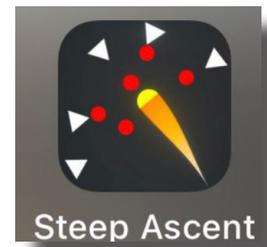




## Digital Age at HGS

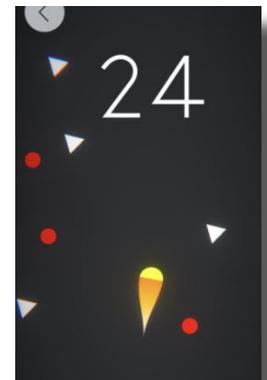
### Like Physics? Try Suvir's Physics APP "Steep Ascent"

A Big well done to Suvir Muniyal, in 8H1, who has put his app designing skills to good use and has created a fantastic gaming app called 'Steep Ascent'. He has managed to make this available to download on both App Store, for iOS, and Google Store, for Android.



Here is a description of the game from Suvir...

"In this game you control a shooting star as it tries to dodge harmful triangles which shoot out circles. You can use a slow motion feature to carefully plan your trajectory to avoid all the obstacles that get in the way of you and getting your best high score. Your only objective in this game is to get as far upwards as you can, which means it will only take a small amount of time to be able to play the game but it takes a long time to be accomplished. You have a direction indicator to decipher where to launch the shooting star next, but this is all physics based so you have to take gravity into account! You also have a high score count to keep track of your progress. There is nothing else to the game which adds to its simplicity.



This game is good to play casually while still giving an element of challenge keeping the game fresh and interesting at all times"

I'm sure you'll be rushing to download this fantastic app to stave off boredom as we remain in Tier 3!!"

### Remote Learning

It is clear that we are now firmly in the digital age and the ability to access school content online and remotely is crucial. The school has taken huge strides in their online learning platforms with virtual assemblies and open evenings as well as parents evenings. In addition to this live lessons have been streamed to pupils in all subject and year groups and across multiple counties in the region. As ever we try our best to ensure that all students can access these amazing



resources to support their learning, so if you are struggling with any connectivity issues with regards to hardware, software, and/or data please contact us at school and we will do whatever we can to facilitate.

Mr Tipler - Deputy Headteacher



HGS Physics Department

# Astronomy Photography Competition

No specialist equipment required – a smartphone will do!  
For more details, hints and tips, and to enter, join the Teams group with the code:

**p7ce5ni**

Ask your Physics teacher for more details  
Deadline for entries – Friday 26<sup>th</sup> March 2021



# CHRISTMAS JUMPER DAY

## TUESDAY

# 15 DECEMBER

**DONATE**



**WEAR YOUR CHRISTMAS JUMPER OR SOMETHING CHRISTMASSY**  
**MONEY COLLECTED WILL BE DONATED TO A LOCAL CHARITY - MOONLIGHT TRUST.**

Made with PosterMyWall.com



The is no need to send your child to school with their £1.00 donation as payment can be made direct via parentpay



# Department Focus: Maths

This year in the Mathematics department, we have welcomed two trainee teachers to train with us for the whole year through the Kirklees and Calderdale SCITT programme. As a department, we have greatly benefited from their enthusiasm and fresh ideas in teaching. Here are some of their thoughts of their first term with us.

## Mr Rippon

I started teacher training in September after spending the last 19 years working as a pensions actuary (a kind of financial mathematician!). Having been out of education for nearly 20 years it has been a shock how much the style of teaching has changed and how much of what I was taught at A level is now in the GCSE syllabus. Despite the COVID related difficulties we continue to endure, I have really enjoyed my first term, I am really impressed by the outstanding professionalism, and continued enthusiasm of both pupils and staff in such trying circumstances.



## Mr Brooke-Mawson

I started almost straight from university, leaving a research position at the University of Leeds in the School of Maths. It is safe to say that the level of mathematics I now deal with is much simpler! Being a proud former student of HGS, it has been a great experience so far to return, working alongside staff I once called Sir/Miss. A lot has changed in the time since I left the school, but plenty has remained the same (including one or two of the chairs!) It is brilliant to see the determination of the students to continue their learning, despite the huge challenges we currently face. They are a credit to the school. A big thank you too to all the staff, who have made all the trainees most welcome at HGS. We all look forward to what the rest of the year has to offer.

