

## Friends of HGS Logo Competition – the results are in!

Firstly, thank you so much to all the students that submitted a design (sometimes two!) for our competition to design a new logo for Friends of HGS. You certainly are all a very talented bunch and it was very difficult to choose our favourites from the 20+ entries that we received.

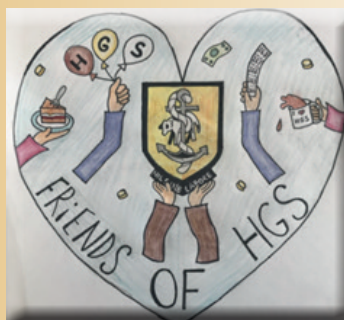
But we had to pick one that we thought would best represent the Friends and will become our new logo and I'm pleased to announce that the WINNER is....

1st place: Yusuf Mehmood (8P1)



In fact, it was so hard to choose we decided to award some runner up awards too:

2nd place: Lily Dillon (8C1)



3rd place: Havyhan Khan (9H2)



Every entrant will be receiving 10 x1898 points with the 1st, 2nd and 3rd place winners receiving 30, 20, and 15 1898 points respectively. These will be added soon!

Hope you've enjoyed the competition as much as we have!

As always, we'd love to have more people join us at FoHGS, so if you'd like to get involved just drop us an email ([friendsofhgs@heckgrammar.co.uk](mailto:friendsofhgs@heckgrammar.co.uk)) and we'll let you know when we're next meeting to discuss upcoming fundraising events.

Thanks! FoHGS

### SAY THANK YOU TO AN AMAZING TEACHER

The Thank a Teacher campaign recognises ALL staff working in UK schools and colleges; school leaders, teachers, teaching assistants, and all support staff such as lunchtime supervisors, caretakers and cleaners. If you're feeling shy you can send a card anonymously! We will share any we receive.

[Send a Thank you](#)



# Bronze DofE Expedition

This year we had the largest group of Year 10 students out yet on Bronze DofE. 147 pupils travelled to the Yorkshire Dales last Friday.

They pupils were fantastic at getting themselves organised and following instructions to depart just after 9am. They were split between 2 coaches and 5 mini buses all going to slightly different places. They all ended up where they needed to be and with the correct rucksacks which was the biggest worry leading up to the expedition but it went without a hitch.

They were split between two different areas. One group travelled to Wensleydale with Mrs Bailey and staff to walk in the Leyburn/Aysgarth Area and the other group travelled to Wharfedale to walk over to Malhamdale with Mrs Swann and staff to camp in Malham. The weather was mainly kind to them with the odd shower along the way but nothing that lasted too long. They worked well together as a

team at the campsite to cook meals and pitch the tents.



They had an early start on Day 2. They worked well to cook breakfast and pack up the campsite before setting off. Spirits weren't quite as high today. They complained of being tired and not having slept much but they faced the challenge and kept going, looking forward to finishing. The rain from the first day also didn't return which made conditions considerably better.

Well Done to everyone. A successful expedition. Or two successful expeditions and thank you to all the staff that gave up their own time to make it run so smoothly.

Now the expedition is complete, Volunteering, Skills and Physical sections need to be completed as soon as possible.





# Subject Focus - Physics

One of the great joys of Physics is when a new discovery, theory or experiment hits the headlines, because we are an evolving subject, which changes as new information becomes known. One of the great pleasures of teaching Physics is the enthusiasm of our students when they hear or read about Physics in the news and hunt us down in class or in the corridor as we try desperately to get coffee before the start of the next lesson to ask questions.

The last term has been exciting in terms of new Physics. We have had:

- The Large Hadron Collider refit. This has been of particular interest to our Year 13 students who have been studying Particle Physics at A-Level. In 2012, the LHC detected the Higgs Boson, as particle to explain why some particles have mass but others do not. Hopefully, as the LHC is working at higher energies, we may have the solution to a few still unanswered questions.
- The James Webb Space Telescope. Mr Drake's Astronomy club have been excited about the launch of the JWST as it will hopefully provide clearer images of the stars and galaxies than the already spectacular ones capture by the Hubble Space Telescope. Hopefully, we might also get more data on the expansion of the Universe, which, as our Year 11 students will know, might solve the mystery of Dark Energy.
- The first image of Sagittarius A\*. In Year 11 and Year 13, we discuss the formation of the galaxies, including our own Milky Way. In Year 13, we have also show that the rotation of the stars in the Milky Way suggested the presence of an object 400 million times more massive than our Sun at the centre. The first image released confirmed the presence of this object, a supermassive black hole, which matched our calculations perfectly!



