Leading suppliers for tomorrow's scientists

VITTA

SPRING TERM 2024

SPRING INTO THE NEW TERM

Look forward to brighter days plus an extra day for science in 2024 | p3

MAKE YOUR 2024 MORE REWARDING

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ARE YOU A STEMINIST?

Celebrate International Day of Women and Girls in Science | p18

SAVE OVER £85 ON SCIENCE

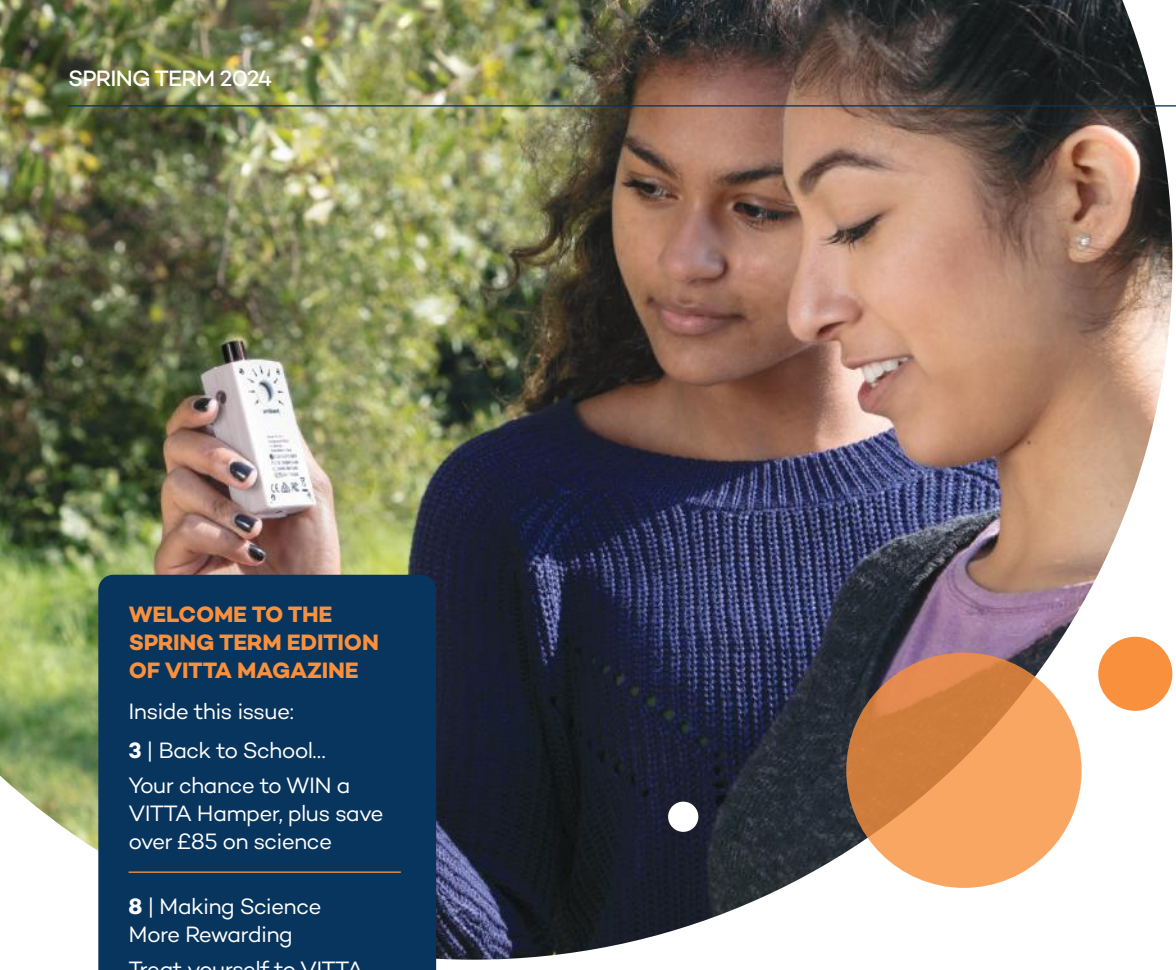
Great deals on your favourites | p48

ALSO INSIDE...

British Science Week, 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:

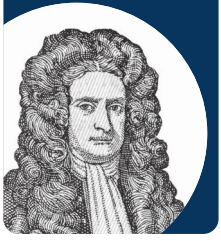
WHAT'S ON AND WHERE THIS SPRING TERM & BEYOND

The new year gets us underway again with a host of exciting events and tech-meets across the country. The VITTA team will be out on the road flying the flag so do say hello when you see us.

