

26th March 2021

Message from Mr O'Sullivan.

A while back, I wrote to the Bank of England asking for one of the first copies of the new £50. You may or may not be aware, but Alan Turing is now on the reverse of this new note which was formally released on the 23rd June. I was hoping to get the governor to sign one of the first copies and donate it to the school (I did of course offer to pay). I received a lovely letter from the chief cashier who informed me that I would have to wait a while. The Queen is traditionally offered the note with the lowest serial number, so I can understand that we might not be high on the list for the governor. However, our own governor, Robin Jowit, has very kindly offered to get us one of these notes that we can display in our new site. So, I would like to formally thank him for this generous gift. I will also be writing you shortly about another exciting venture in preparation for the big move!



Congratulations

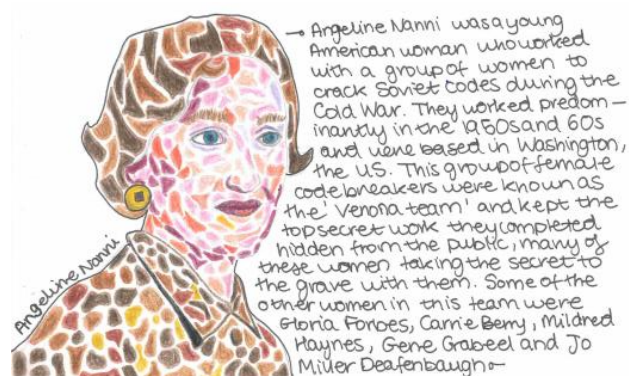
Well done to Alberto Cabras in 7R who participated remotely to the FSKA Karate Cup on Sunday 21 March 2021.

Alberto won the gold medal in the Pair Kata (with his sister), and he won the bronze medal in the Individual Kata. A huge Turing House well done to Alberto (and his sister)!

Women's History Month

Thank you very much to Connie B in Year 11 for this fantastic entry to our Women's History Month Cold War Competition. She shone a light on the work of Angeline Nanni; we loved her design and will be displaying it round the school.

Thank you, Connie. Happy Women's History Month!



Dates for the Diary:

HPV Vaccination – Yr 9 – 29th March 2021
 Last Day of Term – Thursday 1st April 2021
 Return to School – Monday 19th April 2021
 Yr 9 Diphtheria and Tetanus vaccinations –
 Monday 19th April 2021

Year 11

Please remember if you have been offered a place in our Sixth Form to accept it by email to info@turinghouseschool.org.uk

Well done, Maya!



Year 7 students were tasked with building a musical instrument. Maya in 7N designed and built ...

The Electrotremolonophone.

Below is just a small part of her assignment submission:

When I first got the assignment to build a musical instrument, I immediately decided that it would be electronic. Turing House is a STEM school, after all. I wanted to build something like a Stylophone, played using a stylus.

There are hundreds of schematics on the internet for building Stylophone clones, but finding the parts online is impossible, unless you want to buy a used Stylophone on eBay and break it up. My dad called an electronics shop in Earls Court who carry a lot of old Maplin stock. No Stylophone parts, but they had a small wave synthesiser called an HT46F47E made by Franzis. I looked up the specifications online. It can play eight basic notes (but only one at a time), plus options to raise them by an octave, to sharpen or flatten them, to add a vibrato effect and to modify the 'envelope' of the sine wave produced. All the necessary resistors, transistors and capacitors are already hard-wired into the circuit board. £2.52 and no stylus required. This instrument is designing itself!

When you turn on the electrotremolonophone, the power from the battery causes the wave generator to begin to produce an acoustic frequency. The initial signal generated is a flat tone, but this can be modified using the 'envelope' button. The 'envelope' here is a reference to the outer parameters of the generated wave, as determined by its amplitude, wavelength and frequency. Repeated pushes of the envelope button causes the signal to cycle through ten distinct, decreasing, sine wave amplitude modulations, before returning to the flat tone. Similarly, the signal then passes through the 'tremolo' circuit. The tremolo

function causes the frequency of the played note to oscillate, and the range of the frequency change can be modified through a ten-step cycle using the tremolo button, before returning to the default 'off' position. I have attached LEDs to both the tremolo and envelope modulators and they will blink synchronously to their respective settings.

The signal then passes through the 'sharp / flat' function where, if the circuit detects that the 'sharp / flat' button is being depressed, it will increase or decrease the frequency by a half-tone. Next, the signal is subjected to the 'octave' function. If the octave key is depressed, the signal frequency is doubled, producing a note one octave higher.