The questions we have had from students have been astonishing in both number and quality. The most exciting answer we can give as a Physics teacher is “we don't know”, which can be frustrating for a student but shows that they are working at the very edge of our understanding. We hope that in the next few years, we have many more opportunities to talk to enthusiastic students as new stories emerge.

Talking of difficult to answer questions, a number of Year 12 students took part in the British Physics Olympiad. The BPhO is a voluntary challenge to test students with their understanding and application of Physics beyond the curriculum. This took the form of an hour-long test. We have included an example question so that you can test yourself (answers later). Congratulations to George Hine and David Tomlinson who earned Silver Awards. Bronze awards were earned by Isabel Hudson, Freya Thornton, Saugat Bohara, Rohit Kamath, Erin Biggs, George Dye and Sumeed Saleem. Five other students also received Commendations. Due to the success of these students, we intend to repeat this with our Year 12s next year, as well as looking at options for the lower school.



**BPhO participants and Mr Drake (who like all good Physicists clearly enjoy having their pictures taken)**

# Subject Focus - Physics continued

## BPhO Question

- a) A hump-back bridge has a circular cross section. It crosses a river of width 18 m and the height of the centre of the bridge above the surrounding ground is 4.0 m. What is the maximum speed at which a car can drive over the bridge whilst still remaining in contact with it?

Hint: if two chords of a circle, AB and CD meet at a point S then  $AS \cdot SB = CS \cdot SD$

- b) The Sun orbits the centre of the Milky Way galaxy at a radius of 30 000 light years, and a period of orbit about the galaxy of 200 million years. Assuming that the mass distribution of matter in the galaxy is concentrated mainly in a central uniform sphere and the Earth lies in one of the arms, as illustrated schematically in **Figure 10**,

- obtain an expression for the period of orbit  $T$  of the Sun in terms of its radius of orbit,  $r$ ,  $G$  and  $M_g$ , the mass of the galaxy.
- Determine a value of the mass of the galaxy.
- If the Sun represents the mass of an average star, estimate the number of stars in the Milky Way.



**Figure 10:** Schematic of the Milky Way galaxy, viewed in the plane, with the Sun along one 'arm', marked by the arrow.

At this time of year, we are of course right in the middle of exam season. Best wishes to our Year 11 and Year 13 students. I do not say "Good luck" as experience tells me that results are not down to luck but to hard work, and from what we have seen in recent weeks, we believe that many have set themselves up for success.

I would also like to thank Mrs Naylor for her work in the Physics department. During her time, she was an enthusiastic and popular member, who inspired many of her students to carry on the subject into A-Level. She made an excellent contribution, particularly in the development of personalised feedback to help students focus on their areas of strength and weakness. She will be missed as a teacher and as a colleague.

Thank you, and remember, full working out on that BPhO question, with an answer to a suitable number of significant figures!

Mr Haigh  
Subject Leader of Physics

### Answers

- a) 10.9 m/s
- b) (i)  $T^2 = \frac{4\pi^2}{GM_g} r^3$       (ii)  $3.4 \times 10^{41}$  kg      (iii)  $2 \times 10^{11}$  stars



## Alumni - Flying visit from Former Head Student

Heckmondwike Grammar School is proud to send its alumni to universities and employers across the UK, but every year a small number of intrepid students venture a little further afield. On Tuesday 24 May we were delighted to welcome former student, Kate Flanagan, to school to speak with sixth form students about her experiences studying at Duke University in Durham, North Carolina. Kate's talk covered everything from the application process and admission tests to campus life and the academic study. Indeed, such is Kate's busy globetrotting life since leaving HGS that we had to schedule this talk earlier than planned as she will spend the next two months on a medical engineering placement in Uganda!

As a former Head Student, Kate is an excellent role model for current students and we are sure that her talk may have encouraged others to follow in her footsteps.



