

Dear parents, carers and students

YOUNG GREEN BRITON

Last Friday, all Year 7 were involved in a focus day on the Young Green Briton Challenge. I really enjoyed popping into the various sessions and seeing the students work in teams, developing creative ideas and solutions to environmental issues. These ideas were presented to their class in the afternoon. I was so very impressed with the high levels of engagement, enthusiasm and teamworking skills. A big thank you to Ms Board and Ms Jones who organised the day and will take students with our best green solutions to the next round of the competition.



THE ADDAMS FAMILY

The big news this week, after weeks of rehearsals... it is finally here... the school production of The Addams Family!



For the first time on Wednesday, we invited over 180 Year 5 and Year 6 Primary School children to watch the dress rehearsal. It was a great opportunity for the cast to practise to a live audience and a great experience for our primary feeders to see what older students get up to in Secondary School.

Here are some of their reviews after the performance:

I thought everyone was really prepared and knew what they were doing. They were all speaking very clearly - Bella

I like how it was different to the TV version and that we saw Wednesday as an older character - Mollie

I thought the costumes and props really brought the play to life - Lyla

The show is a wonderful collaboration of students and staff and is testimony to our inclusive community spirit here at BFS. I am really looking forward to watching it tonight and thanking everyone involved.

ASSEMBLIES

This week our assembly focus has been on Holocaust Memorial Day and giving students a greater awareness on the link with this historic genocide and the conflict in Gaza and Israel today. Students were reminded that we respect all people and their beliefs and we are mindful of treating any group as 'other' as this is the start of intolerance and discrimination.

BFS PROMISE PASSPORTS

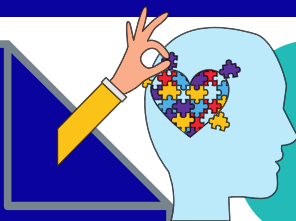
Finally, I want to congratulate Year 8 on starting their BFS Promise passport. This is something Year 7 have already started. The passport is designed to incentivise getting involved in the wider life of the school and developing wider skills in students. I look forward to seeing how they get on.

Enjoy this week's newsletter.



MRS S KING

KEY DATES



FREE ONLINE SEMINARS FOR FAMILIES OF SEND CHILDREN

- Sunday 28 January - Model United Nations at BGS
- Wednesday 31 January - Year 8 HPV vaccinations, BEP EAL Network Meeting, Year 11 MacBeth trip (Bristol Old Vic), Voice 21 Oracy Event
- Thursday 1 February - Year 9 Subject Evening
NO CLUBS OR DETENTIONS
- Friday 2 February - Year 11 MacBeth trip (Bristol Old Vic)



MISS NORTON
CAREERS LEAD



EMPLOYER TALKS

This morning, we welcomed Gabriele who is a senior system engineer at Stirling Dynamics!

He talked to interested Year 9 - 13 students about his role in Aerospace Engineering, where he specialises in aeronautical engineering. His main customers are Airbus and Deutsche Aircraft, for whom he provides expertise in system engineering, in particular with landing gear. In the past he has also worked for the United States Airforce.

He talked to students about what engineering is, why it is important, and gave examples of how engineering has helped improve aircraft. He also briefly talked about routes into engineering, including higher education and degree apprenticeships.

Lots of students got involved in discussions with him about what they knew about engineering and aircraft; Gabriele was also particularly impressed by the high numbers of students attending his talk - there seems to be huge appetite for aerospace engineering here at BFS!



UPCOMING EMPLOYER TALKS

- Friday 2 February - Robotics at UoB
- Friday 9 February - Automotive Apprenticeships with Dick Lovett
- Friday 23 February - Pharmaceutical industries
- Friday 1 March - Health and Social Care

YOUNG GREEN BRITON

Last Friday, the whole of Year 7 were off timetable to work on the Young Green Briton Challenge Design Day.

Having worked in tutor groups for the past few months, coming up with environmental issues and problems to solve in our local and school community, students worked in teams to find and invent solutions to these challenges. Each small group had to refine, budget and prototype their idea, presenting to each other in tutor teams and nominating one group to pitch to the entire year group at the end of the day. We saw pioneering prototypes, ingenious inventions, daring designs and marvellous mannequins! It was no mean feat to stand up and present to your peers and we are so proud of all the students involved! We can't wait to choose which ideas will go through to the Dragon's Den part of the challenge and also to see which we can use to make school more sustainable! A huge thank you to Laura, Maddy, Tom and Ximena from YGB who came to run the day and will be guiding us through the rest of the national competition. Well done to all of our year 7 students for their enthusiasm and effort!