To allow these acoustic frequencies to be played at precise musical intervals, the signal receives further modification from the touch keys, which function as an analogue-digital converter. These eight touch keys are arranged as a musical scale, c, d, e, f, g, a, b, c. If the



'sharp' button is being depressed, notes c, d, f, g, a and c are raised by a half-tone, and notes e and b are lowered by a half-tone. The touch pad itself works through changes to micro voltages, caused by the electrical resistance

of the instrumentalist's fingertip. Using the touch pad allows the generated wave to travel through the potentiometer, which controls the amplitude (volume) of the signal that reaches the loudspeaker.

In actuality, the entire process is governed by a microprocessor, which checks which buttons and touch pads are being depressed at a rate of between 4-23 times a second, depending on the initial wave configuration, then subjects the signal only to those selected components.

An amazing and very detailed piece of work – well done, Maya!

Exciting History Project

The History Department are looking for students who would like to collaborate with Hampton School on a new project to raise awareness of the Holocaust and other genocides. Students at Hampton School have done a survey in their school and have been shocked at the low level of awareness of genocide. To help remedy the situation they are planning on writing a book called 'Unremembered Days' – with each student researching and writing a page in the book about a particular day during the Holocaust and genocides in Cambodia, Rwanda, Bosnia and Darfur. They'll also ask well known people to contribute a short piece on why they think it is important for young people to learn about the Holocaust and other genocide, and they have also asked us to help contribute.

Copies of the book will be printed and there will also be an online version so that as many people as possible can read the book. It will hopefully 'publish' on June 24th – the anniversary of Raphael Lemkin's birth.

If you are interested in taking part, please contact Ms Riglin and she can provide further details. You can speak to her in person or contact her by emailing info@turinghouseschool.org.uk

Post-18 Futures

What is uni life all about? Find out Poppy's take on it here:

<https://www.turinghouse6th.org.uk/?p=2567>

Don't forget !

Clocks spring forward one hour on Saturday!



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e-Scooters and the Law

What is the law on e-scooters?

Currently in the UK, you can legally buy an e-scooter, but you cannot ride it on a public road, cycle lane or pavement. The only place it can be used is on private land.

The reason for this is that e-scooters are treated as motor vehicles by the Department of Transport and are subject to the same legal requirement as other vehicles, such as MOT, licencing, tax and insurance. Because they don't always have number plates, signalling ability or visible rear lights, they cannot be used legally on the roads.

What happens if I am stopped by police?

The police will advise you on the law and may ask you to take your e-scooter home. They may, however, still penalise you depending on the seriousness of the offence. If caught riding an e-scooter, fines you may receive include:

- A Fixed Penalty Notice for no insurance or no driving licence with a £100 to £300 fine and three to six penalty points.
- A Fixed Penalty Notice for riding on the footpath, with a £50 fine.
- The E-scooter can be removed to the pound and a payable cost will then be charged for release.
- All road traffic offences require you to give police your full detail by law under section 164 & 165 of the Road Traffic Act.



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THF Escape Room Event Thanks

Thank you to everyone who supported our school by taking part in the Sherlock Holmes Escape Room event last Saturday night. We raised an amazing **£1450** for the school and had some great feedback. Thanks to the Year 7 parent whose idea this was - we always love to hear from fellow parents with ideas for events!

Turing House Friends

Alan Turing Maths Challenge

The attached link contains some maths challenges related to Alan Turing, in connection with his portrait appearing on the new £50 banknote. Have fun!

<https://www.gchq.gov.uk/information/turing-challenge>

Piano Exam Success

Congratulations to James Clifford in Year 7 who was recently awarded a distinction in his grade 2 piano exam. Well done!

Sporting Headline of the Week

World heptathlon champion Katarina Johnson-Thompson says Olympic success this summer will be determined by who has coped best with the pandemic. Covid-19 has severely affected athletes' preparations for Tokyo 2020, which is finally due to take place in July, having been postponed last year. The Briton said there would be gold-medal prospects who would fall short.

Sporting Fact of the Week

Did you know.....?

Three consecutive strikes in bowling is called a turkey.

Cricket for Girls at Richmond Cricket Club

A fantastic opportunity for players to take part in a one-off masterclass on Monday 12th April, delivered by Cricket for Girls Head Coach and Double World Cup Winner, Lydia Greenway! For booking visit:

www.bookwhen.com/cricketforgirls

Cricket for Girls Roadshow at Richmond Cricket Club


Meet and be coached by Lydia Greenway!

A fantastic opportunity for players to take part in a one off masterclass delivered by Cricket for Girls Head Coach and Double World Cup Winner Lydia Greenway!

Make new friends whilst you practice and learn new skills in a fun and enjoyable environment!


