Leading suppliers for tomorrow's scientists

VITTA

SPRING TERM 2025

GET YOUR SPRING BACK WITH SCIENCE

Great products and lesson ideas for Valentine's Day and more | p18

TECH THAT! CHEER ON #TECHOGNITION

It's time to celebrate all the science doers at #TECHOGNITION | p13

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Unlock the secrets to successful photosynthesis experiments | p4

POST-16 SCIENCE

T Level Science learners benefit from professional registrations like RSciTech | p28

ALSO INSIDE...

Primrose Kitten, T Levels, ASE, Advice, Downloads, Competitions and more!

VITTA EDUCATION

Read the latest industry news, competitions, deals & digest from VITTA Education...

WELCOME TO THE SPRING TERM EDITION OF VITTA MAGAZINE

Inside this issue:

WHAT'S ON AND WHERE DURING THIS SPRING TERM

Happy New Year! It's 2025 and the Spring Term is just getting started. The VITTA team will be out and about as always, so please stop by to say hello or let us know where you'll be heading.

Bett UK 2025
22-24 January
ExCeL, London

#Techognition
27 March

Tonbridge School Science Technician Convention
28 March

Keep up to date... why not sign-up to our monthly newsletter to stay ahead, or see what's on at **vittaeducation.com/events**

MAGAZINE PARTNERS:

Duralab EDULAB La B Li Fe Science Council

Cover image: Frogspawn. **Top image:** DuraLab DP-1002 Advanced Precision Balance (DRL0048).

RE-SPAWN INTO 2025 WITH SCIENCE

As we kick off the spring term, VITTA Magazine is excited to bring you a vibrant issue filled with fresh ideas, expert insights, and valuable resources to inspire and support everyone who champions STEM education. Whether you're a technician or teacher, this issue is designed to spark curiosity, encourage collaboration, and help get you through the term.

This latest edition introduces new CPD opportunities and resources from ASE, offering support to help you grow skills, improve classroom safety, and take on leadership roles. The STEM Community features a range of resources, professional development, ready-to-use content, and engaging student materials. You'll also get to know LaBLiFe, the collaborative technician community, where members share knowledge, access resources, and build skills.

We're excited to share tips for elevating classroom experiments, lesson plans for upcoming awareness days, and expert advice on running reliable photosynthesis experiments. Looking ahead to British Science Week 2025, the British Science Association highlights opportunities for students to engage in hands-on activities and showcase creativity through a poster competition.

This issue also shines a spotlight on how technology is breaking down geographical barriers in STEM education. Learn how you can connect your students with scientists around the world through I'm a Scientist's interactive online chats, or explore how esports in the classroom can help develop problem-solving, teamwork, and digital career skills, with support from the British Esports Federation.

Finally, we celebrate the creativity of Year 6 students at St Catherine's Prep School, who combined science and art to create wildflower seed bombs, promoting environmental action and hands-on STEM learning.

We hope you enjoy this issue of VITTA Magazine and it sparks your inspiration. Wishing you a term full of curiosity, creativity, and exciting STEM learning!

Wendy & Team

Editor and Head of Marketing & Communications

UPGRADE YOUR COFFEE EXPERIENCE WITH A CHANCE TO WIN A PAIR OF VITTA BEAKER MUGS IN OUR SPRING TERM BREAK-TIME BRAIN TEASER

Treat your grey matter to our latest Spring Term wordsearch for a chance to be the envy of your colleagues in the staff room with 5 pairs of VITTA Beaker Mugs up for grabs.

ENTER NOW FOR A CHANCE TO WIN!

1. Head to page 53 and give the wordsearch a go to find the missing word.
2. Email your entry to **win@vittaeducation.com**
3. Wait to see if you're one of the lucky winners or visit **vittaeducation.com** to discover more ways to get hold of a VITTA Beaker Mug.

See page 53 for more details and how to enter.

BUBBLE TROUBLE

WE SHARE OUR PLANT -BIOLOGY TIPS & TRICKS

Ever wondered why some photosynthesis experiments work perfectly while others hit a snag? One of the most common challenges is getting pondweed to produce those tell-tale oxygen bubbles – a clear sign of photosynthesis in action – but when the bubbles don't appear, it's easy for frustration to set in, especially during slower-growing seasons.

Don't worry – with a little help from the LaBLiFe technician community, you'll find plenty of tips and tricks to overcome these challenges and achieve accurate, consistent results without the nerves and anxiety, making photosynthesis experiments enjoyable and rewarding for everyone involved.

Always Use Warm Water

Warm water is a game-changer for photosynthesis experiments. It helps enzymes work efficiently, driving essential processes like carbon fixation and enhancing gas exchange. Warm water allows carbon dioxide to diffuse more easily into leaf tissues, ensuring smoother cell function and preventing temperature shocks. By mimicking natural conditions, warm water keeps plants stress-free and ensures experiments yield consistent results.

Harness the Power of Pond Snails

Pond snails are natural allies for aquatic photosynthesis set-ups. These helpful creatures recycle nutrients, control algae growth, and maintain clear water, ensuring plants receive optimal light for photosynthesis. Adding pond snails to your experiment creates a balanced ecosystem where plants thrive, making the process easier for students to observe and measure.

Shop Smart at Local Aquatic Stores

Aquatic stores are excellent resources for photosynthesis materials. While Elodea is commonly available, many stores also stock Limnophilia heterophylla. Check with local shops or online retailers for availability, and you might even snag a deal! Building a relationship with local suppliers ensures a steady stock of quality plants for your experiments. Additionally, many offer advice on selecting the best plants for specific experimental set-ups and ensuring optimal conditions.

Try a Modified Gas-Collecting Apparatus

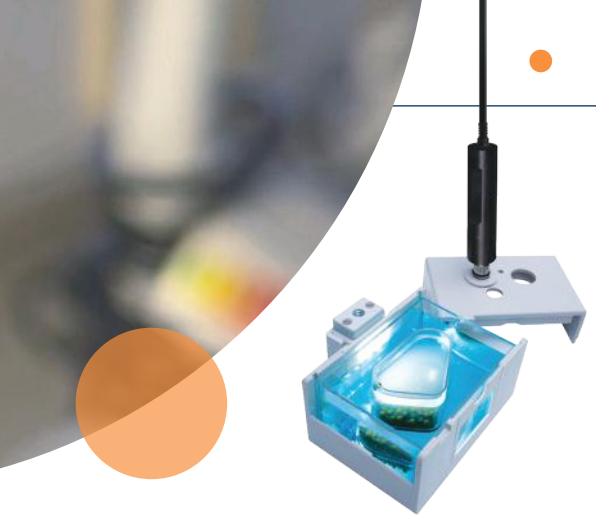
Looking for an alternative to the standard gas-collecting system? Check out Julia Milligan from Halley Academy's setup which uses a 1ml syringe!

Place a piece of pondweed inside, secure the syringe with a clothes peg, and submerge it in a beaker of water. This simple, effective setup collects oxygen bubbles produced during photosynthesis, making it easy to measure and analyse the rate of photosynthesis in real-time.

Switch it up with Limnophilia Heterophylla

Need a reliable alternative to Elodea? Limnophilia heterophylla is a fantastic option! It grows quickly, thrives in different water conditions, and produces visible oxygen bubbles, making it ideal for experiments. Its unique structure offers variety, allowing students to compare how different aquatic plants perform under similar conditions.

See page 54 for a list of all the products featured. *Discount applied at checkout. Offer ends 04/04/25.

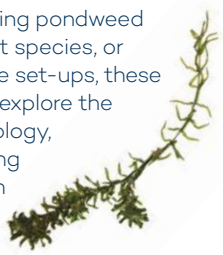


Upgrade to the PASCO Photosynthesis Chamber

Take your experiments to the next level with the PASCO photosynthesis chamber. This high-tech tool lets you control key variables like light, temperature, and CO_2 concentration. It precisely measures gases like oxygen and carbon dioxide, giving students a clear, quantifiable view of photosynthesis in action. Its data-logging features simplify analysis, making it perfect for exploring how different factors influence photosynthesis.

Now's the time to **SAVE £50 OFF** a PASCO Photosynthesis Chamber with code **SPR25A**. Head to page 52 for more details, or contact us to book a virtual or in-person demonstration online at **vittaeducation.com/discovery**

Whether you're troubleshooting pondweed growth, introducing new plant species, or experimenting with innovative set-ups, these strategies will help students explore the fascinating world of plant biology, deepening their understanding through hands-on observation and experimentation.



Stock up on all the plant-biology supplies you need, including our Photosynthesis Bundle for only £30.00

Simply add SO177, VTT12302090 and BEA020051 to your basket and use code **PHOTO30***

Why wait... shop now at **vittaeducation.com**

Technician Sarah Keay shares her own photosynthesis tips...

Spring brings thoughts of new growth, making it an ideal time for photosynthesis experiments. However, these are often scheduled during the darkest, coldest months, leaving us technicians with a challenge: how to supply working practicals when plants are dormant?

Start by ensuring you have a reliable supplier. You don't want to be chipping through ice to extract hibernating pondweed. Whether from a local aquatics store or online, be prepared in advance. You might also consider growing your own stock, though keeping it alive over holidays can be tricky. Geraniums thrive on a window ledge, and cuttings can replenish stock. Tradescantia is another easy-to-propagate plant, perfect as a back-up.

I prefer buying pondweed, which can last several weeks in a tub or bucket, allowing for multiple practicals with careful scheduling. If needed, the SAPS photosynthesis practical with leaf discs in a syringe is a good alternative, using ivy leaves, which are available year-round.

Next up, lighting... a 40W desk lamp won't mimic sunlight and can even overheat plants, so for better results use LED work lights – just be cautious, as they are very bright!

SAPS lead technicians recently introduced us to some little rechargeable versions, which I promptly purchased, and I will also be trialling these alongside LED bulbs in the desk lamps this season. Having time to trial kit and experiments is such an essential part of the job.

Before lessons, use the lamps to kick-start the process. For starch leaf tests in winter, I'd turn on two lamps a couple of days before the lesson for optimal results, as low winter sunlight won't suffice. For pondweed, I place cuttings in a beaker of water under a lamp an hour before starting.

Put on your shades, close your eyes, and imagine summer's heat – ironically, the time when requests for fish dissections will roll in. Ah well, we love a good challenge, don't we?

Read more of Sarah Keay's tips in this term's TECH TIPS on page 51.

GET INVOLVED IN BRITISH SCIENCE WEEK 2025!

Change and adapt this March with the BSA

BRITISH SCIENCE WEEK

It's a new spring term, and that means British Science Week is coming up!

British Science Week is an annual ten-day celebration of science, technology, engineering, and math (STEM), run by the British Science Association (BSA). This year, it will happen between **7–16 March 2025**.

Part of the fun is the themed poster competition that children and young people from across the UK enter each year to win loads of super science prizes. Previously, the competition has been open for ages 3–14, but this year the BSA has partnered with University College London (UCL) to create a special category all about inventions to clean our air for young people aged up to 19!

SCIENTISTS AT UCL NEED YOUR HELP!

Students in age categories 11–14, 14–16, and 16–19 have the opportunity to put their ideas for how we can ensure the air we breathe in indoor public spaces is clean and safe in front of a team of top scientists at UCL.

This theme was inspired by issues hospital staff found during the COVID-19 pandemic; urgently needed spaces couldn't be used for long periods because of the risk of droplets in the air that could spread the virus.

INNOVATION IN CLEAN AIR

The scientists at UCL want to see innovative new ideas from young people about inventions or methods that could be used in hospitals and other public spaces to ensure the transmission of viruses harmful to the human body aren't making it into people's lungs.

Students should choose a public space that their idea would apply to, for example, a restaurant, so they can tackle specific issues that there might be in different spaces.

They could come up with something completely new and original, or think about existing solutions and ways to improve them. Lots of research will be needed – the team at UCL will want to see the scientific backing behind the idea!

APPLYING STEM TO THE REAL WORLD

Applying to the competition is a great opportunity to show students how the knowledge they've absorbed across their secondary schooling is relevant to real-world situations and can lead to careers dedicated to making life better for people.

You can enter the poster competition online now at **britishscienceweek.org/poster-competition**

MORE FUN WAYS TO TAKE PART IN BRITISH SCIENCE WEEK

As well as entering the poster competition, secondary students can get involved in British Science Week by having a go at some of the activities in the free Secondary activity pack!

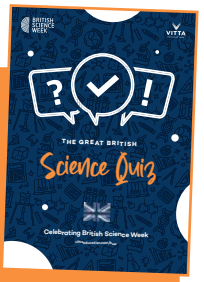
The activities, all themed around 'Change & Adapt', are aimed at young people aged around 11–14, but they can be modified to work for older students. In addition, the Early Years and Primary activity packs are also available to download.

'Make a footprint tunnel to monitor mammals', created in partnership with the Mammal Society, has students building a special tunnel from classroom resources and learning to identify the tracks of different animals – a very hands-on experiment that gives them a taste of working in STEM!

To extend this activity, students could research the animals whose tracks they record and find out if climate change is impacting population numbers and how certain species could be protected.

The BSA also partnered with the Institute of Cancer Research to create **'Defeat the tumour'**, an activity that demonstrates how different treatments work and might be used in conjunction with each other to kill cancerous tumours. This is a hard-hitting topic, but one that could inspire the next generation of doctors and researchers.

"...Secondary students have the opportunity to put their ideas for how we can ensure the air we breathe in indoor spaces is clean and safe..."



The Great British Science Quiz '25... Not to be left out and miss out on the excitement! VITTA Education has put together a British Science Week inspired quiz pack, designed to dress up your learning space, spread the word and inject a burst of fun into those final minutes of your lessons.

Download our previous activity pack and secure your quiz pack via **vittaeducation.com/bsw**

Don't forget to share your fun with us on our social channels, by tagging **@VITTAEducation** and use the event hashtag **#BSW25**... Enjoy!

Download all activity packs for free online at: **britishscienceweek.org/activity-packs**

VITTA EDUCATION | BRITISH SCIENCE ASSOCIATION

THINGS TO DO WITH PASCO

VITTA EDUCATION EXCLUSIVE

#5: PASCObot Sense and Control Kit

Imagine students transforming from curious learners into skilled robot programmers, guiding their creations through obstacle courses, coding custom behaviours, and tackling exciting challenges.