Bett UK 2024
24-26 January
ExCel, London

#Techognition
Raise your beaker... 8 March

British Science Week 2024
8-17 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**

Image: PASCO Wireless Light & Color Sensor (PS-3248).

KICK OFF 366 DAYS OF SCIENCE WITH VITTA EDUCATION

Welcome to the latest issue of VITTA magazine; we're thrilled to be starting the new year and the new term with a magazine packed with a plethora of themes and topics to ignite your curiosity and inspire fresh ideas.

If you're a seasoned subscriber, you will notice the magazine is getting chunkier as we've added yet more pages to this, our third edition, to help promote as much science insight, inspiration, and know-how as we can, to take you through to the warmer months of the year.

There are plenty of STEM celebration events coming up over the next couple of months; we have new products and more and more of you are sharing your stories and updates with us as we welcome contributions from the Association for Science Education, the Ogden Trust, and the Gatsby Foundation.

As you flip through the pages of this magazine, I hope you find lesson inspiration, practical tips, and a sense of camaraderie among your fellow technicians and educators, plus a chance to win a Bluetooth speaker in this term's break-time teaser.

Once again, we would like to thank all contributors to this edition and thank you, our readers, and customers for being a part of VITTA. Have a great start to the year and Spring Term. Happy reading!

We hope you enjoy this magazine and we'd love to hear what you think to help shape future editions – send in your thoughts to **hello@vittaeducation.com**

Wendy & Team

Editor & Brand Manager

WIN 1 OF 3 SCIENCE ESSENTIAL HAMPERS...

This term we're giving you the opportunity to WIN one of three exclusive Science Essential Hampers, packed with tools to spark curiosity and fuel hands-on learning.

Just place an online order before 31/03/24 and you will automatically be entered into the prize draw to WIN one of the three Science Essential Hampers.

Every order will class as an entry and orders worth over £500 will automatically receive 5 entries into the prize draw, so top up on your science kit throughout this term for more chances to win!

PLUS, SAVE OVER £85 ON YOUR SPRING SCIENCE SUPPLIES...

Take a look at our Spring Term Science Savings on a selection of great products.

See page 48 for further details.

Terms apply. See website for details. Products shown may vary.

PRIMARY SCIENCE FEATURE

MINI SCIENCE KITS FOR MINI SCIENTISTS

In the dynamic realm of primary education, EduLab emerges as a beacon of innovation with the relaunch of its Mini Science Kits. These kits, a game-changer for science educators, offer hands-on learning experiences meticulously designed to align seamlessly with the primary science curriculum.

Hands-On Learning for Budding Scientists

EduLab's Mini Science Kits empower students and educators alike by unlocking a world of discovery. Crafted to facilitate teaching through practical activities, these kits nurture curiosity and deepen students' understanding of the world. Each kit includes a comprehensive topic workbook with teaching notes, lesson plans, and worksheets, accompanied by all necessary equipment for practical lessons, simplifying science education for teachers and parents.

Suitable for whole-class learning, small groups, individuals, and homeschooling, the expanded range of eight kits covers the entirety of the UK primary science curriculum and beyond. EduLab ensures a versatile and inclusive learning experience, meeting the diverse needs of students in various settings.

Addressing Educational Challenges Head-On

In response to critical Ofsted science subject findings, EduLab's commitment to excellence is evident. The redesigned Mini Science Kits offer a practical solution to schools and educators striving to instil a secure knowledge of science in students. Director Mark Fentiman emphasises the significance, stating, "Our revamped Mini Science Kits provide the tools and resources needed to create a positive impact on science education."

KITS INCLUDE:

- Rocks
- Humans & Animals
- Forces & Magnets
- States of Matter
- Electricity
- Earth & Space
- Properties & Changes of Materials

Available Now

Crafted by curriculum experts, and tested by teachers, these kits meet the highest standards for effective science education. EduLab's Mini Science Kits are available for order from January 4th, 2024*, promising to transform science education and lay the foundation for countless aspiring scientists. Enrich your science lessons and pave the way for a new era of scientific discovery in the classroom with EduLab's unparalleled Mini Science Kits.

*Wave 1 available to order from 04/01/24.