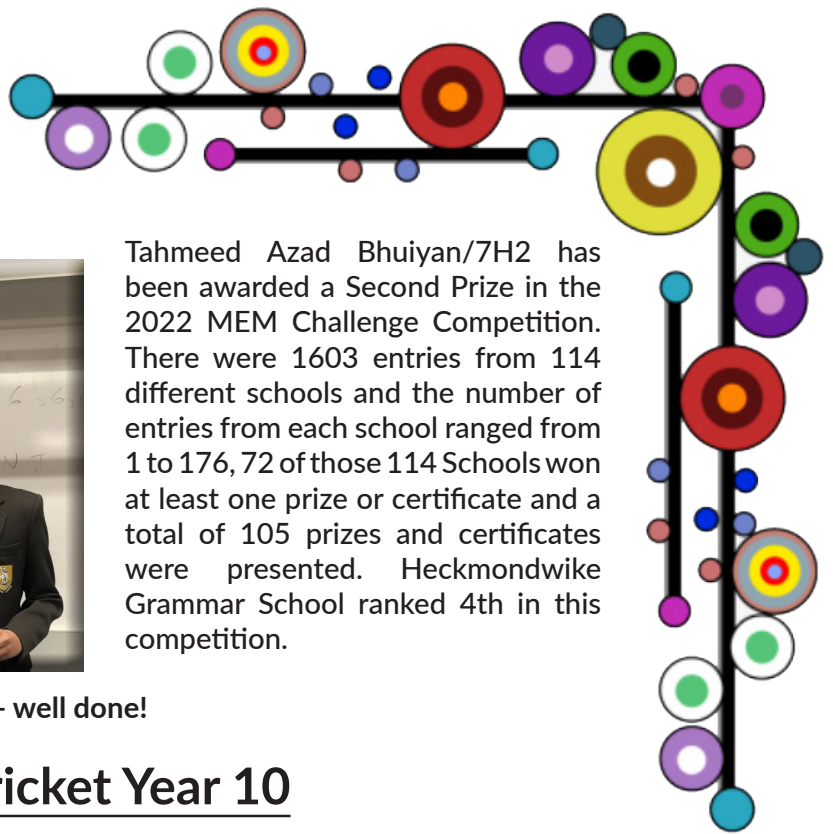
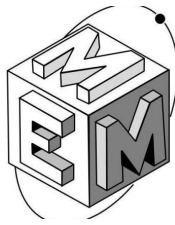
## Cyber First Girls Club



We have now started our Cyber First Girls club, however due to the enormous popularity of the club we have decided to open the door to girls in any year group (6th form too) and not just enter the Cyber Girls First competition for next year's year 8 girls but also enter any competition we fancy! Monday lunchtimes in S001.

Massive thanks to all the girls who took part today and we look forward to welcoming girls who wanted to take part but had other obligations. A special mention and thanks to our previous winners who have organised the whole club and the activities





Tahmeed Azad Bhuiyan/7H2 has been awarded a Second Prize in the 2022 MEM Challenge Competition. There were 1603 entries from 114 different schools and the number of entries from each school ranged from 1 to 176, 72 of those 114 Schools won at least one prize or certificate and a total of 105 prizes and certificates were presented. Heckmondwike Grammar School ranked 4th in this competition.

What a fantastic achievement - well done!

## Sports Report - Cricket Year 10

The Year 10 cricket team travelled to Harrogate cricket club for their first match of the season in the Under 15 Yorkshire cricket 20/20 cup against Rossett school.

Heckmondwike lost the toss and Rossett opted to bat. Heckmondwikes opening bowlers make a good start, with the pace and accuracy of Theo Hansons deliveries causing the Rossett openers some problems. A difficult chance was unfortunately put down by wicket keeper Daniel Mitchell when Rossetts opener edged a great delivery from Theo Hanson and a number of other dropped chances would prove to be costly.

The fast outfield and some generous bowling / fielding allowed Rossett to keep the scorer busy and reached 158 for 3 from their 20 overs. Oliver Helliwell was Heckmondwike's best bowler with modest figures of two wickets for 28 runs from his four overs.

The match winning target of 159 was always going to be an uphill struggle and although openers Theo Hanson and Oliver Helliwell made positive starts, they lost their wickets early in the innings. A steady stream of wickets continued to fall and Heckmondwikes batting order never got near to the required run rate.

Heckmondwike managed to complete their 20 overs to post a total of 125 for 8. Oliver Helliwell - 21 and Zeeshan Mahmood - 30 were the top scorers. Friendly fixtures will continue for the remainder of the season for the team.



**TEAM:** Oliver Helliwell, Daniel Mitchell, Ewan Brook, Theo Hanson, Rishi Saravanan, Harshil Patel, Kyran Russel, Zeeshan Mahmood, Basit Ali, Krish Patel, Rayyan Mohammad, Bradley Holmes.