The **PASCObot Sense and Control Kit** offers endless possibilities, merging technology with education. Using Blockly programming, students bring robots to life, creating a dynamic, hands-on STEM experience. With the kit's tools, students gain practical experience programming the PASCObot for tasks ranging from basic movements to complex obstacle navigation.

These activities not only foster creativity but also support key components of the science curriculum, helping students master essential concepts in physics, computer science, and mathematics.

1. Roving with the PASCObot: Master the Basics of Movement

Start with the basics. Students program the PASCObot to move forward, and backwards, and make precise turns—left or right. Using repeat loops and sleep blocks from the code library, they will discover the power of coding to control robotic movement. This mirrors key concepts in physics about motion and forces, such as how changes in speed and direction relate to distance and time. Students also experience practical applications of velocity and acceleration.

2. Roving with Touch: Navigating with the Accelerometer

Take things up a level by adding the accelerometer to your programming. Students can code the PASCObot to respond to its environment. By detecting obstacles and changing direction using the accelerometer, they learn how to create responsive behaviour using conditional statements. This activity connects with the physics and computer science curriculum, helping students understand how sensors can detect environmental changes and how these sensors contribute to robotic control systems.

3. Roving with Sight: Programming the Range Finder

What happens when the PASCObot can 'see'? Students can use the Range Finder Module to detect obstacles in the robot's path. They will program the robot to avoid obstacles and use visual data for decision-making. This activity connects with physics, as students explore energy conservation, and real-time data processing and helps with understanding data-driven decision-making.

Product shown: PASCOBot Sense and Control Kit (ST-7840).

4. Roving on Hills: Mastering Inclines

In this activity, students explore how the PASCObot handles hills. Using the accelerometer to program the robot detects and adjusts its speed when navigating inclines. This challenge helps students understand how robots adapt to different environments, aligning with the physics curriculum's focus on forces and energy transfer. Students also use their math's skills to calculate speed, distance, and acceleration, enhancing their understanding of motion and acceleration.

5. Roving the Line: Exploring Line-Following Capabilities

The PASCObot Line Follower opens up a whole world of experimentation! Students program the robot to follow a line, testing which colours provide the best tracking. This ties into the use of geometry and coordinates as students design and optimise their tracks. Students also explore algorithms, a key aspect of computer science, as they program the robot to respond to specific conditions.

6. Roving Off Line: Diverging from the Path

For a more advanced challenge, students can program the PASCObot to stray from the line and then return to it. Using Line Follower intensity measurements, they explore how different tape colours and widths affect the robot's path. Again this activity promotes understanding of algorithms and data analysis along with students applying logical reasoning and refining code to improve the robot's behaviour.

7. Roving with the PASCObot Gripper: Pick and Place

The final challenge in PASCObot programming! In this advanced activity, students use the PASCObot Gripper to move objects. Whether lifting and stacking cups or avoiding obstacles while delivering items, this task lets students combine all their previous skills to tackle more sophisticated challenges. This activity ties into physics concepts of energy transfer and mechanical advantage, while also linking to computer science in terms of programming for precision and automation.

The PASCObot Sense and Control Kit is an ideal way to engage students in hands-on STEM learning. It provides a fun and educational experience with real-world applications like robotics, sensors, and programming. As students program their robots to navigate different environments, they develop essential problem-solving and critical-thinking skills, while making abstract concepts come to life in a meaningful way.

Now that you have the tools, it is time to create, code, and explore! Happy programming!

TOP TIP

Start with the basics and gradually introduce more complex challenges to build confidence and deepen understanding, while also honing troubleshooting skills in robot programming.

Remember...

you can view and record data easily and for FREE using the SPARKvue App on iOS or Android.

GET IT ON Google Play | Download on the App Store

Shop PASCObot and all its accessories – including PASCO's five-year warranty exclusively at **vittaeducation.com**

For an extra boost, check out the PASCObot 'Get Started' video for a quick demo on controlling the robot's motion using Blockly coding, built into SPARKvue and PASCO Capstone software.

Scan the QR code to watch...

BRITISH ESPORTS:

GAME CONSOLES IN THE CLASSROOM

More than just a game, esports courses foster STEM skills such as problem-solving, strategic thinking and teamwork

Esports, or competitive video gaming, has quickly gained prominence not only as a form of entertainment, with professional gamers competing in stadiums around the world – but also as an educational resource.

From digital literacy and leadership to teamwork and critical thinking, esports offers students a hands-on way to develop competencies that extend beyond the classroom.

For educators, particularly those focused on STEM subjects, integrating esports into curricula can engage and inspire students, while providing them with transferable digital skills.

Like sports, the esports industry requires professionals including commentators, marketers, broadcast producers, coaches, reporters, video creators and social media managers, to name a few. There are now a range of qualifications, to give students the digital skills and knowledge to thrive within these roles.

Today, there are some 10,000+ young people who have studied the various Esports BTECs developed by British Esports in partnership with Pearson, which include Level 1 to Level 3 variants, Higher Nationals and more. British Esports has also partnered with the Leadership Skills Foundation to deliver esports leadership qualifications for those aged 11+, allowing younger people to take their initial steps onto the esports career pathway from September 2024.

These various qualifications help build digital literacy and cognitive skills, as well as decision-making, dexterity, creativity, concentration, leadership and communication, strategic thinking and STEM skills. Not only that, but esports can also lead to improved wellbeing and attendance in students, as found in British Esports' work in Alternative Provision Schools.

Then there's the competitive side of gaming. The British Esports Student Champs, a nationwide tournament, offers students aged 12-19 the chance to represent their school or college and compete in games like Rocket League, League of Legends, and VALORANT.

Almost 200 institutions compete in the Student Champs today, with more than 1,250 teams and 6,000 students taking part overall each year. An annual live grand final event takes place at the end of each season, in the summer, giving students a chance to showcase their talents live on stage. At the 2024 finals, Burnley College, Newcastle College, Exeter College and the College of Haringey, Enfield and North East London were crowned champions.

Beyond this, British Esports hosts an annual Education Summit, has a large presence at the Bett Show each year and has a partnership with Sunderland College to help deliver the BTEC in Esports programme from British Esports' National Esports Performance Campus. It's also partnered with the College of Esports at a degree level.

Images: © 2025, British Esports.

BRITISH ESPORTS

"...you need to be thinking about this.... you need to be thinking about esports..."

The British Esports Student Champs, a nationwide tournament, offers students aged 12-19 the chance to compete in games like Rocket League, League of Legends, and VALORANT.

Jason Frost, Curriculum Manager for Creative Arts & Media at Burnley College, which competes in the Student Champs, concludes: "Esports is the fastest-growing new course in our college's history and the Student Champs has been fantastic for us – we now have ten teams competing on a weekly basis. Every student has a job – it could be admin, commentating, competing on teams... those soft skills you really need, communication, leadership, teamwork, suddenly these kids who couldn't look you in the eye when you walked through the door are suddenly excelling themselves in all these things. So it's really powerful.

Whatever we'd invested in esports initially, we got back in that first year. And we've gone on to invest in another three rooms. We're also starting the HNC qualification in esports this year – we have a new room in the university block. We're going from strength to strength – we've gone from 20 students to about 150 students in two years.

So I would say to SLT (senior leadership teams), "you need to be thinking about this – you need to be thinking about esports."

CALLS FOR ESPORTS CURRICULA

Three quarters of Gen Z individuals aged 16-27 say they would like to see esports integrated into school curricula.

That's according to a new study of 2,000 Gen Z'ers interested in the creative and entertainment industry, conducted by Censuswide and commissioned by Tencent Games, in collaboration with UK games bodies British Esports and Ukie.

Tom Dore, VP, the British Esports Federation, commented: "Esports curricula in Secondary, Further and Higher Education, such as the Pearson Level 2 & Level 3 BTECs in Esports, are equipping young people with the skills needed for careers in esports, gaming and the wider digital, creative and STEM sectors.

Support and recognition from video game publishers and industry stakeholders are crucial to driving sustainable growth, grassroots development and clear career pathways within the esports ecosystem."

To find out more about esports, the Student Champs, qualifications, or more info on how to get involved, feel free to contact us or set up a meeting via **education@britishesports.org**

#TECHOGNITION

27th March 2025

PRIZES TO BE WON!

#TECHOGNITION CELEBRATES AND SHOWCASES THE ESSENTIAL WORK OF TECHNICIANS IN UK SCHOOLS AND COLLEGES

Join us on Thursday 27th March 2025 at **www.techognition.org** and across social media for our eighth annual event

CELEBRATING THE SUPERSTARS OF SCIENCE

PROUD TO SPONSOR #TECHOGNITION
VITTA EDUCATION

Are you the hidden hero behind the exciting experiments, perfectly organised setups, and jaw-dropping demonstrations in your school or college lab? It's your time to shine!

VITTA Education is proud to sponsor the eighth annual #TECHOGNITION – a nationwide celebration of the incredible contributions made by school and FE technicians across the UK on **Thursday, 27th March 2025,** and it promises to be the most inspiring celebration yet!

Celebrating Unsung Heroes

Since its launch in 2018, #TECHOGNITION has grown into a vibrant platform for showcasing the essential roles of school science technicians. By 2020, it expanded to include all technical staff, spanning Science, ICT, Design & Technology, Music, Art, Drama, P.E., and more. These skilled professionals work tirelessly behind the scenes, ensuring students and educators have the tools and support they need to succeed.

#TECHOGNITION highlights your vital contributions to education, inspiring future technical careers while shining a light on the challenges technicians face, such as low pay, increasing workloads, and under-appreciation.

Get Ready for a Bigger, Brighter 2025 Event...

This year, technicians from across the UK are once again invited to share photos that capture the variety and excitement of their roles. Whether you're orchestrating intricate physics experiments, designing eye-catching displays, or crafting colourful chemical reactions, your snapshots will showcase the vital work you do every day.

And it gets even better – fantastic prizes, sponsored by VITTA Education and others, are up for grabs, making this year's event even more rewarding!

By participating, you help raise awareness of the challenges technicians face and championing the recognition you deserve.

Why Your Work Matters

Technicians are the backbone of successful schools, combining expertise, creativity, and problem-solving to support students and staff. Yet, surveys by Preproom.org, including their 2024 study, highlight ongoing challenges like misunderstood roles, low pay, unpaid duties and rising workloads.

Initiatives like the Technical Champions Quality Mark are making a real difference in helping schools tackle systemic challenges. By partnering with organisations like UNISON, they're also advocating for fairer pay, greater recognition, and improved working conditions, ensuring a more supportive and rewarding environment for everyone involved.

Together, let's shine a spotlight on the talent, dedication, and expertise that make technicians such a vital part of education. We can't wait to celebrate with you at #TECHOGNITION 2025!

Get involved and show your support for #TECHOGNITION

Upload your 'tech' photos and videos tagging **@TECHOGNITIONUK** and using **#TECHOGNITION**

Make sure to also tag **@VITTAEducation** and other 2025 event sponsors!

Retweet and share fellow technicians' posts and updates to help school and FE college technicians get the recognition they deserve.

You can also upload your photos to **techognition.org**

For more information on #TECHOGNITION and its sponsors, please visit the official website at **techognition.org**

Photos can be uploaded on the day to **www.techognition.org** between 8pm and 6pm.

LIVING YOUR BEST LaBLiFe

Get to know the vibrant community for science technicians, by science technicians...

Welcome to **LaBLiFe.co.uk** – the online community designed to support and champion laboratory technicians, science teachers, and industry scientists. We're here to make your daily escapades easier, more enjoyable, and more rewarding. Through our content platform, we share knowledge, spark ideas, deliver honest product reviews, and provide training opportunities in collaboration with our trusted partners.

But don't just take our word for it – here's what your peers have to say about LaBLiFe:

"...Informative and fun, just as science should be!" – Rae, Physics Technician

Whether you're new to the role or a seasoned expert, our content is approachable, practical, and tailored to your needs. We focus on making science both engaging and relevant for you.

"...I enjoy reading about other technicians and looking at their 'homes'..." – Christine, Biology Technician

LaBLiFe is more than just a website – it's a welcoming space to share your stories, showcase your work, and discover how others tackle the same challenges you face.

Take a closer look behind the scenes with our popular series, 'Behind the Prep Room Door.' Each month, a science technician invites you into their prep room, sharing clever setups, innovative solutions, and practical tips for running an efficient and organised workspace.

"...The blogs are interesting for tips and knowing everyone else is dealing with the same, you are not alone..." – Holly, Technician

Through candid stories and shared experiences, LaBLiFe connects you to a vibrant network of professionals navigating – and conquering – the same challenges. Don't miss our monthly newsletter for the latest videos, inspiring blogs, product reviews, competitions, and training opportunities.

Join Us Today!

LaBLiFe.co.uk is your go-to destination for inspiration, advice, and community. Explore blogs, connect with peers, and discover why science technicians across the UK are making **LaBLiFe.co.uk** their online home

Look Out For LaBLiFe...

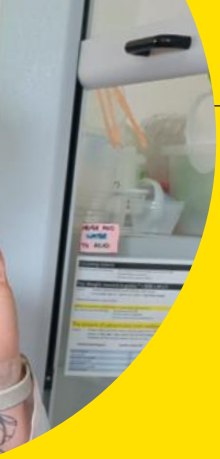
We're expecting even bigger and better things for LaBLife during 2025, with plenty of ways to get involved, including our monthly 'drop-in' virtual coffee-break confessional and we've recruited even more ambassadors to help share their tips, tricks and ideas with you all. So keep an eye on our socials for the latest video drop!

Don't forget you can also **add some bling to your science-thing** and help support the community growth with official LaBLiFe merchandise.

Why Wait?

Visit LaBLiFe.co.uk and see for yourself why your fellow technicians are raving about it.

Pictured: Emma Dent, LaBLiFe Ambassador.



EAT SLEEP SCIENCE REPEAT

take a look

BUYERS GUIDE: POWER SUPPLIES

Our pick of the best-selling bench-top power supplies

Power supplies are essential tools for any lab, and it's important to consider key factors like safety, cost, ease of use, precision, and durability. To help give you a steer, we've taken a closer look at three of our top-selling models.