YOUNG
GREEN
BRITON
challenge

BFS SOCIOLOGY



MISS TOVEY

SOCIOLOGY COMPETITION!

In Sociology, we discuss topics which strongly divide opinions. The best sociologists are those who construct evidence-based opinions, argue them effectively, but are also willing to consider alternative viewpoints.

We are asking you to write a response, between 400-500 words, weighing up the statement 'seeing people like us in movies, TV shows, and on social media is important for how we understand and feel about ourselves'. This should give arguments for and against the statement as well as come to an overall conclusion in which you give an evidence-based response to this statement. The best entries will show research has gone into the writing process, and that the statement has been thought about deeply from both sides of the debate.

Please email entries to Miss Tovey (a.tovey@bristolfreeschool.org.uk) or drop them into DG16.

Best of luck budding sociologists!



BFS SPORT



UPCOMING FIXTURES!

DATE	YEAR	SPORT	OPPONENT
MONDAY 29 JANUARY	Year 9 Boys	Football 	Cotham School 
WEDNESDAY 31 JANUARY	Year 7 Boys	Football 	Cotham School 
WEDNESDAY 31 JANUARY	U14 Girls	Football 	Montpelier High School 



STUDENT LEADERSHIP



Bristol
Youth Vote ^X
2024 Elections for the
Bristol City Youth Council

BRISTOL YOUTH VOTE ^X MR SMITH

This week, students in schools across Bristol have been voting in young people to the Bristol City Youth Council for a two-year term of office.

The young people that are voted in will represent the young people of Bristol and their views to adult decision makers, such as the Mayor, Councillors, Council Officers, Members of Parliament, and also campaign on issues that are important to the young people of Bristol. This is called the Bristol Youth Vote 2024.

The most important aspect of any elected representative's role is to make sure they represent the views of young people.

They will:

- Attend Bristol City Youth Council meetings twice a month.
- Attend local area forums
- Meet with youth groups and youth forums to tell them what they are doing and to find out their opinions on youth issues
- Join campaigns groups
- Take part in training sessions
- Elect the four members of UK Youth Parliament
- Meet with the Mayor, local Councillors, and other decision makers like Council officers to influence the decisions they are taking.



We have two students up for election this year:



MATILDA, 9TG2



MAEVE, 10TG3

Please see the links below to the campaign video and the manifestos. Good luck to Matilda and Maeve!

[CAMPAIGN VIDEO](#)

[CANDIDATE MANIFESTOS](#)

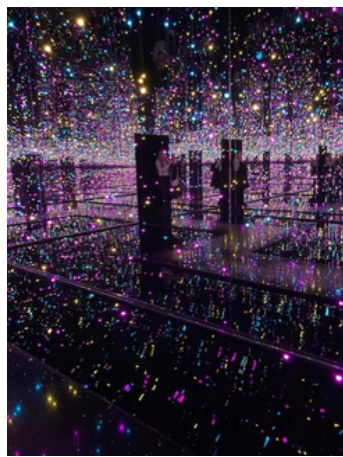
THIS WEEK IN ART



MISS STOKES

A LEVEL TATE MODERN TRIP

A Level Art and Photography students joined Mrs Stokes and Mrs Day at the Tate Modern in London this week. We had a fab day and were lucky enough to finally experience their current exhibition from renowned Japanese artist Yayoi Kusama and her infinity rooms. It was an amazing opportunity to gather inspiration for their work and take photographs. We ended the day with a lovely walk along bankside in the fresh air, admiring the architecture. The students were brilliant and made it a really enjoyable day!





BFS DT

MRS CORRIGAN KEY STAGE 3 DT!

KS3 students have started their new DT rotation this week. Here are some examples of finished outcomes from the previous rotation highlighting outcomes from Creative Media, textile bucket hats from Year 9, and soft snack sculptures from Year 7.