The Year 8 Team were due to play Whitcliffe Mount in the Under 13 20/20 cup but unfortunately, this succumbed to the weather and has been rearranged for after half term. Cricket training for Years 7 and 8 is after school every Tuesday.

House cricket has begun this term and will continue next term. Please speak to House staff for dates of upcoming fixtures.





On Tuesday evening, our Youth Theatre team finally reached show day for our version of Robert Louis Stevenson's 'Treasure Island'. After countless lunchtime and afterschool rehearsals in the lead-up, they were able to push their energy through the roof and put on an incredible show! It was amazing to see all

their hard work finally pay off and the Drama department would like to thank our amazing Cast and Crew for such a phenomenal performance.

An equally as big thank you goes to our Design Team for helping create every piece of set! Without this dedicated group of students in the wings we wouldn't have had a show, they all worked rigorously to make sure everything was in place and 'ship-shape' in every scene.

Finally a special shout-out to our group of Live Musicians who were recruited late in the process and through a mix of lunchtime rehearsals and some phenomenal arrangements were able to add a whole new layer to our performance with some striking and eerie music to accompany the action on stage!

Well done everyone and huge thanks to everyone in our very full studio, you were a great audience and I hope you're as proud of the students as we are!

#### Cast:

Fiona Dhinahar / Matthew Tillotson / Zeeshan Mahmood / Evie Rushton / Eden Waind Blossom Palmer / Husaina Lokhandwala / Millie Sheppard / Millie-Rose Ward / Louis Mason / Aarushi Panda / Muhammad Mirza / Cara Griffiths / Martha Walker / Sandrotta Bhattacharya / Jacob Abraham / Sefeoluwa Idowu / Anshu Avasarala / Lucy Chapman / Rakshith Rathish / Michael Anderson / Manvita Maiya / Phoebe Alexander / Mischa Mistry / Livia Stanley / Charlotte Appleyard / Christian Thomas / Anton Birch / Tara Sah / Oliver Blakely / Demi Ayemowa

#### Crew:

Phoebe Backhouse / Rakshith Rathish / Prisha Gupta / Rishi Mikkilineni / Yvie Prior-Smith / Anshu Avasarala / Mischa Mistry / Methuli Perera Kuranage / Bella Robson / Eden Brown / Maisha Yadhav / Jenny Waterfield / Elvia Hopkinson / Zach Brooks / Emily Tilley / Bhoomi Marathe / Florence Gilruth / Eva Edwards /

#### Musicians:

Rachel Gan / Annamarie Kaushiva / Edward Bebbington Slater / Daisy Thornton / Maggie Tran / Mythreyi Kumaravel / Angelo Fernandes / Catherine Fan



# TREASURE ISLAND



# TREASURE ISLAND



HGS MUSIC AND DRAMA PRESENTS

# Grease

THE MUSICAL



5 6 7 JULY



7PM START

Tickets on Sale Early June (numbered seating)

# Parent Notices

Monday 31 May - Friday 3 June  
Half Term Break

Friday 17 June  
Year 8 Go Ape Trip

Monday 20 June - Friday 1 July  
Year 10 Internal Exams

Wednesday 22 & Thursday 23 June  
Year 7 Open Evening

Thursday 23 June  
The HGS Great Get Together - Details to be  
announced soon

Friday 24 June  
School closed to students - Staff Training Day

Monday 27 June - Friday 1 July  
Years 7 & 8 Internal Exams

**Entrance Exam Registration Now Open**  
**See advert for details**





HECKMONDWIKE  
GRAMMAR SCHOOL

# Entrance Exam registration NOW OPEN

Is your child currently in Year 5?  
Do you want your child to start at Heckmondwike Grammar School  
in September 2023?  
If so, please register for the **Entrance Exam for 2023** entry before  
**12.00 noon on Monday 27 June 2022.**

To register please visit [www.heckgrammar.co.uk/admissions](http://www.heckgrammar.co.uk/admissions)

\*\*\*\*\* **Open Evenings** \*\*\*\*\*

**Wednesday 22 & Thursday 23 June 2022**

**Doors open 6.30pm**

You are invited to see the fabulous facilities at Heckmondwike Grammar School, meet our staff and have a guided tour with our student ambassadors. There will be opportunities to take part in activities in many departments.

Throughout the evening there will be several presentations by Peter Roberts, headteacher, including a detailed explanation of the admission and selection process.

Parents of year 5 students are encouraged to attend.