BEST BUDGET: For those on a budget but still needing a reliable power supply, the **EduLab 0-15V Stepped Power Supply** (VTT12302917) offers stepped voltage in 1V increments from 0 to 15V, ideal for standard experiments. It features AC and slightly smoothed DC output and includes safety features like a key-operated voltage lock and overload protection. Compact and reliable, it's a perfect cost-effective solution for schools looking for a dependable, general-use option.

BEST FOR PRECISION: For experiments that require precise, stable power, the **Lascells Variable Power Supply 0-15V** (VTT12302915) is an outstanding choice. Its regulated output ensures a constant, noise-free voltage, which is vital for accuracy in electronics and physics labs.

The digital panel meter provides real-time voltage readings, allowing students to monitor the output with high precision.

With the ability to adjust the voltage continuously between 0 and 15V, students can easily fine-tune their experiments to meet exact specifications, making this power supply perfect for more advanced, precision-based learning.

- For versatility and ease of use, the Lascells Variable Power Supply is a fantastic choice.
- If you're on a budget, the EduLab Stepped Power Supply delivers excellent value.
- For high-voltage experiments, EduLab's EHT Power Supply is the safest and most durable option.

BEST FOR SAFETY & DURABILITY: When it comes to high-voltage experiments (such as electrostatics or using Teltron tubes), the **EduLab EHT Power Supply** (VTN12301529) offers the highest level of safety and durability with a maximum output of 5kV and a current limit of 2mA.

With built-in safety features like current-limiting resistors, shrouded sockets and an independent earth terminal, it's designed to withstand the demands of a busy classroom.

The compact, reinforced design is ideal for frequent use, while the precise digital display provides reliable performance for schools wanting to conduct high-voltage experiments.

OVERALL BEST CHOICE: The **EduLab 0-15V Stepped Power Supply** (VTT12302917) is ideal for a wide range of experiments, offering stepped voltage output and both AC and smoothed DC options. Safety features include a key lock system, overload protection, and a slow-blow fuse. Though not regulated, its robust design, compact size, stackability, and 5-year warranty make it a reliable and cost-effective choice for schools.

Read the extended review online at **vittaeducation.com/power-supplies-guide**

THE TECH FILES

KATRINA CORNELL

Meet Katrina Cornell, a passionate and dedicated STEM Technician at UTC Oxfordshire, a specialist college for 14–19-year-olds focused on science and engineering. With a love for science that began in childhood, Katrina's career has been shaped by curiosity, determination, and a drive to inspire others.

Her journey into science started early, encouraged by her father's support and endless curiosity about how things work. A stand-out childhood memory is a walk along the beach to view the comet Hale-Bopp - a moment that sparked a lifelong fascination with the universe. Although her first interview for a technician role didn't go as planned, Katrina's path eventually led her to her dream role, proving that persistence pays off.

Before joining UTC Oxfordshire, Katrina worked for nearly a decade in a company developing diagnostic kits for tuberculosis. This role offered exciting opportunities to collaborate with the NHS and even travel to the U.S. to set up labs in Boston and Memphis. When she became a mum in 2016, Katrina made the shift to working in schools, drawn to the family-friendly hours. What started as a practical decision quickly became a fulfilling career that combines her love of science with her talent for teaching and inspiring others.

At UTC Oxfordshire, Katrina has made a huge impact. She's designed and led creative outreach programmes connecting the college with local primary schools. Her projects bring science to life for younger students, from heart dissections for Year 6 pupils to magical "Potions and Science" sessions for Year 4's. These activities don't just teach science - they spark excitement, curiosity, and a love for learning. With plans to expand these projects even further, Katrina's passion for sharing science continues to grow.

Katrina also uses social media as a powerful tool to connect with other technicians and share her work. Platforms like Twitter/X and Instagram have become invaluable for networking, finding ideas, and supporting others in her field. Her school's Instagram account – **@UTCOScience** – showcases inspiring science projects and departmental highlights. In fact, Katrina's online presence has even led her to set up a community group for technicians to share knowledge and resources.

Her hard work hasn't gone unnoticed. In 2023, Katrina was named the Philip Harris Science Technician of the Year, an honour that recognises her outreach work and her new role as a CPD facilitator with STEM Learning. Hosting workshops and helping other technicians develop their skills has been a surprising but rewarding chapter in her career.

While Katrina acknowledges the challenges of working in schools, such as managing heavy workloads and feeling under-appreciated, she is deeply passionate about what she does. She loves helping sixth-form students achieve their best and introducing younger students to the wonders of science. For Katrina, the role of a technician is much more than preparing experiments; it's about making science exciting and accessible for everyone.

Her advice for new technicians is practical and encouraging; connect with others, whether through social media groups or supplier networks and give yourself time to grow into the role. Katrina knows how overwhelming the job can feel at first, but she believes the effort is worth it.

Katrina's story is an inspiring example of how technicians play a vital role in education. Through her creativity, dedication, and enthusiasm, she's not only supporting students but also shaping the future of science education in her community.

Read the full report on Katrina by visiting our blog pages, and why not share your story to feature in next term's Tech Files. Email **hello@vittaeducation.com**

IN THE NAME OF LUV

Valentine's Day: 14 February '25

Just when you thought you were done with the holiday rush, here comes Cupid with his arrows! Whether you're celebrating **Valentine's Day** and the season of love, or just enjoying some hands-on science, we've created lesson ideas that blend key scientific concepts with a Valentine's twist. These activities are designed to support your curriculum while engaging students in meaningful, real-world science.

Love at First Fizz

Get students excited about chemistry by adding a fizzy twist to your lesson by creating bath bombs in your lab! This hands-on activity is a great way to explore acid-base reactions, gas production, and solubility in an interactive way. Not only will students learn important scientific principles, but they'll love making their own colourful, scented bath bombs while seeing how chemistry plays a role in everyday life.

Melt My Heart

Explore how acetone dissolves polystyrene, with a Valentine's twist! By using heart-shaped polystyrene, we make the process of dissolution even more visually engaging and meaningful. As the polystyrene "melts away," it's a great opportunity to explain how materials break down at the molecular level – just like love can transform us!

Cupid's Arrows

In this exciting experiment, a burning tea bag rises into the air, demonstrating convection currents and resembling Cupid's arrow. As the heat causes the air inside to become less dense, it creates an upward current. This visually striking demonstration highlights the key concepts in heat transfer and convection, showing how love can lift our hearts – just like the rising air lifts the tea bag.

The Beat Goes On

Love isn't just a feeling – it's also about taking care of ourselves. Cardiovascular health plays a key role in feeling good and staying strong. In this activity, students explore how exercise affects heart health and the role of the circulatory system. A healthy heart pumps love in the form of oxygen and nutrients through your body, helping you thrive. It's a great opportunity to connect biology with real-life health benefits and show students how science plays a part in their own well-being.

Download these Valentine's-themed lesson plans, as well as extra activities like chromatography hearts, bleeding hearts, and a closer look at the heart's anatomy and the circulatory system.

Share the love...

Download these and other 'Valentine's Day' ideas and experiments at **vittaeducation.com/love**

See page 54 for a list of all the products featured.

NEW TECHNICIAN RESOURCES AND CPD FROM ASE

We all know that the science education community faces challenges – across teaching and technical work – in staff recruitment and retention. As with any profession, individuals thrive when they have the support and training they need to keep their skills up to date and ensure they feel valued in the workforce.

OUR TECHNICIAN NETWORK

ASE has launched a new online technicians' network, meeting every couple of months online for an hour, and covering topics such as job interviews, extracurricular activities, career pathways, and performance management

This network is a chance to meet with other technicians, share suggestions, ideas, and tips with a group of friendly technicians. The network is free for ASE members and you can view and sign-up to the next meet at **ase.org.uk/events**

WORKING WITH GLASS RESOURCES

Working with glass is an extremely important task for the school or college technician. Not only does the technician need to be aware of the personal risks from hot and sharp materials, but also of the risks posed to teachers and students who will handle the equipment. The technician has a duty of care to provide safe equipment for teachers and pupils to use.

ASE's new 'Working with Glass' written guide and accompanying video demonstrations provide information for the technician on preparing simple glass objects and threading glass tubing and thermometers through rubber bungs. It will be particularly useful for the new technician and for anyone who is working towards qualifications. It will also help experienced technicians from other disciplines to widen their skills.

ase.org.uk/technician-guide-working-glass

OUR SPRING CPD PROGRAMME

In addition to our Network meetings, our current range of technician focused online courses include:

- Online Technician's Leadership Programme: a series of three courses to support leadership skills development:
  1. **Working with and training others**
  2. **Organising your technical service**
  3. **Leading yourself and your team**
- Focused courses on supporting biology, physics, chemistry and working with students: These programmes share hints and tips to help technicians cut down on preparation time and learn from live demonstrations, videos and chats about good practice as well as effective behaviour management and question strategies for working with students.
- Guidance for new technicians to develop their skills and knowledge to feel more confident and useful in delivering practical work to students and teachers.

ADDITIONAL RESOURCES

You can find our full resource collection for technicians, including our latest articles written for techs, by techs, in 'Prep Room' online in our resources hub: **ase.org.uk/technician-resources-collection**

The Association for Science Education (ASE) is an active membership body that has been supporting all those involved in science education from pre-school to higher education for over 100 years. Find out more at **ase.org.uk**

VITTA A-Z Chemical Recipe Sheets are available to download on our website

Save yourself time in the prep room with more added each week, plus links to equipment and practical experiments.

vittaeducation.com/recipes

Download A VITTA TIME-SAVER

VITTA CHEMICAL RECIPE SHEETS

Sodium Thiosulphate

0.2M Solution (1Ltr/1000ml)

DIRECTIONS:

1. Using a balance and weighing boat, weigh out 49.64g of sodium thiosulphate (VI)-5-water.
2. In a 250ml beaker add 200ml distilled/deionised water.
3. Place the beaker on a magnetic stirrer and add a bar.
4. While stirring add the sodium thiosulphate (VI)-5-water and rinse the weighing boat into the beaker using a washer bottle.
5. Stir until the solid is dissolved.
6. Using a 1000ml volumetric flask and funnel, pour the solution from the beaker into the flask.
7. Add distilled/deionised water to the meniscus of the flask.
8. Stopper the flask, carefully holding the stopper and base, invert the flask several times to mix the solution.
9. Store the solution in a suitable container and label accordingly.

GUIDANCE:

- When mixing the solution it should not be heated.
- Add 1g sodium sulphate (IV) (sodium sulphite) to increase the shelf life of the solution.

SHOP & DOWNLOAD NOW...

You can find the full explanation of this recipe, along with links to all the ingredients and equipment required at **vittaeducation.com/recipes**

PRECAUTIONS: When preparing solutions always wear appropriate PPE including eye protection and gloves. Always add acid to water (never water to acid). Use a fume cupboard. You should always carry out a risk assessment when using any chemicals. Follow all recommended safety procedures and adhere to the label instructions, hazard warnings and local legislations.

Recipe extract shown. VITTA Education are not responsible for the outcome of this chemical recipe you try, or any website linked to from this recipe. For our full disclaimer visit vittaeducation.com

FROM CAD TO CLASSROOM:

UNLEASHING THE POWER OF 3D PRINTING

The beneficial effect of using visual aids to enhance learning is well documented. Often, a pretty video and a well written explanation of the topic is enough. However, some students may prefer a physical prop they can interact with. VITTA have a wide range of such models, but depending on the level of education (secondary, further or higher), a model required may be either too niche or too novel, and so not be available to purchase. Enter: 3D printing!

FDM 3D printing (3DP) is a relatively new additive fabrication technique developed for manufacturing that has broken out of industrial-only applications, becoming a viable prototyping solution for everyone. The technology is developing rapidly as enthusiasts can instantly add printer features: you can print upgrades for your printer! This has driven established 3DP manufacturers to push increased accessibility as their selling point, where many printers are simply point and print.

Better accessibility allows absolutely anyone to access a wealth of beautiful decorations and useful tools. There are many online databases that list thousands of designs that are available to download for free, or for a one-off payment for unlimited use. But, if you can't find an item with the right aesthetics or features, anyone can quickly learn to use powerful and free CAD software to bring to life exactly what they need. For me, this is the most amazing aspect of 3DP; in a single day you can go from an idea in your mind, to a working model in your hand.

The utility of this technique can be extended to other STEM disciplines beyond engineering. In preparation for the 2024 CANDI STEM technicians conference, I scoured the database printables.com for models related to biology, chemistry and physics, even designing a few of my own.

One type of model that caught my eye quite often was simple yet effective, quick to print and easily adapted to almost any subject. With 3DP, you can create a range of stencils for your students to draw molecular structures, cellular structures or circuit diagrams with high quality and reproducibility.

DNA is an information-dense structure comprised of base pair sequences forming a double-helix that is pieced together by polymerases like a long puzzle. This design simplifies the structure into puzzle pieces that can be arranged together, matching them according to their complementary shapes and colours.

Being a biology tech, I noticed that some of my students had trouble visualising the stages of bacteria plate streaking. There are streaks to be made in ~4 areas of the agar plate, so I designed a holder for the plate, and the operator can easily follow the numbered guide with their loop, increasing plate to plate consistency.

With 3DP, anyone can learn to make anything! If you would like to learn more about this versatile tool, there are many easy to follow online tutorials.

Talk to VITTA...

Read the full article online, including useful hints and tips from Toby, plus a link to send in your own questions and queries that our team can assist you with.

vittaeducation.com/3D

Capital City College

Written by Toby Clements, Science Technician, City and Islington College.

RSB SPRING UPDATE

Catch up with the Royal Society of Biology this term

School Biology Teacher of the Year 2025

Do you know an inspiring Biology Teacher who you would like to see recognised?

The Royal Society of Biology's School Biology Teacher of the Year Award seeks to identify the UK's leading secondary education teachers, recognising the invaluable role they play in educating and inspiring the next generation of biologists. The award rewards teachers who:

- Demonstrate outstanding and inspirational teaching of biology at secondary school or college
- Contribute to the development of science throughout the school
- Influence the teaching and learning of biology beyond their own institution, in other schools or educational settings

The winner receives a £500 prize and a further £500 worth of school resources, both of which are provided by Oxford University Press.