Bookings: <https://bookwhen.com/cricketforgirls>

 Richmond Cricket Club, Old Deer Park Gardens, Richmond, TW9 2AZ

 Monday 12th April

 10am - 12pm Hardball (U17, U16, U15, U14)

1pm - 3pm Hardball (U13/U12/U11/U10)

 £30 per player



Lydia Greenway
CRICKET FOR GIRLS



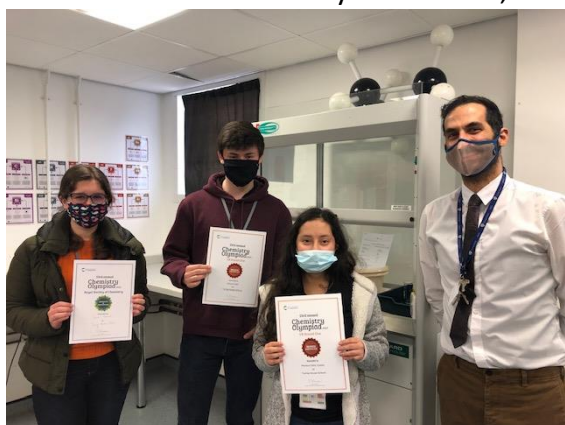
Year 9's Rockstars

Not many people can say they've become a Youtube sensation in lockdown, but if you are Leo G in Year 9, this is exactly what has happened! Despite being disappointed by not having face-to-face rehearsals with the rest of his band (which includes our Year 7 student Freddie), Leo worked hard to perfect his guitar playing in time to be recorded online for their final performance. Since being released on Wednesday, the epic single 'Minor Revelations' has received over 900 views in 48 hours - it's well worth a watch. Look out for Leo's guitar solo - he rocks it!



Last Week in Chemistry

Congratulations to our 6th formers, Monica, Ethan, and Sarah, for taking part in the first round of the Chemistry Olympiad 2021! All three received their certificates from the Royal Society of Chemistry on Wednesday. Designed to inspire, the UK Chemistry Olympiad is the leading chemistry competition for students in secondary education across the British Isles. This enriching experience is a unique opportunity for students to push themselves further and excel in the chemistry field. The competition is designed to challenge, so it is not easy. Our students competed with 7160 students across the country! Well done, all!

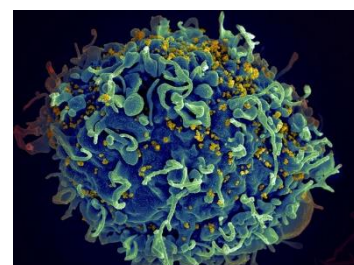


This Week in Chemistry

March 23 - On This Day: The first noble gas compound, xenon hexafluoroplatinate, was discovered on this day in 1962. Noble gases were thought to be completely inert, so back then, looking for noble gas compounds was considered a sort of fringe science akin to hunting for Yeti. However, English chemist Neil Bartlett observed that mixing platinum hexafluoride with xenon formed the yellow solid xenon hexafluoroplatinate. This led to many more discoveries of noble gas compounds.



March 25 - On This Day: The prestigious scientific magazine Nature published two papers reporting that HIV does not have a 'latent period'



on this day in 1993. These papers showed that HIV-positive patients who had not developed AIDS still showed high levels of the HIV virus in their lymphatic system, implying that the virus actively replicates even when no symptoms are detected. Interested to know more? Here's a video that explores [How close are we to eradicating HIV?](#)

March 28- On This Day: The Three Mile Island nuclear power plant in Pennsylvania underwent a partial meltdown on this day



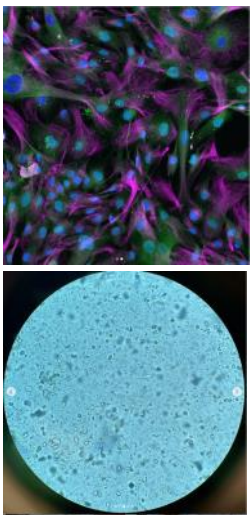
in 1979. Overheating in the reactor caused serious damage to fuel rods and created a pressure rise in the system. Valves were opened to lower this pressure, but they failed to close again and released radioactive material into the environment. Want to know more about the accident? Watch this video: [Moments in NRC History: Three Mile Island - March 28, 1979](#)

New from STEM Ambassador London**Bacteriagram – STEM Ambassadors on Instagram**

Find out more about what some of our STEM Ambassadors working in science do through Instagram! We're delighted to be working with one of our London based STEM Ambassadors who runs the Bacteriagram Instagram page. The page shares images and information related to microbiology and has amounted a following of over 38,000 people online!

As part of our celebration for British Science Week this month, we collaborated with Bacteriagram to showcase some of our STEM Ambassadors' STEM stories and images of the amazing work they do!

These are just some of the fascinating images are STEM Ambassadors were able to share:



Check out all of Bacteriagram's posts [here](#)