## Extra-Curricular Maths at HGS

Despite the restrictions we face with Covid, we are trying to continue with as many extra-curricular activities in Maths as we can. This term, several of our students in the Sixth Form completed and had great success in the UKMT Senior Mathematics Challenge in November and we look forward to the Intermediate and Junior Challenges in the Spring Term.

We are also supporting students through Maths Clinic in year 11 after school every Thursday and there are various extra sessions that year 13 can attend each week.

House Maths is also currently at the planning stage for the Spring Term and will be a virtual escape room !!

The Virtual Maths Club since its inception when school closed at the end of March has continued to grow, with current membership standing at an amazing 101! This term, the members of the group

have been extremely busy, with weekly challenges set by Ms Jarvis, a Halloween maths relay, a number of attempts (including one success!) at solving previously unsolved secondary maths problems on the NRich website, and, more recently, with not one but two on-line maths advent calendars! Since half term however, the predominant focus of most of the members has been on cracking ciphers.

The 19th National Cipher Challenge launched at the end of October and for the third successive year we have a number of teams from HGS taking part. The final two ciphers go live at 3pm on 10 December and, based on current rankings unless something goes horribly wrong, we are set to improve on our previous results. The latest available rankings show how well our HGS teams are currently doing. This year, well over 1800 teams are entered from schools and colleges from across the UK and further afield.

A screenshot of a digital leaderboard for the National Cipher Challenge. The page has a dark background with white text. At the top, there are three filter buttons: 'Filter by Challenge' (set to 'Total Overall Leaderboard B'), 'Filter by School' (set to 'Heckmondwike Grammar School'), and 'Filter by Team' (set to 'Team Name'). Below the filters, the title 'FINAL PLACINGS' is displayed. The main content is a table with three columns: 'Position', 'Team', and 'School'.

Position	Team	School
1	ciphertastic	Heckmondwike Grammar School
=1	Cryptography Quest	Heckmondwike Grammar School
2	Cobra PI	Heckmondwike Grammar School
=2	PentaGold	Heckmondwike Grammar School
3	PI-Thons	Heckmondwike Grammar School
4	The Imposters	Heckmondwike Grammar School
5	Mathetele	Heckmondwike Grammar School
=5	MECTY	Heckmondwike Grammar School

One of the great achievements this term was from Miraya Vyas in year 7 who attempted a challenge set by the well-known mathematician and author, Simon Singh. As a result, she was selected to attend a tutorial taught by Simon Singh himself. Miraya describes one aspect of what she learnt.

We learnt about right and left truncatable prime numbers which for example, if you wrote a number on a pencil and then sharpened that pencil from the right and took off one number at a time then every time, the number should be a prime every time that kind of number would be called right truncatable and if you sharpened the pencil from the left and each number remained a prime number, then that would be called left - truncatable primes.

There are 4260 left-truncatable primes: 2, 3, 5, 7, 13, 17, 23, 37, 43, 47, 53, 67, 73, 83, 97, 113, 137, 167, 173, 197, 223, 283, 313, 317, 337, 347 ... but only are 83 right-truncatable primes: 2, 3, 5, 7, 23, 29, 31, 37, 53, 59, 71, 73, 79, 233, 239, 293, 311, 313, 317, 373, 379, 593, 599, 719, 733, 739, 797, 2333, 2339, 2393, 2399, 2939, 3119, 3137, 3733, 3739, 3793, 3797, 5939, 7193, 7331, 7333, 7393, 23333 ...

- (a) Start at 1 and end at 16.
- (b) You can move in any direction, horizontally, vertically or diagonally, to an adjacent square, but you cannot visit a square more than once.
- (c) When you move you must carry out one of the operations +, -, x, ÷ using the number in the square you move to.

**Example**  
You can make 22 by following the route shown, because  $((1 + 6) \times 7) - 11 - 16 = 22$

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

Now make (a) 25, (b) 12 and (c) 2020.