Scan the QR code to find out more and submit a nomination...

Spot Your Signs of Spring

The Royal Society of Biology and the Field Studies Council are again leading a citizen science project in 2025, asking members of the public to record their signs of spring across the UK. From the first snowdrops of the year to daffodils and frogspawn, we'd like you to record when you see one of our ten indicators of spring using our short survey.

It's really easy – no need to set up an account; just log the location of your sighting and the weather conditions. Last year, we had over 1,000 sightings of snowdrops, and we're keen to see far more this year. The live map enables you to see where others have sighted signs of spring across the UK already. Will you make the first sighting of a daffodil or the first catkins?

How much later are snowdrops still out in Scotland compared to the south of England? The live map will show you what others have spotted.

We hope that with expanded data year on year, we can track the signs of spring and make observations about the potential impacts of climate change across the UK.

The 2025 survey launches in the first week of January and you can find more details on the RSB website at **rsb.org.uk**

A-Z of Biosciences

Want to find out more about the wide range of careers available in the biosciences? Check out the Royal Society of Biology's A to Z of the Biosciences series of videos on YouTube.

Each short video focuses on a different area of biology, with our biologists sharing the highlights of their work.

Each video provides details of the qualifications needed to start a career in the specialisms featured and includes advice for future biologists.

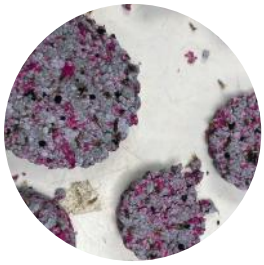
We hope to inspire future bioscientists, whether they are currently in school, studying at university, or in training. The series ranges from anatomist and kelp researcher to virologist and zookeeper, with many interesting careers in between.

Scan the QR to watch the full series of career videos on our YouTube channel or visit the RSB website to find out more at **rsb.org.uk**

The Royal Society of Biology is a single unified voice for biology: advising Government and influencing policy to help advance education.

Royal Society of Biology

Nominations for Biology Teacher of the Year 2025 close on 24th January 2025.



SEED BOMB REVOLUTION: SUSTAINABLE STEM PROJECTS

Maren Kelly, Head of Science and Maths and Outreach Co-ordinator at St Catherine's Prep School, shares how Year 6 students made wildflower seed bombs from recycled paper - an innovative STEM project promoting biodiversity and sustainability across all sciences.

A VISION FOR SUSTAINABILITY

This project was initiated by the pupils' ideas and interest in promoting biodiversity and sustainability within our school community. What started as a small question, the science lesson snowballed into an engaging and innovative STEM project aimed at transforming recycled materials into a vibrant habitat for wildflowers and a wonderful place to live for various animals.

It began with the re-purposed tennis balls adorning the school's science lab chairs. Year 6 pupils asked how they too could apply their scientific knowledge to create something more useful and sustainable from school waste.

The project drew on the circular economy concept, encouraging the pupils to rethink waste and embrace recycling, which had them thinking more creatively about the mounting pile of scrap paper in the classroom.

This sparked off a wave of enthusiasm as they embarked on a mission to craft wildflower seed bombs.

SCIENCE MEETS CREATIVITY

Integrating various scientific disciplines to design effective seed bombs, the pupils meticulously developed the perfect formula for creating robust seed bombs. They tested different types and sizes of paper, wildflower seed amounts, and perfected the mulch consistency, refining their designs until they identified the most effective blend.

Studying the wildflowers' life cycle, they created "Pollinator Top Trump" cards, showcasing the importance of the plants and their role in supporting various animal species. Through their research, they recognised that wildflower meadows are critical habitats that foster biodiversity.

Looking at how to distribute the seed bombs more effectively, they designed wind dispersal devices. Through hands-on experimentation, they determined which design was best suited for carrying the bombs across a large area. They explored physics principles related to wind dynamics, bringing their ideas to life on the school grounds

The project culminated in creating a compelling leaflet advertising the newly planted school wildflower meadow. The leaflet was cleverly designed to persuade local fauna— birds, bees, and butterflies— of the advantages of relocating to this flourishing habitat. Students ingeniously combined their artistic and persuasive writing skills to make a case for biodiversity within their community.

Combining entrepreneurship and community engagement, the students also sold their seed bombs, enabling them to reinvest in further environmental initiatives while spreading awareness about sustainability.

Through this project, pupils learnt to appreciate the critical relationship between science and sustainability while taking actionable steps to promote and protect their local environment. Their creativity and innovation reflect a promising future, demonstrating that young minds can significantly impact the fight for biodiversity – one seed bomb at a time!

Have you got a project to showcase in the next issue? Share with us via **hello@vittaeducation.com**

WELCOME TO THE STEM COMMUNITY

YOUR HUB FOR TEACHING TIPS, GROWTH, AND COLLABORATION

New to the STEM Community? Welcome aboard! Let us take you on a whistle-stop tour of all the exciting resources, tools, and opportunities waiting for you in the STEM Community.

WHAT IS THE STEM COMMUNITY?

Run by STEM Learning, the STEM Community is a vibrant, collaborative hub for teachers and technicians to come together to collaborate, share best practices, and grow their skillset. Here, you can:

- Share ideas and best practices.
- Ask questions and find solutions.
- Grow your skills alongside like-minded educators.

With dedicated groups tailored to specific subgroups of the educator community – such as technicians, or primary SEND – you'll find a welcoming network to support and inspire you.

BOOST YOUR PROFESSIONAL DEVELOPMENT

The STEM Community isn't just about collaboration – it's also packed with opportunities for personal and professional growth!

If you're looking for commentary on the most recent developments in primary science research, or advice from experts on specific issues in education, the STEM Community blogs are for you! Blogs are updated regularly, so you're guaranteed always to have some new and fresh content to enjoy.

Looking for more traditional, structured CPD, or more specific resources? Look no further than the STEM Community marketplace where you'll find:

- Subject-specific CPD.
- Career development tips.
- Job opportunities.

We've partnered with leading organisations like ***The Ogden Trust***, ***Eteach***, and ***Best Practice Network*** to bring you the very best. This also gives you an insight into STEM Learning's exciting CPD offerings.

READY-TO-USE RESOURCES

The STEM Community also provides featured resources, signposting you to high-quality, topical content that you can use in your classroom immediately. From hands-on activities for awareness days to content aligned with key topics, we've got you covered.

> "...A community of over 25,000 teachers; technicians; TA's and governors, all involved in the STEM education of young people..."

ENGAGING CONTENT FOR YOUR STUDENTS

We are excited to host the STEM Dorado magazine, perfect for students aged 5–13. Students can flip through the magazine at their leisure on our dedicated webpage. The interactive, digital magazine is packed with puzzles, quizzes, and articles that will captivate any young scientist (and maybe their teacher, too!).

WEBINARS ON EXCITING TOPICS IN STEM EDUCATION

Our latest addition, STEM Community Live, is a series of exciting webinars diving into today's hottest topics in STEM education. Past sessions have covered:

- Metacognition.
- Women and girls in engineering.
- The future of AI in education.

Missed a live session?

No worries! All webinars are available on STEM Community Live On Demand, so you can catch up anytime.

With so much to explore – blogs, CPD, featured resources, webinars, and not to mention a dedicated space for collaboration and community with other educators – the STEM Community is your one-stop shop for levelling up your teaching practice.

TIME TO GET INVOLVED...

Sign up today to unlock everything the STEM Community has to offer. Head online to **https://community.stem.org.uk/home**

CELEBRATING WOMEN IN STEM

International Day of Women and Girls in Science

February 11th marks the 10th anniversary of the International Day of Women and Girls in Science, a wonderful occasion to celebrate and promote gender equality in science, technology, engineering, and mathematics (STEM). As we reflect on the progress made, it's a fantastic opportunity to showcase the many initiatives, organisations, and communities available to support women and girls in STEM.

Alongside the International Day of Women and Girls in Science, other important dates such as International Women's Day (8 March) and Girls in ICT Day (22 April) further emphasise the importance of bridging the gender gap in science and technology.

In celebration, and to further shout about the success of women and girls in science, we've taken a look at a number of organisations and networks dedicated to promoting those xx chromosomes even further!

Why not take your students along to networking and careers events designed for STEM students and recent graduates?

STEM Women organise events that give students the chance to connect with top employers, apply for exciting roles and opportunities, hear from inspiring professionals working in STEM, and get motivated to follow in their footsteps!

Find out more via **stemwomen.com**

Women in Science and Engineering (WISE) is at the forefront of advocating for gender equality in STEM. The organisation focuses on providing women-centred Equity, Diversity, and Inclusion solutions to the STEM sectors. For schools, WISE offers membership options, training workshops, and an events and jobs board for both students and teachers to stay updated on career opportunities.

wisecampaign.org.uk

Code First Girls has become a leader in providing free coding education to women globally. The initiative offers coding boot camps, workshops, and hackathons, empowering women to break into the tech industry. Their work has provided over £75 million worth of free technology education, training three times as many women to code as the UK undergraduate system. Code First Girls provides a great opportunity to develop coding skills and explore the vast opportunities in the tech industry.

codefirstgirls.org.uk

Coding Black Females is an initiative that aims to support Black women in the tech industry by offering coding classes, mentorship programmes, and hackathons. It creates a community for Black female developers to network, receive guidance, and build relationships. For students, especially those from underrepresented backgrounds, Coding Black Females provides a space where they can feel supported and inspired to pursue a career in technology.

codingblackfemales.com

Women in Esports is dedicated to promoting inclusivity and diversity and encouraging women and marginalised genders to participate in esports at all levels. The award-winning team is committed to creating a diverse, equitable, and inclusive esports industry where everyone has equal opportunities for success. From initiating meaningful conversations to promoting a greater understanding of inclusivity, Women in Esports is paving the way for a brighter, more equitable future in esports.

womeninesports.org

TechSheCan focuses on inspiring girls and women to pursue technology careers. By providing educational programmes, resources, and networking opportunities, TechSheCan aims to bridge the gender gap in technology. Schools and their students can participate by engaging with TechSheCan's workshops and educational programmes designed to develop skills in the next generation of female technologists.

techshecan.org

Girls Who Code is part of a global movement, working to close the gender gap in technology by offering coding workshops, after-school clubs, and summer immersion programmes. These programmes focus on teaching computer science, fostering bravery, and building a supportive network of girls passionate about technology. Girls in schools can directly benefit from joining the clubs and immersing themselves in the world of coding.

girlswhocode.com/en-uk

The Stemettes is an award-winning social enterprise that connects young women and non-binary individuals with STEM professionals. They offer hackathons, career panels, mentoring, and workshops to engage and inspire young people in Science, Technology, Engineering, Arts, and Maths.

stemettes.org

Women in Technology (WiT) is a UK-based community dedicated to empowering women in tech. They provide opportunities for professional development, networking, and mentorship, as well as news and job listings for those seeking to advance in STEM careers. Schools can get involved by encouraging students to attend WiT's conferences and events, gaining insights into the latest trends and career opportunities in the technology sector.

womenintech.co.uk

The Girls' Network is focused on mentoring girls from disadvantaged communities, particularly those aged 14-19. The Girls' Network connects them with female mentors working in STEM fields to provide guidance and leadership training. By collaborating with schools, The Girls' Network helps students unlock their potential and explore opportunities in STEM careers.

thegirlsnetwork.org.uk

We know there are many networks and communities out there, so why not tell us about yours? Email us at **hello@vittaeducation.com!**

THE VALUE OF PROFESSIONAL BODY MEMBERSHIP

Getting a head-start towards professional registration

There are many recognised benefits of pursuing a technical education pathway instead of an academic one, regardless of the subject studied. T Level providers are proud advocates of the practical, hands-on education they deliver in their classrooms, the high-quality technical knowledge and skills they teach their learners, and the game-changing industry placement each student undertakes within their programme of study. The Science T Level can provide its learners with an additional benefit: a head start towards professional registration and access to professional bodies in the sector.

Registered Science Technician (RSciTech) is a professional qualification developed with the support of the Gatsby Charitable Foundation, aiming to increase the professionalism and recognition of those working in technical roles in science.

The Science Council has created a T Level Competence Log enabling T Level Science learners to build a record of their own professional development both during their placement and in the classroom. It has been created to support students' understanding of the competences and types of evidence required to apply for a professional register once they are in employment, an apprenticeship or following further experience at university. This provides them with a quality mark that demonstrates a commitment to the highest standards in the practice of science. The core competences are divided into five key areas: (a) application of knowledge and understanding, (b) personal responsibility, (c) interpersonal skills, (d) professional practice and (e) professional standards. Students have the opportunity to note evidence against 15 standards in total.

ACCESS A DIVERSE CAREER IN SCIENCE

There are 16 licensed professional bodies that can award Registered Science Technician (RSciTech) and providers can request an online talk from any of them through the Science Council website. Students will gain first-hand insight into the benefits of joining a professional body.

- Membership provides access to a wealth of professional development resources, including training courses, webinars, and workshops that can enhance both technical and soft skills.
- Being part of a professional body allows members to connect with industry experts and peers, which can be invaluable for career growth and finding job opportunities.
- Discounts on products and services.
- Professional bodies offer tailored support for job applications, including CV and interview preparation, which can boost employability in early careers.
- Achieving a professional registration, such as Registered Science Technician (RSciTech) status, demonstrates a commitment to high standards and enhances credibility with employers.

"...Our purpose is to strengthen the collective impact of the science community for public benefit. We do this by connecting the science professions to foster knowledge exchange and, through our professional registers, offer interdisciplinary recognition for scientists across the world..."

For providers, the use of the Competence Log with their T Level Science cohorts is multifaceted. It can be used as a checklist with existing employers by supplying them with a tangible list of examples to include and support students with whilst on placement. It also offers confidence to potential employers to offer their support by setting out a clear list of achievable targets, regardless of industry or organisation size. In the classroom, it can be used to track and monitor students' understanding of Core A content, and it can be used to support the setting of individual and ambitious targets for learners.

Delivering a successful T Level course in a Sixth Form or college requires multiple stakeholders to engage as a collective, each with their own needs and specific outcomes, to a much greater extent than for an A Level or Applied General Qualification. Introducing professional bodies to T Level Science learners enhances the student experience by offering a wealth of expertise and support from scientists across an enormous range of professions, and supports the delivery of Core A.

