SUBMISSIONS
Artistic Piece
Posters
A Short Story

BEST REVISION TECHNIQUES
Find out how best to prepare for exams by reading Evi's article!

Thinking of studying medicine?
Read about the application process for medicine, written by a student who has gone through it!

Have we cured COVID-19?
A fascinating article on the different vaccines that have been developed this year.

INCLUDES A WORD SEARCH
Test your skills by attempting to complete Hamza's word search

Books Worth the Read
Interested in finding an amazing new read, check out the book reviews on page 21

Ready2Lead
Learn about an opportunity you could get involved with in the future

"THE BEST PREPARATION FOR GOOD WORK TOMORROW IS TO DO GOOD WORK TODAY." - ELBERT HUBBARD

CHECK OUT PREVIOUS EDITIONS OF THE DISCOVER MAGAZINE



THE

BIDDENHAM DISCOVER MAGAZINE

"Success only comes to those who dare to attempt." - Mallika Tripathi

WE'RE LOOKING FOR CONTRIBUTIONS!

Prizes available for
best in the year
group!!

- WE WANT:
- ARTICLES
 - PICTURES
 - ART
 - SUBJECT INSIGHTS

Send any entries to:
[biddenhamdiscovermagazine](https://www.instagram.com/biddenhamdiscovermagazine)
@mybiddenham.com

**WE'RE LOOKING OUT FOR ALL
YOUR ARTICLES!**

**KEEP SENDING US YOUR
SUBMISSIONS!**