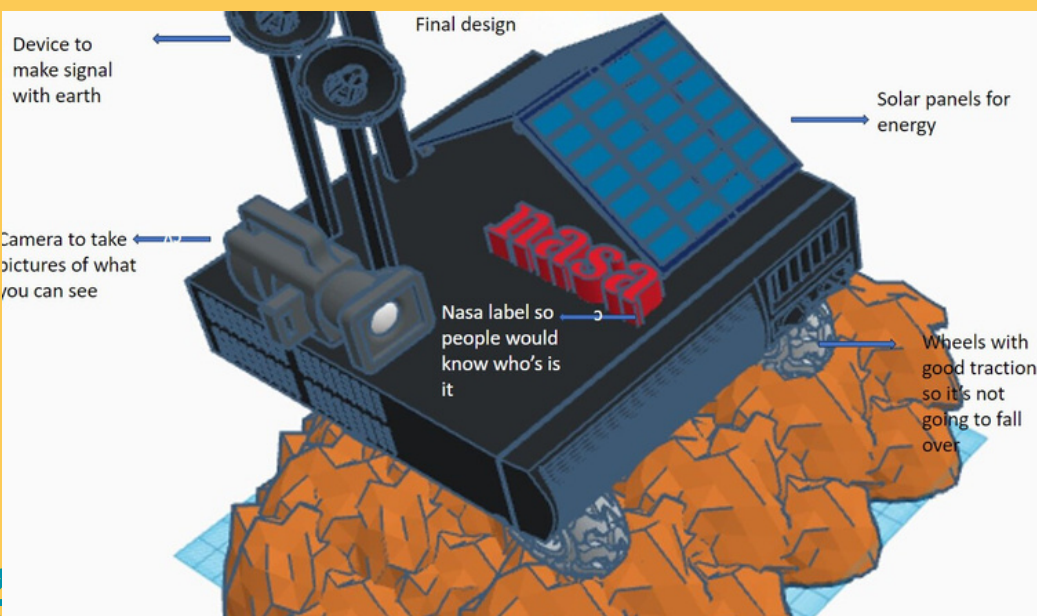
We look forward to seeing the final outcomes of the next rotation!



My eco classroom



It is a light and airy classroom with a big skylight so there is less electricity wasted on lights. Insulated walls with wool, triple glazed windows. Bright colors and fun seating to entice and engage children.





BFS MATHS



MR BROWN



EQUABLE SHAPES



I really enjoyed reading through all the entries to the equable shapes competition which was set at the end of last term. In particular, it was pleasing to see entries from a number of year groups.

A great entry from a Year 8 student who found a number of different 'equable' shapes including a circle and a parallelogram. He showed good use of a formula to find the area and perimeter in each case.

Handwritten notes for a parallelogram:

Parallelogram:

$A = hx$
 $P = 2x + 2y$
 when $A = P$, they are equable

$hx = 2x + 2y$
 $0 = 2x - hx + 2y$
 $2y = -2x + hx$
 $2y = (-2+h)x$

As h varies, values for x and y are also affected, leading to ∞ solutions (see dynamic graph)

Note: Ignore negative solutions

Also, Maya in Year 12 who wrote an excellent account of how a regular polygon can be 'equable', regardless of how many sides it has. She also presented a formula for finding the area and perimeter of any regular polygon.

For a regular polygon of n sides, it is made of n isosceles triangles, where x is the base and the other side lengths are y .

Each triangle has area:
 $\frac{1}{2} (\cos \frac{360}{2n}) y^2 \times x$

Therefore the polygon has area:
 $\frac{1}{2} (\cos \frac{360}{2n}) nxy$

The polygon has perimeter: $n \times x$
 If area = perimeter:
 $nx = \frac{1}{2} (\cos \frac{360}{2n}) nxy$
 $1 = \frac{1}{2} (\cos \frac{360}{2n}) y$
 $2 = (\cos \frac{360}{2n}) y$
 $y = \frac{2}{\cos \frac{360}{2n}}$

$x^2 = y^2 + y^2 - 2y^2 \cos \frac{360}{2n}$
 $x^2 = 2y^2 - 2y^2 \cos \frac{360}{2n}$
 $x = \sqrt{2y^2 (1 - \cos \frac{360}{2n})}$
 \therefore there is only one solution per regular polygon

Regular Polygonal Prisms

Is it possible to create an equable 3D shape using a prism with the cross-section of a regular polygon?

$P = 2ny + nz$
 $SA = n \times x^2 \sin \theta + nyz$
 $V = \frac{1}{2} n x^2 \sin \theta z$

$x^2 = \frac{y^2}{2 - 2 \cos \theta}$ $\theta = \frac{360}{n}$

$2y + z = \frac{y^2 \sin \theta}{2 - 2 \cos \theta} + yz = \frac{y^2 z \sin \theta}{4 - 4 \cos \theta}$

$2y + z = \frac{1}{2} y^2 \cot \left(\frac{180}{n} \right) + yz = \frac{1}{4} y^2 z \cot \left(\frac{180}{n} \right)$

I made extensive use of Wolfram Alpha to help with the next section - it gets complicated very quickly

For $y > 0, z > 0, n \in \mathbb{N}$, n must be ≥ 13
 I will continue with $n = 13$ (tridecagonal cross-section)

$2y + z = \frac{1}{4} y^2 \cot \left(\frac{180}{13} \right) + yz = \frac{1}{4} y^2 z \cot \left(\frac{180}{13} \right)$

The only solution to this equation ($y > 0, z > 0$) is:
 $y = \frac{-2z \left((-1)^{\frac{2n}{n-1}} - 1 \right) (1+k)}{1 + (-1)^{\frac{2n}{n-1}}}$ $z = \frac{2(1+k)}{-1+k}$

where $k = \sqrt{-3 + \frac{4(1+(-1)^{\frac{2n}{n-1}})}{(-1)^{\frac{2n}{n-1}} - 1}}$

$y \approx 0.9998, z \approx 143.93, V = SA = P \approx 1897.104$

James in Year 12 found an infinite set of equable parallelograms and then produced a dynamic graph to show how the relationship between the sides varies according to the 'height'.