The support network for T Level Science providers, learners, and employers is growing!

Further information, resources and hard-copies can be found and requested on the Science Council's Igniting Careers website: **technicaleducation.sciencecouncil.org**

SPRING CLEANING:

BRINGING PASCO DATA LOGGERS BACK TO LIFE ON A BUDGET

If you've inherited older PASCO data loggers or have ones sitting unused, now is the perfect time to dust them off and reintroduce them into your classroom. While they may be a bit outdated, these devices still remain high-quality and fully capable of supporting engaging, hands-on learning experiences.

Recently, VITTA partnered with SSERC to host a webinar aimed at helping technicians integrate older PASCO data loggers into their science curricula. By finding ways to maximise the potential of existing equipment, you can continue to offer hands-on, interactive science learning without needing to invest in new devices.

PASCO's **AirLink** (PS-3200) interface is a practical solution for connecting older, pre-wireless sensors to modern devices like computers, iPads, and smartphones. The AirLink connects older sensors, such as the blue PASPORT sensors from about 10-15 years ago, to these newer devices via Bluetooth or USB. This enables the use of older sensors in wireless experiments, extending their usability. Even older PASCO data loggers, like the ScienceWorkshop sensors, can be connected to newer devices[†]. Using the AirLink, teachers can continue to use their existing sensors without having to upgrade to newer models, which can be costly. The device supports multiple sensor types, such as temperature, motion, or sound sensors, and allows for greater flexibility in class settings. This means you only need a single set of AirLinks for various sensors, reducing the number of devices required for experiments.

For those looking to integrate these devices into lessons without additional cost, PASCO offers free SparkVue software, a browser-based application that works across a range of devices, including Chromebooks, Windows PCs, Macs, and Apple devices. SparkVue is free to use and does not require any subscriptions or hidden fees, making it a cost-effective tool for bringing data logging into the classroom.

With SparkVue, educators can easily connect sensors via Bluetooth and start collecting data quickly. The software offers various ways to display data, such as through digital readings or graphs, making it adaptable to many types of experiments. SparkVue also supports remote data logging, allowing experiments to run over time, which is particularly useful for long-term studies or practical assessments.

FUNDING TIP: If you're looking to apply for funding or grants, this is a great way to justify your claim. You can argue that one AirLink would extend the life of 10 sensors, making 50 practicals better, which is a strong case for funding.

[†]Additional adapter required. [††]Promotion ends 04/04/25.

WIN an AirLink

For your chance to win a PASCO AirLink (PS-3200) simply answer the following question.

Q: What is the purpose of the PASCO AirLink?

A) To connect older PASCO sensors to modern devices.

B) To replace all PASCO data loggers.

C) To upgrade the software on PASCO devices.

Send in your answer A, B or C along with your name and details to **win@vittaeducation.com**

Good luck!

Additionally, SparkVue includes tools for analysing data, such as curve fitting and advanced calculations like the area under the curve. Data can also be exported to Excel for further analysis, providing students with hands-on experience in processing real-world data. Educators can access free training resources to ensure they're able to make the most of SparkVue's features, helping them incorporate this tool effectively into their lessons and experiments.

SAVE 10% TODAY... Take advantage of our exclusive offer and use promo code **AIRLINK10** to get 10% off your very own AirLink.**

Keep on Cleaning...

HOW TO MAINTAIN YOUR CLIFTON WATER BATH

Water baths are a critical piece of equipment in labs, and their correct maintenance ensures accurate results and a long lifespan. Keeping your Clifton Water Bath clean ensures reliable performance, prevents contamination, and extends its lifespan.

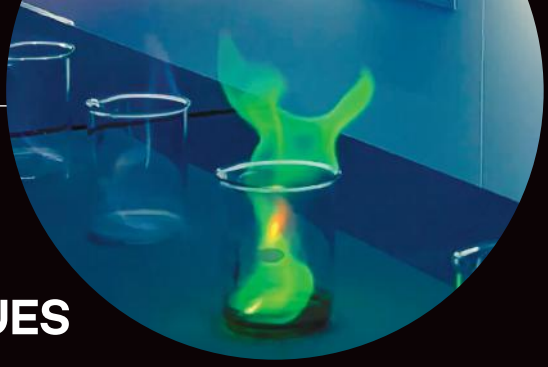
5 STEPS FOR A SIMPLE CLEANING PROCESS:

1. Empty the water bath completely. Use the drain port if available, or manually remove the wastewater.
2. Fill the bath with clean water.
3. Add 1 litre of brown vinegar.
4. Set your water bath to 50°C and leave it for 1 hour.
5. Scrub gently and rinse thoroughly. Then, drain your water bath and dry it completely with a cloth or sponge.

Perform this cleaning procedure weekly or monthly, depending on usage and the risk of contamination. For heavy use, consider daily wipe-downs and regular water changes.

Shop our range of water baths and watch a video of the full cleaning process online at **vittaeducation.com/clifton**

Clifton



FLAME ON!

FLAME TEST TECHNIQUES

The flame test is a visually captivating experiment and a key part of GCSE Chemistry. It allows students to explore qualitative analysis and atomic emission spectra hands-on. Different metal ions produce distinct flame colours when heated as electrons absorb energy, become excited, and release light at characteristic wavelengths when returning to their ground state.

This practical deepens understanding of concepts like electron transitions while showcasing real-world applications of chemistry. Its simplicity and striking appeal make it a cornerstone of the curriculum, sparking curiosity and enriching learning.

Here, we'll explore four methods to perform this experiment.

Wire Loop Method

This classic technique uses a nichrome wire loop dipped into a metal compound, then placed in the hottest part of a Bunsen burner's blue flame. It's highly reusable and cost-effective, making it perfect for multiple tests.

The small surface area of the wire ensures clear, intense flame colours. To maintain accuracy, it's important to clean the loop thoroughly between samples to avoid contamination, though this can be a bit time-consuming. For best results, use a small amount of dilute hydrochloric acid sparingly to clean the wire and minimise corrosion.

Wooden Splint Method

Soaking the end of wooden splints in metal chloride solutions and then introducing them to a flame is a straightforward and economical approach. This method is great for students, as the splints are easy and safe to handle. While the flame colours may not be as vivid due to the solution's dilution and the splint's limited absorption, you can enhance results by dipping the splints just before testing and avoiding over-saturation to prevent excessive burning. Keep in mind that splints are single-use, so plan ahead for potential waste.

Ethanol Beaker Method

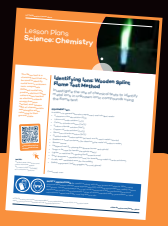
Mixing metal salts with water and ethanol in small beakers creates a visually stunning demonstration when the vapours are ignited with a long splint. This method produces vibrant, dramatic colours, especially in a darkened room. However, handling ethanol requires extra care due to its flammability, and the preparation process can take a little longer. Always keep ethanol containers sealed and positioned at least 2 metres away from flames to ensure safety.

Spray Bottle Method

Combine ethanol and metal salts in a spray bottle and mist the solution into a flame to create large, dynamic displays ideal for group demonstrations. The vibrant, sweeping colours are sure to capture attention! That said, spray nozzles can clog over time with salt residue, and using ethanol requires strict safety precautions. To avoid blockages, flush the nozzles thoroughly after use and spray at an angle to direct the mist safely.

Final Tips

Safety is always the top priority so wear goggles, ensure proper ventilation, and supervise open flames carefully. With the right preparation and attention to detail, flame tests can become a safe, exciting, and visually spectacular addition to any lesson!



Download and share...

Download all four methods from **vittaeducation.com/lesson-plans**. Share with us your flame tests and let us know which method is your favourite via social media.

THE SCIENCE TEACHING SURVEY

ROYAL SOCIETY OF CHEMISTRY

The Science Teaching Survey is led by the Royal Society of Chemistry in collaboration with the Institute of Physics and the Royal Society of Biology. 2024 marked the third year of this annual survey, taken by science teachers and technicians in secondary and further education. It covered key and trending topics, such as staffing and professional development, and artificial intelligence.

The survey highlighted the top issues that are impacting student learning outcomes. Three of these issues received a noticeably higher response rate:

- Not enough non-contact time
- An overloaded curriculum
- Insufficient school funding

The survey also revealed that all these issues are significantly worse in secondary state schools compared to independent or private schools.

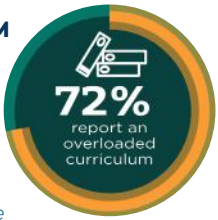
Other issues that showed a high prevalence among respondents include insufficient support for special educational needs and disabilities, a lack of science technicians and specialist science teachers, and an out-of-date or irrelevant curriculum.

NOT ENOUGH NON-CONTACT TIME

Contact time with students is an important part of education. However, teachers need non-contact time to prepare effective lesson plans and assess students' work. This means that they can provide the tailored support their students need. Over **75%** of all teachers indicated that a lack of non-contact time is negatively impacting their student learning outcomes.

The disparity between the resources available to state schools and to independent or private schools is clearly shown in the results. While an issue for both, **81%** of teachers at secondary state schools suggested that lack of non-contact time was an issue, compared to **62%** of teachers at independent or private schools.

AN OVERLOADED CURRICULUM



72% of teachers at secondary state schools reported that having an overloaded science curriculum was negatively impacting their students.

"It can be challenging to balance the requirement to cover and teach content with allowing students' interests and curiosity. Too often, we have to skip interesting topics or questions because there isn't the time available." Classroom Teacher, Republic of Ireland.

Teachers in England were the most likely to report an overloaded science curriculum at **71%**. Teachers in Wales were least likely to indicate this at **58%**. Over half of respondents from all nations cited an overloaded curriculum.

INSUFFICIENT SCHOOL FUNDING

Practical chemistry is part of an engaging, inspiring and relevant chemistry education. Stretched budgets mean that many science teachers cannot afford to run practical lessons due to the cost of equipment, consumables and chemicals. Secondary state schools were three times more likely to report insufficient funding than independent or private schools.

"Funding cuts to schools mean budget is stretched, and we currently do not have all the practical equipment and technicians that we need..." Staff member with science teaching responsibilities, e.g. SLT, England.

Wales saw the highest level of dissatisfaction, with **73%** of respondents seeing this as a detrimental issue.

All data and analysis from the report can be downloaded and accessed for free via the RSC website, you can also explore other topics covered by the survey via the QR code.

WILDLIFE ATTRACTION:

CONNECT WITH NATURE OUTSIDE THE CLASSROOM

As Spring rolls round again and the world starts to come back to life, it is the perfect time to start looking at local wildlife and biodiversity with your children. Exploring biodiversity is the perfect way to encourage your children to connect with nature and take ownership of their school grounds and local area.

Bring the wildlife to your school

Whether you are in a rural setting, surrounded by fields and trees, a seaside location, or an urban area, there will be local biodiversity that you can study. Sometimes it's a case of bringing the wildlife to you, and there are a number of ways you can achieve this.

Not mowing grass areas through April and May will encourage a wide variety of wildlife to the area, as it allows wildflowers to grow for pollinators, gives them cover to hide from predators, reduces the ground temperature, and can reduce air pollution.

Pots of plants placed around the school site will quickly attract invertebrates to your grounds. The plants can be anything you want to grow. You could plant some grass, some wildflowers, or even grow some potted trees. All of these make excellent habitats for a variety of species.

Areas of wildflowers are great for attracting a variety of bee species, and other pollinators, to your local area. They can be planted in amongst grass or in shallow planting beds.

Invertebrate 'hotels' are easy to make and can be placed in different locations around the school. Even a log with holes drilled into it or a pile of leaves and twigs can be an excellent way to support wildlife in the school grounds.

Planting or maintaining trees, bushes and hedges will attract birds and small animals to your school grounds.

Bird feeders are simple to make and can be hung anywhere – there are two great examples to make and try out on our website, just scan the QR code to take a look!

Be kind to nature... Always remember to carefully return any living things you have collected to where you found them.

Identifying wildlife

Children can easily explore the school grounds looking for different species of invertebrate or birds without needing expensive kit. VITTA have an excellent range of tools for collecting and examining invertebrates and there are excellent online identification guides on the Woodland Trust website.

Imperial College also has an excellent invertebrate guide available to download, and the Seek app, from iNaturalist is excellent if you can install it on devices in school.

For identifying birds, a basic pair of binoculars is a good tool to have, and a suitable pair can be picked up for under £20. If you want to take things further, then motion-activated camera traps, birdbox cameras, and night vision cameras are all available at affordable prices and can really engage children in exploring the biodiversity of their local area.

Written by Bryony Turford and Paul Tyler, co-founders of My Science Club.

Top Tip... Worm charming is an amazing activity to do with groups of children. It involves mimicking rainfall on grass and then observing, or collecting, the worms that are attracted to the surface.

Scan the QR Code and download the instructions from Learning Through Landscapes.

Recording and sharing

Simple surveys are a good starting point for collecting data on the species that you find, especially with younger children. Older children might want to explore how numbers of certain invertebrates vary from place to place and start to build an understanding of the different habitats that they prefer.

You could take it further and create a wildlife map of the school grounds to show where different species are commonly found. Small groups of children can take charge of different areas and report back on what they have found. This is a brilliant way of sharing your findings with a wider audience across the school community.

Citizen Science

To take your investigations to the next level, your children can get involved with some of the citizen science projects that run at different times of the year. The Big Garden Birdwatch is an annual event, held from 24th to 26th January 2025, that allows children to contribute to a UK-wide bird species survey.

Other Citizen Science projects tend to come and go and are often regional, but the Wildlife Trusts website and the British Ecological Society website have links to a number of active projects that you can participate in.

WIN a Minibeast Magnifier Set

For your chance to win a class set of Minibeast Magnifiers simply answer the following question.

Q: How many science club sessions do you get when you join My Science Club?

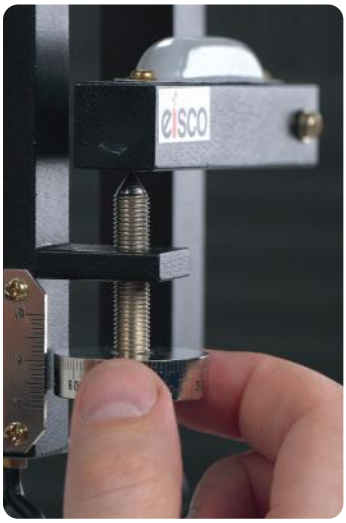
Send in your answer to **win@vittaeducation.com**

Good luck!