Tel: 01924 402202 e: [admissions@heckgrammar.co.uk](mailto:admissions@heckgrammar.co.uk) Follow



**Parent Power, Sunday Times Schools Guide 2022, ranks  
Heckmondwike Grammar School in the top 10 in the North of England**



# Be Exam Ready

Studying and preparing is vital to success in exam

It is difficult to know how best to manage your preparation until you have some experience. There is no right or wrong formula to prepare it is down to the individual to work out which strategies, processes and techniques best suits their learning ethos. By trying different methods and by monitoring yourself it will be easy to find out which techniques are useful and will help to identify where there are still difficulties, doubts or motivation problems.

Over the coming weeks we will be sharing coping and revision strategies, links to revision techniques and tools, resources that will be useful to students in preparation for the summer exams.

## Phrontifugic Webinar

1 - The link below allows parents/students to register for a phrontifugic webinar from eedi family all about reducing anxiety and exam stress.

[https://us02web.zoom.us/webinar/register/WN\\_2IAGm\\_ALRxKGMcxnM7cQLQ](https://us02web.zoom.us/webinar/register/WN_2IAGm_ALRxKGMcxnM7cQLQ)

2 - Challenge - can you help get the word phrontifugic accepted as a word in collins dictionary?! Visit the link and use the word whenever you get a chance!

<https://www.collinsdictionary.com/submission/24530/Phrontifugic+>

## Subject Help



### Geography

#### GCSE

- Tutor2U GCSE Geography Revision Blast - <https://tinyurl.com/bd3setyj>
- Tutor2U Daily Revision Question on Instagram - <https://tinyurl.com/mustv6j7>
- Internet Geography Quizzes - <https://tinyurl.com/3hva52tb>

#### A Level

- Tutor2U A'Level Geography Revision Blast - <https://tinyurl.com/yckhxc7e>
- Coventry University Webinar Revision Series - <https://tinyurl.com/ycy5hn68>



### Business

#### GCSE - Edexcel

- Attempt past papers <https://qualifications.pearson.com/en/qualifications/edexcel-gcses/business->
- Seneca learning
- GCSE Bitesize
- Course companion (in teams)
- Assessment mats - knowledge questions that you can practice over time
- Create revision resources to test yourself and share with friends e.g. create a cross word to test definitions

#### A Level Business - AQA

- Attempt past papers <https://tinyurl.com/2p84exax>
- Seneca Learning
- Use the course companion (in teams)
- Use tutor2u
- Create revision resources you can test yourself with repeatedly over time
- Remember you need to have real world knowledge of businesses to apply



# Be Exam Ready



## Mathematics

KS3 - Use your exercise book to make a revision list of topics you have covered and new formulae that you have come across.

Part of your revision should be learning those new formulae by heart.

Most of your revision should be practising techniques and doing questions where you have access to the answers/worked solutions so that you can check them.

Good sources of materials are:

- your exercise book - the examples from class and your classwork where you have marked/annotated in green pen
- Hegarty <https://hegartymaths.com/login/learner>
- Drfrost maths <https://www.drfrostmaths.com/login.php>
- Corbett Maths <https://corbettmaths.com/>

KS4/5 - In addition to the above you need to make sure that you do further work practising exam style questions. We do AQA and you can find past exam paper questions here as well as model solutions.

- GCSE - <https://mathsmadeeasy.co.uk/gcse-maths-revision/aqa-gcse-maths-past-papers/>
- A level: <https://mathsmadeeasy.co.uk/a-level-maths-revision/aqa-past-papers/>

Past paper questions broken down by topic:

GCSE: <https://www.mathsgenie.co.uk/gcse.html>

A level: <https://www.mathsgenie.co.uk/newalevel.html>

Note these are Edexcel rather than Aqa but the model solutions and videos are particularly useful



## Economics

Here are some links to new resources designed to support A-Level Economists from Tutor2u.net

[Update on the UK Economy | Five Short Videos on the Key Stats](#)

This series of five short videos provides an overview of many of the key stats on the UK economy to help students add contextual application into their 2022 exam paper answers!

[Labour market economics - topical issues explained with diagrams](#)

In this new series of six short videos, we look at building labour demand and supply analysis to support answers on a range of topical labour market issues.

[Daily Economics revision on Instagram](#)

Revision Link for GCSE Physics

<https://www.physicsandmathstutor.com/physics-revision/gcse-aqa/>



## Physics

# HGS

*trips*