Handwritten list of equable shapes:

1. 4x4 square ✓ $A = 16 \text{ cm}^2$
 $P = 16 \text{ cm}$
2. A Right Angle triangle with sides of 5, 12 and 13 ✓ $A = 30 \text{ cm}^2$
 $P = 30 \text{ cm}$
3. Circle with radius of 2 ✓ $A = \text{Dia} \times \pi$
 $P = 2\pi R$
4. Parallelogram with sides of 5 and height of 4 ✓ $A = 20 \text{ cm}^2$
 $P = 20 \text{ cm}$

Finally, Harry in Year 12 wrote an outstanding piece looking at many different shapes and exploring new areas of mathematics not familiar to him in order to find areas and perimeters of new shapes. He also extended the work into 3D, and even had to use AI to finish off some of his calculations as they were getting very complicated!!

Thank you so much to all those who contributed, your work was a pleasure to read and has inspired a conversation in the maths department about how we should teach perimeters, areas and volumes!!



BFS MFL



MRS ROBBINS

LONDON TRIP!

On Wednesday 24 January Year 12 and 13 Spanish A-Level students went on a trip to London to see the famous play 'La Casa de Bernarda Alba' (written by Federico García Lorca), the written text we study at A Level.

We shared a coach with the Art and Photography students to London and back and also had the opportunity to look around the Tate Modern gallery before our show at the renowned Cervantes Theatre.



We had a brilliant day and loved watching the show. It really brought our A Level studies and analysis to life and I was so impressed with the conduct of our students and their commitment to learning.

The play was entirely in Spanish and students did so well to apply their linguistic knowledge to assist their comprehension and they used the interval to ask me questions to enhance their understanding. Students came away from the show with an even deeper understanding of the plot, the characters and the key themes and now feel even more confident with preparing essays for Paper 2 (writing) of their A Level Spanish qualification.

A huge thank you to Ms Jetullaji, Ms Stokes and Ms Day for accompanying us on the trip!



ELOISE

Watching the play was an incredible experience and it has helped me to further understand the themes and characters. It was also very exciting to see all of the artwork in the Tate Modern, especially the piece by Picasso. Overall, I really enjoyed the whole trip!

The whole experience was overall so much fun, we had an inspiring trip around the Tate Modern where we were fortunate enough to see a great view of the city from the viewing platform. The play was incredible as well, the performers were very talented and this was definitely valuable for us to see and later write about. Thank you!

IZZIE

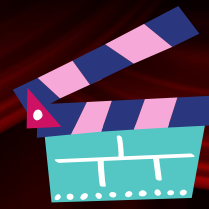


LUCCA

It was fascinating to see how all the artists came up with such unique ideas at the Tate Modern. The acting in La casa de Bernarda Alba was really well done and captured the energy really well. I brought a few too many snacks...



BFS DRAMA



THE ADDAMS FAMILY

It's been such a pleasure to work with such a talented cast, band and crew! What an amazing job they've done bringing The Addams Family to life at BFS! They've all worked tirelessly, and it's been an honour to watch them support each other and grow into the confident performers and crew that they've become. As we head into the final performance this evening, it's safe to say that we feel so proud of this fabulous bunch! Well done to everyone involved and thank you to everyone who has helped both at school and from home!

Mrs Jerome, Ms Kennard & Mrs Humphries



THE CAST REVIEWS ARE IN...



Being part of The Addams Family was really fun! I was an ancestor (the ensemble) which meant I was on stage quite a bit but not too much. Everyone was very nice and supportive of each other.

ESTHER D - ANCESTOR

Performing in The Addams Family was so much fun. In rehearsals and shows, everyone was so kind and supportive towards each other. I became really close friends with people who I barely knew before. I love acting and musical theatre, and all throughout The Addams Family, there wasn't any bit that I didn't like!

LUCY C - GRANDMA



I loved spending time with such talented people and I'm so sad it's come to an end. I hope to do similar things in the future, and I miss this show already! Everyone was so kind and hard-working and were all amazing! I've made so many new friends as well.

ALICE T - ALICE