Class set consists of 30 Minibeast Magnifiers (120-031). Entries close 23:59 on 04/04/25. See website for full details.

SPRING INTO SCIENCE:

EXPLORING PHYSICS THROUGH PRACTICAL EXPERIMENTS



The same experimental work in science can be used in many ways, ranging from illustrating a new concept in physics to developing the relationship between two quantities or allowing students the opportunity to use new pieces of apparatus.

As it's the spring issue, I thought I'd start with the standard practical where springs are used. A similar experiment can be carried out at Key Stage 3, GCSE and A Level, with a different focus at each stage and progression between activities.

Measuring Spring Extension

First, a word of caution: Although no chemicals or Bunsen burners are involved; the springs used still pose a potential hazard. If the weight slips off, the spring could ping back into an eye, causing an injury, so safety glasses should be worn throughout.

Students can start by measuring the initial length of the spring, then adding weights to the end of the spring to increase the applied force or load. Intuitively, pupils will soon realise that the greater the weight added to the end of a small spring, the greater its extension. This is a great opportunity to discuss the difference between mass (measured in kilograms) and weight (in newtons). Before they plot their results on a graph, you could demonstrate with six springs set up side-by-side on a rod, and with increasing masses on each, that the extension is linear (up to a point).

At GCSE level, the ratio of force to extension (how much longer the spring has stretched) can be calculated, and this stiffness, or spring constant, is worked out from the gradient of a graph. Provided the spring has not extended beyond its elastic limit, this demonstrates a relationship that comes up again and again in science. This directly proportional relationship can be described as a 'double-double' relationship: You double the force, you double the extension. Similarly, if you double the resultant force on an object, you double its acceleration according to Newton's second law.

As an extension to this, you could possibly test the compression of suitable springs, or even other materials that don't obey a linear relationship. Strawberry laces (or similar long sweets) could be investigated, and these have the added bonus that their behaviour depends on their temperature. Exercise bands from the gym are a great way to link the work from lessons to real life and the experiences that many pupils may have from other PE lessons or outside of school – and they can soon feel that to pull the band further apart, you need to apply a greater force.

Advanced Applications and Further Learning

Springs can still be used at A Level, with combinations of springs in series and parallel analogous to the way that capacitors behave in electrical circuits, alongside the accompanying mathematical formulae.

The stiffness of a spring is very much a property of that particular spring, based on its dimension, including how thick the wire is. This leads nicely to a way that the bulk properties of the material can be measured. Rather than the force, we can look at the force per unit area – the stress, and the extension relative to its original length – the strain. Provided the material remains in its elastic region, this ratio of stress to strain is called the Young (or Young's) modulus.

The simplest way is to test a material like copper with a long piece of wire (something like 36 SWG) clamped at one end, the other passing over a pulley to weights that are hung on it. The limitation with this method, that it is important for students to identify, is that even with a relatively large load, the extension of the wire is very small. Using a standard ruler, the errors in measuring small extensions of a few millimetres lead to large percentage uncertainties in the data.

An alternative approach is to use Searle's apparatus. This equipment is hung from the ceiling, or even screwed into the top of a door frame, and has two wires that hang vertically down. The extension of the loaded wire is measured relative to the other, with the advantage that very small extensions can be measured, either with a vernier scale or using a spirit level that is levelled after each measurement. This can record data to the nearest 0.01 mm, and it teaches students important skills in reading these instruments.

These experiments are a great way to introduce students to materials science and engineering, as well as the scientific method and how to improve measurements to minimise errors.

GET STARTED!

Lewis Matheson has created resources to support students and teachers with some of these experiments at **alevelphysicsonline.com/practical-young**

SPRING UNDER THE MICROSCOPE:

THE HIDDEN WORLD OF POLLEN

When you think of spring, vibrant colours, blooming flowers, and new life probably come to mind. However, did you know there's an invisible spring happening all around us, just beyond what our eyes can see?

Welcome to the world of pollen! While many of us (including myself) know pollen as the culprit behind sneezing and hay fever, it is also a crucial ingredient for creating new plant life. And, despite being invisible to the naked eye, pollen has a variety of stunning, intricate structures when viewed at the microscopic level. That's where a technique called scanning electron microscopy (SEM) comes in...

This incredible imaging technique reveals the microscopic and nanoscale details of the world around us, far beyond what traditional light microscopes used in classrooms can show. Here's the difference: instead of light, SEM uses negatively charged particles called electrons to create images. A beam of electrons is fired at a sample and scanned across its surface. As the electrons interact with the atoms in the sample, they produce signals that are used to create a detailed image of the sample's surface. Since electrons have much shorter wavelengths than light, SEM lets us see objects at much smaller scales in higher resolution—showing details previously hidden!

Top Image: Waterlily Pollen.

With SEM we step into a hidden nanoscale world where nothing looks as expected. Hedgehog spines resemble lemons, and waterlilies take on the appearance of sprinkle nacho doughnuts (yes really! – but more on that later). The mysteries of the natural world suddenly come into sharper, often surprising, focus.

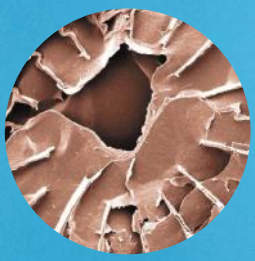
Pollen is an especially fascinating subject to explore using SEM because each type has its own unique structure and size. It can range from around 20 to 200 micrometres in size – to give this context, the width of a human hair is around 70 micrometres. Interestingly, the size of a pollen grain often determines how it travels through nature: smaller grains are typically carried by the wind, while larger ones hitch rides on animals like insects. SEM is able to reveal the incredible diversity in pollen structures from sprinkle doughnut nacho waterlilies to lavender that resemble tiny flowers, daffodil grains on petals that resemble an otter in the sea, and daisy pollen with a spiky, virus-like appearance.

> "...SEM lets us see objects at much smaller scales in higher resolution, showing details previously hidden..."

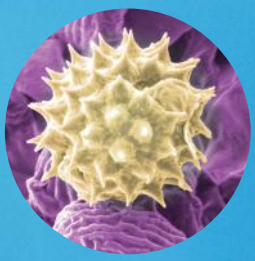
A particularly surprising example was forget-me-not pollen. Initial SEM imaging revealed a simple dumbbell shape, which is impressive on its own. But a closer look uncovered something even more extraordinary—a delicate, intricate surface pattern that looks remarkably like stitching!

Ever wondered what a certain object looks like at the microscale? At the Nanoscale and Microscale Research Centre, University of Nottingham, we run a public engagement initiative called Under the Microscope where we ask for suggestions on what to image next. Every month, we choose a suggestion to image and create a poster out of the results to explain what is being seen.

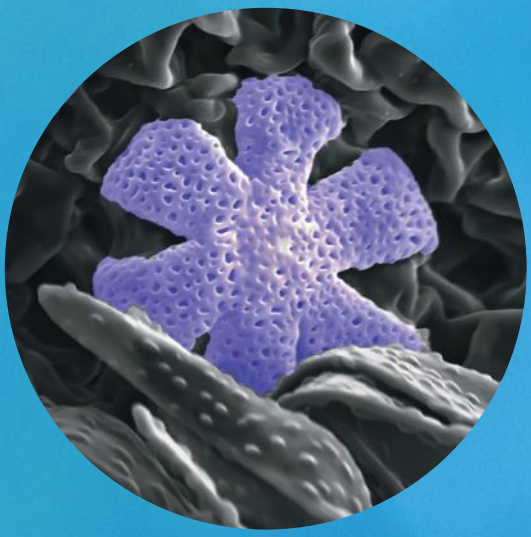
So far, we've found out that the inside of hedgehog spines use cleverly designed support segments that make them both strong and flexible. We've also imaged the microscopic hairs of a crested gecko that enable them to walk on any surface. Beyond nature, we've explored the ingredients of shortbread at the microscale and revealed the intricate strand structures of traditionally made Nottingham lace.



Hedgehog Spine



Daisy Pollen



Lavender Pollen

WIN an nmRC Keyring!

Exclusively for VITTA Magazine readers, submit your suggestion of an item to be imaged and be in with the chance of winning an nmRC keyring!

Send in your suggestion to **win@vittaeducation.com**

Good luck!

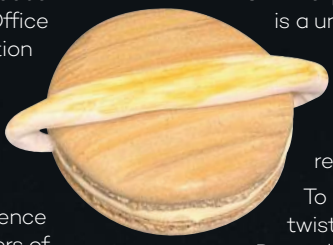
If you would like to get involved with this initiative and suggest an item to image, then visit **nottingham.ac.uk/nmrc** and follow the links to Under the Microscope.

Written by Dr Luke Norman. Images by Lorelei Robertson.

THE RED PLANET

Mars Day: 4th March 2025

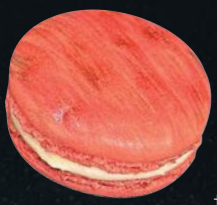
Mars Day, an official event organised by ESERO-UK and funded by the European Space Agency (ESA) and the UK Space Agency, is set to return with Mars Day 25, a free virtual adventure scheduled for Tuesday, 4th March 2025. Presented by the UK Space Education Office in collaboration with STEM Learning, the event aims to engage a diverse audience in the wonders of space exploration.



The previous Mars Day drew an impressive audience of over 200,000 participants who enjoyed live linkups, activities, talks from national and international space experts, and career discussions with unsung heroes of the UK space industry. Attendees could choose from various sessions, participate in Mars Hour activities, or commit to the entire day. The success of this mission has paved the way for an even more ambitious Mars Day 25.

Additionally, Mars Day 25 will extend its impact with a week-long exploration of Mars-related events and sessions for schools during Mars Week. Over the week there will be an array of out-of-this-world live and virtual events offered by Space and STEM experts nationwide. It is a unique opportunity for schools to engage students in a real-world context, making science education more relevant and inspiring.

To add a creative twist to your Mars Day celebrations, why not try making Josh Smalley's Planet Macarons? As part of his "Mission Bake" series with the National Space Centre, Josh shows how to make macarons decorated to look like different planets in our Solar System. This ties in perfectly with Mars Day, as you can create macarons inspired by Mars and other planets, making it a delicious and educational activity.



Scan the QR code to **Register for Mars Day 25** via the link and get ready for an exciting journey into space exploration!

Josh's method (available via the QR code) is designed to be easy and engaging, encouraging anyone to get involved in the baking and decorating process.

"...When I announced this series the most popular request was how to make planet macarons..."

Planet Macarons is the second instalment of Mission Bake with the National Space Centre.

Upload photos of your creations with the hashtag **#MissionBake** and connect with other space enthusiasts and bakers!

Take a closer look at your next study microscope

Seeing is truly believing with DuraLab's comprehensive range of educational microscopes.

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Take advantage of DuraLab's 5-year warranty and shop the full range of microscopes and accessories online at VITTA Education.

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New FOR SPRING 2025

A new year and a new term bring exciting products and innovations to explore.

We're thrilled to introduce the Edvotek range, a leading provider of biotechnology education products. Designed with compact features, enhanced safety, and real-time data display, these products make complex scientific procedures easier to manage. Perfect for labs with limited space and resources, these tools help schools maximise their equipment without compromising on quality.

The **Edvotek EDGE Integrated Electrophoresis System** (VTT12307081) combines an electrophoresis chamber, power supply, and blue light, enabling quick gel runs in under 20 minutes with real-time DNA visualisation. By replacing UV light, it significantly improves lab safety. It's incredibly user-friendly, with dual voltage modes, automatic safety cut-offs, and is ready to use straight out of the box. This system is perfect for schools looking to streamline their processes and save time, all while ensuring safe, efficient experiments.

Another great product is the **Edvotek EdvoCycler Jr. Personal PCR Machine** (VTT12306970). It features a 7" HD touch-screen that displays real-time cycling data. Preloaded with PCR programs, capable of storing 100 custom protocols, it offers precise temperature control (14°C to 99°C), active cooling, and a space-saving design. With universal voltage compatibility, it's ideal for labs with limited space and resources. This machine will make PCR experiments more accessible and manageable for both students and teachers, with no need for complicated set-ups.

The **Edvotek TruBlu 2 Blue/White Transilluminator** (VTT12307082) features a large 27x15cm viewing surface, perfect for visualising up to eight 7x7cm gels. Its dual blue/white light modes provide safe, non-harmful illumination for DNA and protein gels. With high-density LEDs and a built-in fan, it ensures bright, clear results while reducing condensation. The TruBlu 2 is an excellent choice for schools that need a reliable, cost-effective solution for gel documentation, delivering high-quality performance without the high price tag.

DuraLab continues to expand its range of high-quality laboratory equipment, combining affordability with durability. The **DF-50 Classic Monocular Microscope** (DRL0038) and **DF-60 Classic Monocular Microscope** (DRL0076) are designed with educational settings in mind.

The DuraLab DF-60 Classic Monocular Microscope (above) offers 600x magnification, adjustable LED illumination, and a user-friendly focusing mechanism, making it perfect for schools. It's lightweight, durable design ensures ease of use, and it's backed by a 5-year warranty for peace of mind.

Also backed by a 5-year warranty is the DuraLab DF-50 Classic Monocular Microscope. This model features a rotating stage for flexible observation and a precise optical system, making it ideal for both beginners and more experienced users.

Alongside the microscopes, are the **DuraFlex Square Bunsen Tubing** (DRL0052) and **DuraFlex Square Vacuum Tubing** (DRL0051) – The new name and home for the much-loved Enduraflex range.

See page 54 for a list of all the products featured.

These durable tubes last up to 10 times longer than standard natural rubber tubing, making them a cost-effective solution that reduces the need for replacements. Their square shape provides extra stability on benches, improving safety and reliability for classroom experiments. Approved for use with LPG and natural gas, they are UV-resistant and can handle temperatures from -50°C to 200°C, offering excellent mechanical properties for long-lasting performance.