And finally, here is one of the several maths puzzles we get from the UKMT.

## Diary Dates

### 15 Christmas Jumper Day

15 December - Christmas Lunch for years 7, 8, 9 & 13

16 December - Christmas Lunch for years 10, 11 & 12

17 December - Staggered dismissal 12.30

Years 7 & 9, 12.32 Years 8, 10 & 12, 12.35 Year 11 & 13

### Christmas Stamp appeal

**RNIB**  
See Christmas differently

**COLLECTION BOX ON RECEPTION DESK**

Collect your used stamps and help RNIB Open Christmas so blind and partially sighted people feel more included.

Order your pre-paid envelopes and boxes today!

[rnib.org.uk/stamps](http://rnib.org.uk/stamps)

0303 123 9999

[rnibstamps@rnib.org.uk](mailto:rnibstamps@rnib.org.uk)

© RNIB registered charity in England and Wales (226227), Scotland (SC039316), Isle of Man (1226). Also operating in Northern Ireland.

FR Registered with FUNDRAISING REGULATOR

Open 16 November - 16 December

HGS REVERSE ADVENT CALENDAR

**FINAL DAY TUESDAY DECEMBER 2020**

**Suggested Donations**

Soup, Pasta, Rice, Tinned Tomatoes/Meat/ Fruit/ Vegetables, Tea/coffee, lentils, beans & pulses, Sauce Mix, Desserts, Toiletries Household Products

Made with PositivityWell.com



## UK University & Apprenticeship Search Virtual Fair

Join us for a new UK University & Apprenticeship Search Virtual Fair on Wednesday 27th January 2021, taking place from 12:00 to 18:00 (GMT/UTC). This event will feature a wide range of universities, colleges, and apprenticeship providers from across the UK, allowing you to explore all your post-18 options in one place. Universities will include Russell Group, red brick, modern and specialist institutions, as well as colleges and apprenticeship providers. You'll be able to explore exhibition stands, live chat with admissions officers, student ambassadors, academics and recruitment teams to ask any questions you have, view prospectuses and information, and take part in 10 live and interactive webinars in the auditorium.

This event is completely free of charge to students, parents and teachers from anywhere in the UK – and international students looking to study in the UK are more than welcome to attend for free too. Our events are designed to make researching your post-18 options really engaging, there will be lots of interactive elements for you to explore virtually whilst at school or at home. The event is ideal for Year 12s to explore all the fantastic higher education and career options available, as well as being a fantastic way for Year 11s to gain motivation and inspiration. We also recommend attending if you are currently in Year 13, as this event will help you decide upon your firm and insurance choices.

Student Registration

<https://ukuniversitysearch.vfairs.com/en/registration>

Parent/Teacher Registration

<https://ukuniversitysearch.vfairs.com/en/registration?type=teacher>

# Free Event



You want  
a career with  
opportunities?

We have a  
world of them

### Investing in Futures:

The COVID-19 pandemic has created a real sense of confusion and uncertainty for students, with question marks raised over the state of the employment market and future career prospects.

To counter this, the Early Careers team at HSBC have created a series of bite-sized virtual events and material all with the aim of developing your soft skills. This is designed to give confidence on employment prospects, mythbust common recruitment misconceptions and target key employability skills to give you an advantage when looking for a career.

### Find Out More

The webinars will all be free to attend, and will be hosted via Zoom. Please register in advance through the following links. Spaces are limited, and will be allocated on a first come, first serve basis.

Schools/College's, if registering entire classes for the zoom events you only require one registration per class which will allow more educational establishment/students participation.

### A taste of success – Work experience

HSBC 2021 Work Experience placement opportunities will be going live week commencing 14<sup>th</sup> December and students will be able to view and can apply via

HSBC [Work Experience Link](#)

To be considered for the programme, you will:

- Be in full-time education either at secondary school, sixth form or college at the time of the work experience commencing
- Be keen and motivated to find out more about HSBC and to be prepared to complete the application process, which will include some online questions and if successful, a telephone interview