Last but not least, the **Medline 50ml Controlled Heating Mantle** (VTN12301373) is a versatile, energy-efficient heating solution. Its double pole system ensures stable control of the heating element, preventing overheating of liquids. The dial controller offers precise temperature settings, making it a safer and more reliable option for school labs where consistent, controlled heating is essential.

Find out more... If you would like more information, a product demo, or a quote, just drop us a quick email to **hello@vittaeducation.com**

STEM-ULATING FUN

Crunching, Colouring, and Coaster-Crafting for Science Clubs!

Science clubs are the perfect environment for hands-on, interactive activities that inspire curiosity and make learning fun. Whether you're exploring the science behind everyday objects or diving into the vibrant world of chemistry and physics, there's no limit to the creative and educational possibilities. In this article, we'll highlight a few exciting STEM club activities that bring science to life. From uncovering the iron hidden in your cereal to creating colourful chromatography "hair" for your favourite characters and designing paper rollercoasters, these activities are sure to engage students of all ages.

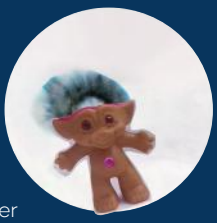
Magnetic Breakfast

A fun and educational activity where students will explore the hidden iron content in fortified cereals like Cornflakes or Rice Snaps. By crushing the cereal and using a neodymium magnet, students can watch as the iron particles are attracted, demonstrating the science behind cereal fortification.

This hands-on activity links food science to chemistry, giving students a chance to see the magnetic properties of iron in action. Science technicians can help prepare the materials and ensure safety while guiding students through the process. It's a fun, interactive way to combine everyday breakfast with the fascinating world of physics and nutrition—no need for a spoonful of cereal to start your learning!

Hair Raising Chromatography

One fun and visually engaging activity is chromatography, demonstrated through a creative experiment inspired by the vibrant world of Trolls or other popular characters.



In this hands-on activity, students use filter paper, water-based felt-tip pens, and a simple saltwater solution to separate the pigments in ink, creating colourful "hair" for their chosen toys or characters. LOL Dolls, Barbie dolls, or any toy with vibrant, colourful hair work perfectly, or students can even draw portraits of each other and attach them to the filter paper.

As the "magic water" touches the ink, the different pigments begin to move at different rates, showcasing how chromatography separates compounds. This experiment introduces key scientific principles like solubility and separation techniques, while offering a fun, creative twist. Science technicians can easily prepare the materials and ensure safety, making it ideal for open days or club activities that combine science with art and imagination.

Paper Rollercoaster Fun

A fantastic hands-on activity is the paper rollercoaster challenge. In this activity, students design and build their own rollercoasters using simple materials like paper, tape, and marbles.

As they construct their coasters, they explore key physics concepts such as gravity, inertia, potential and kinetic energy, and friction. This project provides an engaging way for students to apply mathematics through measurements, angles, and calculations as they design the tracks.

The rollercoaster activity fosters creativity and problem-solving as students experiment with different designs, while also encouraging teamwork when done in groups. Collaborating to test and improve their creations enhances critical thinking and communication skills.

Science Buddies offers a great template to help guide the project: Paper Roller Coaster Template Kit. This hands-on project turns STEM learning into a fun, interactive experience, making science, technology, engineering, and math both educational and memorable.

These engaging STEM activities provide an excellent opportunity to spark curiosity and foster a love of learning in students

If you're looking for detailed lesson plans and more inspiration to bring these experiments to life, be sure to visit **vittaeducation.com/lesson-plans**

RISK ASSESSMENTS

How to write a Risk Assessment for a science practical

When preparing a risk assessment for a science practical, it's essential to consider various factors to ensure safety and thorough planning. Shamim Alom BSc, MRes, Science Technician at Queen's Gate School, London, runs through his top 20 questions to cover.

1. What is the name of the practical, the subject(s) of science it relates to, and the syllabus it follows?
2. Is the practical going to be a demo or a class set?
3. If it's a class, how many sets need to be prepared?
4. Are the experiment instructions clear and easy to understand, and have you mentally run through the procedure as if you were a student conducting it for the first time with basic practical handling skills?
5. Can you identify all the hazards associated with this practical procedure that have the potential to cause harm?
6. What is the likelihood and severity of the harm being realised during the practical?
7. What are the potential injuries if the harm is realised?
8. How might the hazards be dangerous to the population and the environment?
9. What control measures can you put in place to reduce the risks involved and can these control measures make the practical safe for an in-class activity?
10. Do the participants of the practical need to wear personal protective equipment (PPE)?
11. Is there a safer method for the planned practical and/or is there alternative equipment/chemicals that can be deemed safer too?
12. Have you checked for safer alternatives to the practical or its materials, and reviewed resources such as RSC, RSB, IoP, ASE, CLEAPSS, SSERC, and STEM.org for practical information, protocols, and risk assessments?
13. Do you need to purchase or use specialised equipment for this practical?
14. Have you searched the school science supplies websites for existing model risk assessments and practical guides?
15. Does the practical require sharps (e.g., needles, scalpels, or scissors), glassware (checked for integrity), or facilities such as gas, electricity, or water supply?
16. Do you need a system to check and account for sharps after the practical, and to ensure the safe return of chemicals listed on the Secure Your Chemicals (SYC) list?
17. Does the practical require specialised facilities such as a fume hood, a biosafe laminar flow cabinet, or an autoclave?
18. Does the practical generate waste (chemical, biological, or commercial) that needs special disposal procedures?
19. Do the instructions and hazard information account for SEND students and are they clear to EAL students?
20. Have you checked pupil records for allergies or other medical issues that may prevent students from participating in the practical?

By carefully considering each question to the best of your ability, ranging from understanding the nature of the practical to ensuring the safety of all participants, you can confidently compile a comprehensive risk assessment that addresses potential hazards and ensures a safe learning environment.

Download your full guide at **vittaeducation.com/downloads**

Log on to VITTA for our series of Required Practicals for GCSE and A-level.

Find all the in-depth information and advice you need, plus video links and one-click equipment list ordering.

Practical extract shown. VITTA Education can not be held responsible for any undesired outcome of this, or any other practical experiment you try. For our full disclaimer visit vittaeducation.com

Download A VITTA TIME-SAVER

REQUIRED PRACTICALS

Physics: Resistance

Investigate the factors that affect the resistance of an electrical circuit.

EQUIPMENT LIST:

The full equipment list can be found at **vittaeducation.com/practicals**

METHOD:

1. Connect a DC power supply to a circuit with an ammeter in series to measure the current.
2. Attach crocodile clips to both ends of the resistance wire. One end of wire should be fixed at the 0cm mark on the metre ruler.
3. The other crocodile clip will be moved along the wire to different positions to measure the resistance at different lengths.
4. Connect the voltmeter in parallel across the length of the wire between the crocodile clips.
5. Add a wire-wound resistor (e.g. 10 Ω) to limit the current and prevent the wire from overheating.
6. Set the initial length of the wire using the metre ruler, eg. 100cm.
7. Turn on the DC power supply at 4V.
8. Record the current (I) from the ammeter and the voltage (V) from the voltmeter in a table.
9. Turn the DC power supply off.
10. Repeat the measurement for several different lengths of wire, decreasing by increments of 10cm, down to 10cm.
11. Calculate the resistance (R) using Ohm's Law and record in a table: resistance = potential difference / current
12. Plot a graph of resistance (R) against length (L) of the wire.

LEARNING OUTCOMES:

By using this method students will have the opportunity to develop the following aspects of the physics AT skills:

AT1, AT6 and AT7. See website for full descriptions.

Like what you see? Download the full explanation of this practical and more online at **vittaeducation.com/practicals**

HERE TO HELP...

A TEACHER'S GUIDE TO MAKING THE MOST OF THE GCSE PHYSICS EQUATION SHEET

Stuck with science? Our resident science guru, Primrose Kitten is back with more help to get you through the term.

As teachers, we know that the introduction of the GCSE Physics equation sheet has been a double-edged sword. On the one hand, it reduces the need for students to memorise every single equation, potentially lowering the cognitive load during exams. On the other hand, it can lead to over-reliance, with students thinking they no longer need to understand how to apply these equations fully. Let's explore how we can guide our students to use this resource effectively, ensuring it enhances rather than hinders their exam success.

Familiarity is Key

It's one thing for students to have the equation sheet in front of them; it's another for them to know how to use it efficiently. Incorporate the official exam board equation sheet into your lessons and practice papers. This will help students become familiar with its layout and learn where each equation is located. The last thing we want is for them to waste valuable time searching for the right formula during the exam.

Highlight for Success

Encourage students to bring highlighters into their revision sessions and exams. They can use these to mark key equations on the sheet, making it easier to spot the one they need under pressure.

Units Still Matter

A common misconception is that the equation sheet includes all the information needed to solve a problem. Remind students that while the equations are provided, the units are not. Knowing the standard units for quantities like velocity, force, and energy is crucial for correct calculations. Drill this into your teaching by asking them to include units in every single answer during lessons and revision.

Copy Before You Calculate

It may seem tedious, but copying the entire equation onto the exam paper before beginning any calculation is a lifesaver. This step helps prevent misreading or misremembering a formula, especially under exam stress. It also allows students to verify that they're using the right one before diving in.

Substitute, Then Rearrange

When teaching problem-solving with equations, emphasise the importance of substituting values into the formula before rearranging. This systematic approach reduces errors and ensures they're working with the correct numbers. This habit builds clarity and confidence in their calculations.

Balance Practice and Strategy

Finally, remind students that having the equation sheet doesn't mean they can skip practising calculations. The sheet provides a tool, but understanding and applying equations require repeated practice. Include plenty of practice questions in your lessons where they must select, rearrange, and solve using the sheet. Over time, this will make the process second nature.

By helping students strike the right balance between using the equation sheet as a support tool and developing their problem-solving skills, we set them up for success. With your guidance, they'll enter the exam room confident, prepared, and ready to tackle any challenge that comes their way.

Got a question to ask or a topic that causing issues?

Send in your science queries for Primrose Kitten to answer each term and share with everyone. Email: **hello@vittaeducation.com**

STEM WITHOUT BOUNDARIES:

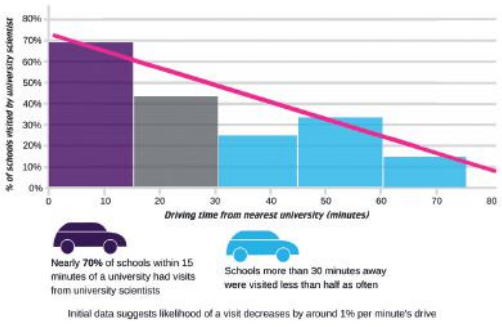
fully funded for UK schools*

CONNECTING STUDENTS WITH SCIENTISTS BEYOND THEIR LOCAL AREA

"They see different careers we don't have in the local area by chatting with scientists all across the globe," explains Emily Tulloch, about her students at Aith Junior High. Emily captures the impact of STEM enrichment without boundaries. It lets students explore diverse science topics, ideas, and careers they might not otherwise encounter.

Hannah, I'm a Scientist's Education Lead often hears from teachers who share the same sentiment. "Teachers tell us they want their students to see links to learning, science, people, and careers beyond their local area," shares Hannah.

The I'm a Scientist team's research agrees with Hannah's experience and the teachers she's spoken with. Distance matters. Schools over 30 minutes' drive from a university had scientists visit less than half as often as those within 15 minutes. It doesn't just apply to 'remote' areas that conjure up images of bucolic rural landscapes, either. A matter of minutes can make the difference – the chance of a visit decreases with each extra minute of travel time.



Engagement survey: https://about.imascientist.org.uk/2017/school-engagement-in-stem-enrichment-effect-of-school-location/

Access to STEM isn't universal. Distance creates a gap. The I'm a Scientist format is one easy way to bridge that gap. The activity connects students with people from all corners of the UK and beyond, giving them a window into STEM's 'bigger picture'. These connections matter to students, especially to their perception of STEM.

"It offers a unique opportunity to access the world of science in a way that students can access without feeling too daunted." – Linda Horsburgh, Derby College.

I'm a Scientist supports students to find people like them, regardless of where they are. The Holmesdale School, near Maidstone, have used I'm a Scientist to connect their students with 96 different scientists since 2020. Their students chatted with people beyond their local area, some working in roles they'd never even considered. The ability to connect with and explore the interests of such a variety of scientists gives all students the chance to find common ground.

Participating scientists are diverse, beyond gender and ethnicity. Students lead conversations about what matters to them. They chat with people who look like them, whose interests, backgrounds, and experiences are similar to theirs. They resonate with people 'just like them' in science, supporting their science capital. By showing STEM's broad scope, students see science as a vibrant field with opportunities relevant to them.

"...When you bring scientists into the classroom, it's good but you don't have 100% engagement. This takes that away: everybody's got questions to ask..." **Amanda, Teacher**

A rural community school like Aith Junior High might not have a "huge variety of careers on [their] doorstep". But in their latest Chat, they expanded beyond the local area by connecting with data centre engineer Amber, ex-CERN scientist Michael, and MRI safety physicist Blair. The students saw that they don't need to live near a huge industrial lab, hospital, or university – links to science and STEM careers are everywhere.

GET INVOLVED!

I'm a Scientist Get me out of here

I'm a Scientist is a text-based, online STEM enrichment activity. It supports teachers to put a diverse range of scientists in front of their students, regardless of location. The authentic connections they make help students to see STEM as something 'for them'. Every student can:

- Explore profiles to learn about the scientists and prepare questions
- Take your turn to chat in 30-minute text-based conversations
- Deepen their understanding with follow-up questions
- Decide which scientist gets their vote to win £500

Engage 89% of students**, from the most confident to the most shy. The text-based platform is familiar to students. It helps them to feel comfortable and confident, giving all students an equal voice to ask about what matters to them. They get personalised responses from scientists, at the level their question is asked.

BOOK YOUR FIRST CHAT FOR BRITISH SCIENCE WEEK 2025!

Celebrate British Science Week by inviting 40 diverse scientists from a range of roles to connect with your students. Each Chat will feature 6 scientists to answer the questions that interest your students.

Take part however it suits you. Maybe that means getting a whole year group involved, like The King's Academy in Middlesbrough did for BSW 2024. In 2023, Furness Academy connected 20 classes with over 50 different scientists from across the country.

Ready to bring STEM to life for your students? To find out more visit **imascientist.org.uk** and get started!

*Free for state-schools or state-maintained schools. **89% actively join a chat, ask a follow up question, post a comment, or cast a vote.

SPRING UPDATE

Our "5-Star Service" and moving forward into 2025

As we reach an exciting milestone – VITTA turning 2 years old – we want to take a moment to reflect on the journey so far and share some of the incredible things we've been up to. It's been an exciting time for us, and we couldn't have done it without the support of our customers, partners, and the wider education community.

From the beginning, VITTA's mission has been to inspire and empower educators by providing innovative STEM equipment, resources, and offerings. We're proud to see this vision coming to life as we continue to support teachers and technicians with the tools they need to inspire the next generation of scientists, engineers, and innovators.

We're delighted to report that we're currently achieving an impressive **93%+ customer satisfaction** rate. Customer satisfaction is extremely important to us and we truly value your feedback – both the positive and constructive – as it helps us improve and continuously raise the bar on the products and services we provide.

Some of our customers like Miriam Selvarajah, Senior Science Technician at Harris Academy Beulah Hill, recently shared their experiences with us:

"...VITTA is amazing! I have ordered a lot this year for the first time, and the product is high quality. You have amazing, simple apparatus and technology, and I can't wait to buy more... ...I received all items above and I am very grateful. THANK YOU!"

Many more of you have reached out to let us know what you think:

"...VITTA are one of my best suppliers, they provide me with quality equipment at competitive prices with prompt delivery and great customer service and support..."

Ian Helliwell, Physics Undergraduate Laboratory Manager, University of York.

"...The customer service for creating the school account... is definitely a 5-star service..."

Finance Department, Barnet

We're so grateful for feedback like this and for the opportunity to support the invaluable work you all do.

This year, we've also expanded our product range with fantastic additions from leading brands like DuraLab and PASCO Scientific. These new products provide even more variety and ensure that our customers have access to the best STEM tools. We've also welcomed new suppliers, such as Edvotek, offering more options for schools and colleges looking to enhance their STEM provision. As education evolves, we're committed to staying ahead by continuously updating our offerings to meet curriculum changes.

Collaboration remains at the heart of what we do. A highlight this year has been our partnership with Lewis Matheson from Physics Online, supporting his educational videos and resources for GCSE and A-Level physics. We're also proud to be part of the T Level Ambassador Network, contributing to the rollout of these vital qualifications, which prepare students for the modern workforce.

Engaging with the wider education community has been a priority. We exhibited at events such as New Scientist Live and the Association of Colleges' Annual Conference, connecting with educators, suppliers, and stakeholders while showcasing the latest STEM innovations. Additionally, we hosted two webinars with

†Customer satisfaction score on orders and enquiries up to 20th December 2024.

PASCO Scientific, sharing best practices and developments in STEM education with teachers and technicians.

Looking ahead to 2025, we're excited about what's to come. From new product launches to strengthened partnerships, we remain dedicated to supporting educators, technicians, and students on their STEM journeys.

Thank you for your continued support – it inspires us to keep striving for a brighter future for tomorrow's scientists, engineers, and innovators. Together, we can achieve even more!

DON'T MISS OUT!

Want to stay updated on the latest VITTA news and resource launches? Sign up for our newsletter and follow us on social media for real-time updates and insights. Do it now! Head online to **vittaeducation.com/newsletter**

TECH'S TIPS FOR THE TERM...

Sharing my solution to solutions... After recently moving schools and planning the class reagent stocks, I reflected on the learning curve I went through the first time. Armed with CLEAPSS' recipe book and guidance on hazards and labelling (I do love clear labels!), I proceeded to churn out sets of five bottles of all the reagents that were commonly used for our experiment list. It all looked great—until I found fuzzy lumps floating in the 0.4M citric acid! After deep-cleaning, I realised I'd need to make it fresh each time and store bottles empty.

It turns out that starches, sugars, and proteins attract all sorts of growth, but I didn't anticipate that many other solutions, including distilled water, could also become breeding grounds for algae over time. CLEAPSS provides advice on which solutions should be made fresh chemically, but concentration, light, and temperature can affect shelf life in ways they can't predict.

Here are a few tips I've picked up over the years, some are mine, and some I owe to fellow technicians:

- Chlorine water keeps for weeks in the fridge, and storing Iron(II) Sulfate in the fridge slows oxidation.
- Magnesium Sulfate can grow mold, so watch out for that.
- Here's one of my own... Instead of storing bromine water in a brown bottle, use a black paper sleeve to make it easier to see the liquid's colour.
- Pre-made solutions may be pricier, but manufacturers often add preservatives (like in Hydrogen Peroxide) to extend shelf life. So, I would recommend buying in at both 100 vol and 20 vol, which avoids throwing out 20 vol you have diluted down.
- Biuret reagent from suppliers is another that always seems to last much longer than homemade versions. Think ahead and decide what's best for your situation and budget.

This time around, with more experience, I'm clearing out the usual suspects before restocking. It's reassuring to know I'm not the only one who's been caught out by solution shelf life!

Thanks to Sarah Keay (BEng), Science Technician at Barclay Academy in Stevenage for sharing her tips... if you have a great tip to share, send an email to **tips@vittaeducation.com**

Love sharing? Join the Science Technician LinkedIn group to promote your own skills and advice and share ideas with fellow technicians!

Read Sarah Keay's tips regarding photosynthesis experiments on page 5.

SPRING TERM SCIENCE SAVINGS...

£50 OFF

The PASCO Photosynthesis Chamber (PS-3251)

Use code SPR25A

Offer ends 04/04/25. One use per transaction. Delivery charges may apply. See website for full terms and conditions.

15% OFF

When you buy a PASCO Sense and Control Kit (ST-7840)

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Offer ends 04/04/25. One use per transaction. Delivery charges may apply. See website for full terms and conditions.

20% OFF

The EduLab Microscience Work Station (VTN12302027)

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Offer ends 04/04/25. One use per transaction. Delivery charges may apply. See website for full terms and conditions.

10% OFF

All DuraLab Microscopes and Accessories

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Rewards

VITTA Treats subject to availability. Selection may vary. See website for current details. Delivery charges may apply.

TAKE A BREAK & WIN!

Find the missing word for a chance to WIN A PAIR OF BEAKER MUGS

5 PAIRS TO WIN... Take a look through our Spring Term wordsearch and find the missing word from the list below. Email your answers back to **win@vittaeducation.com**

Entries close 04/04/25. Terms apply. See website for full details.

F D H Z P J A I W G C Y Z E Q A K E L S V V U R Z
B P U D B R I T I S H S H O B R V J W X V M R O I
D V M G M E D A O R X T Q F M S U V J E L A M F L
P H O T O S Y N T H E S I S O O I O I W R E Q I S
R H F M E M B R A N E U I V A L A B L I F E Q S K
X T S K J Z D F K V K G N C F A F T O T Z O L I G
Q H D S K Q H C A V C E N K P R B A C T E R I A C
I T E C H O G N I T I O N M S M R R N Q V F P Y U
W G Q U W R U N J A I V K P G W T Z E G Z F W V R
X Z F R J B Z R F P G W L Z V T F X N J C X K O R
T E L E M E N T O X H Y A D C U S M S P H L I B E
K B U P Y M O G D E D A U V L U Y R O W L U D S N
U X K R G L K H K H N C L I M A T E L K O L K E T
J Z Q O F O T K G H X Z X O P X T L U Y R B Z R B
X M U D H I S X X G I R Y L Q A N Z T N O M L V I
J P A U B J Q J W W E S Q M K H U Y I L P T E A P
X R Z C H A I Z L P H A C H E I T F O M L R H T N
P E S T K C S K E L E T O N S S R T N S A Y B I S
O C Y I U T E M P E R A T U R E I V T N S R K O N
L Y C O X B R Q O X T Y O F R A T O G C T K S N T
L C R N B U O W S N P V I Z W B I L S R S A U A R
E L U Y D I S S O L V E O D N T O X M H A V U N P
N E M K Q Z S V G U C M E Y T Z N Q A D H J C R Z
G P T T W E Y D E F M G E R M I N A T E U S O V R
W T F R O G S P A W N J I S D Z T S F C S Q K U B

Search for the missing word...

Bacteria	Dissolve	Germinate	Observation	Skeleton
British	Element	LaBLiFe	Photosynthesis	Solar
Chloroplast	Endothermic	Mars	Pollen	Solution
Climate	Enzymes	Membrane	Recycle	Techognition
Current	Frogspawn	Nutrition	Reproduction	Temperature

MISSING WORD:

Well done to our Autumn Term winners: Zak Morgan, Michaela Greck-Ismair and Toni Strugnell.

PRODUCT index

Seen something that would look great in your prep-room or department? Listed below you'll find all names and codes for the products shown throughout this 2025 Spring Term magazine.

Page	Product Description	VITTA Code
2	DuraLab DP-1002 Advanced Precision Balance – 1000g x 0.01g	DRL0036
4	PASCO Photosynthesis Chamber	PS-3251
5	400ml Beakers	BEA020051
5	1ml Syringes (100 Pk)	VTT12302090
5	Sodium Hydrogen Carbonate - 500g	SO177
8	PASCO Sense and Control Kit	ST-7840
16	EduLab 0-15V Stepped Power Supply	VTT12302917
16	Lascells Variable Power Supply 0-15V	VTT12302915
16	EduLab EHT Power Supply	VTN12301529
18	PASCO Wireless Hand-Grip Heart Rate Sensor	PS-3206
18	SATZ Heavy Duty Hand Held timer	VTT12302295
18	Safety Goggles	VTT12302594
25	DuraLab DR-510 Advanced Semi-Plan Monocular Microscope	DRL0042
25	DuraLab M2 Mini Lab-Top Centrifuge	DRL0035
30	PASCO AirLink	PS-3200
35	Minibeast Magnifier (Bug Viewer)	120-031
37	Young's Modulus of Wire Apparatus	VTN12302230
39	DuraLab DX-830 Pro Trinocular Microscope	DRL0046

Page	Product Description	VITTA Code
42	Edvotek EDGE Integrated Electrophoresis System	VTT12307081
42	Edvotek EdvoCycler Jr. Personal PCR Machine	VTT12306970
42	Edvotek TruBlu 2 Blue/White Transilluminator	VTT12307082
42	DF-50 Classic Monocular Microscope	DRL0038
42	DF-60 Classic Monocular Microscope	DRL0076
42	DuraFlex Square Bunsen Tubing	DRL0052
42	DuraFlex Square Vacuum Tubing	DRL0051
43	BeeSpi V Light Gate	VTT12303282
43	Holding Rod for BeeSpi V	VTT12303288
43	DuraLab DP-303W Advanced Precision Balance – 300g x 0.001g	DRL0050
43	DuraLab DP-3002 Advanced Precision Balance – 3000g x 0.01g	DRL0049
43	Rimmed Test Tubes (100 Pk)	VTT12302229
43	DuraLab Pneumatic Castors for Laboratory Trolleys – Set of 4	DRL0008
50	EduLab Moss Safari Kit for KS2-3	VTT12307061
52	DuraLab DR-420 Advanced Binocular Microscope	DRL0041
52	EduLab Microscience Work Station	VTN12302027







GET INVOLVED WITH VITTA...

VITTA is our termly magazine from the team at VITTA Education. If you like what you see and wish to get involved with future issues, you may have a story to tell or a great product to shout about, but whatever it is we'd love to hear from you. Contact us on **hello@vittaeducation.com**

IGNITING THEIR CAREER THROUGH PROFESSIONAL REGISTRATION

Science Council

WHAT IS PROFESSIONAL REGISTRATION?

The Science Council recognises excellence in the practice of science by awarding Registered Science Technician (RSciTech) to experienced technical scientists. The RSciTech professional award has been developed to incorporate the key professional attributes valued by employers; it is a quality mark that demonstrates commitment to the highest standards in the practice of science.

WHAT ARE THE BENEFITS OF REGISTRATION?

- Recognition of experience, expertise, and commitment in a chosen scientific field of practice.
- Connection to a broad community and network of scientists, working across various disciplines.
- Assistance in planning and advancing future careers, with a structured framework for goal setting.
- A showcase of dedication to upholding professional standards to employers, colleagues, and clients.

HOW WILL THE T LEVEL PROFESSIONAL COMPETENCE LOG HELP?

Completing the Professional Competence Log during the progression through a T Level will give a head start on the path towards RSciTech by increasing understanding of the competences and the types of evidence required. This record of professional development will also help individuals to stand out when applying for a job, apprenticeship, or further study.

FIND OUT MORE

Use the QR code to learn more about RSciTech status, eligibility, the application process, case studies of registered science technicians and the professional benefits one can expect, please refer to the Science Council website: **sciencecouncil.org**

RSciTech
Registered Science Technician | Brought to you by Science Council

Kick-off 2025 with all your science needs from VITTA

OPEN UP IDEAS AND INSIGHT TO GET YOU THROUGH THE TERM

GET CREATIVE...
GET INVOLVED IN BRITISH SCIENCE WEEK 2025

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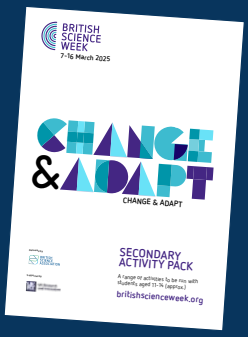

Get ready on page 6.

KEEPING YOU BUBBLING ALONG...

Top tips for those pesky plant-biology practicals

Find out more on page 4.

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STOCK UP WITH OUR LATEST SPRING TERM VITTA SCIENCE SAVERS

See page 43 for more information.

EARN AS THEY LEARN WITH VITTA REWARDS

See page 52 for more details.

READ THE LATEST FROM THE SCIENCE COUNCIL, ASE, RSB, RSC, NMRC AND MORE, WITH HELP AND ADVICE FROM FELLOW TECHNICIANS AND LESSON IDEAS TO GET YOU THROUGH THE TERM!

PLUS... A CHANCE TO WIN A PAIR OF BEAKER MUGS...

See page 53 for our break-time teaser!

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