TAKE YOUR CLASS ON A MICROSCOPIC ADVENTURE WITH THE NEW MOSS SAFARI KIT

Are you ready to don your explorer's hat and take a trip across the mossy plains of discovery under the microscope?

Swap out the familiar African 'Big Five' mammals for a closer look at the microscopic 'Big Five', hidden from the naked eye in ordinary moss.

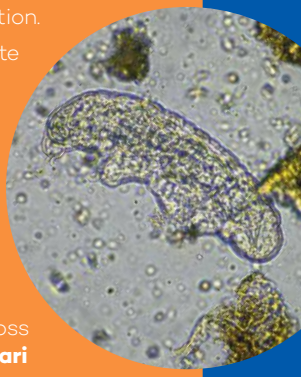
EduLab has collaborated with Moss Safari to bring all the excitement and wonder from the online and in-person expeditions, led by Dr. Andy Chandler-Grevatt, into a fun-packed explorer kit that spans the primary curriculum in science, maths, and English.

Identify the microscopic 'Big Five' and learn more about these remarkable multicellular organisms with distinctive characteristics that bewilder the imagination.

The kit, designed to complement the upper-primary curriculum, facilitate a seamless integration of in-person and virtual tours, which are still available and can be used in conjunction with this new kit.

This mossy adventure offers a comprehensive learning experience that extends beyond the classroom, allowing students to explore the microscopic world at their own pace.

Exclusively available through VITTA Education†, the Moss Safari kit demonstrates our commitment to providing exciting resources that inspire curiosity and a love for hands-on learning.



You can find more information and links to live demonstrations and Moss Safari events, plus order the kit for your school at **vittaeducation.com/moss-safari**

Further information on all the primary science kits can be found online at **edulab.com/miniscience**
To order your Mini Science Kits for the classroom please visit **vittaeducation.com/edulab**

†Available exclusively through VITTA Eduction for the whole of 2024.

CHAMPIONING INCLUSION IN SCIENCE

Science teachers committing to increasing diversity in STEM

We know that girls, students from disadvantaged backgrounds, young people from some ethnic backgrounds and disabled young people are under-represented in school STEM education. This denies these students the opportunities that science can offer them and has consequences for our society and our economy.

This is an issue that has been recognised and needs to be addressed at all levels. The Association for Science Education is working directly with teachers to support them through the Inclusion in Science Programme.

Inclusion in Science Programme

The Association for Science Education has made improving uptake of science by under-represented groups a priority. Our online CPD programme, Inclusion in Science, directly equips teachers to help them make every child feel that 'science is for me' regardless of their background. This programme builds on the success of our Inclusion in Schools programme, where we worked 1:1 with schools to ensure their environment and lessons are welcoming and inclusive to all students.

This work fits alongside commitments from the learned societies to improving diversity in STEM and we are proud to be leading the work directly with schools. We know from the work of our Inclusion in Schools programme, and previous work by the Institute of Physics, that teachers recognise the need to address diversity in STEM. Schools' participation on programmes such as Inclusion in Science demonstrates their commitment to providing an inclusive education and to improve outcomes for all students.

...We want to raise the aspirations of our children moving forward; see the opportunities out there. This way the kids have something to aim for, no barriers.

Steve Coldwell, Chair of Governors, Mortimer Community College, South Sheilds

References: 1: https://routledgeopenresearch.org/articles/2-13.

Teachers recognise that the science classroom is not yet fully inclusive. Teachers know this because of the students they see in front of them in triple science or post-16 groups, in the engagement of students and in the attainment data. The Inclusion in Science CPD programme aims to give teachers an understanding of why inclusion is important and the barriers different students may face. Bearing in mind the teaching profession itself is not representative of the wider population, especially at leadership level (Gorard et. al 2023). Teachers are therefore often looking to extend their understanding beyond their own personal experiences.[1]

Did you know...

- Nearly 200 Schools have taken part in the programme over the past 2 years.
- So far 300 teachers of science have signed up to the Inclusion in Science online CPD programme.

How our programme supports teachers

We support teachers to help make their teaching practices more inclusive. As part of our CPD programme we invite teachers to develop an understanding of unconscious bias, which stems from socialisation, and where it may manifest in the classroom. Social expectations on boys and girls are mirrored in the classroom, leading to different learning experiences. For example, boys' interruptions are more likely to be tolerated and there is a high expectation of quality presentation from girls. We guide teachers to reflect on how the society they have grown up in may influence their classroom interactions and the impact that could have on their students.

Some science teachers have already started increasing the diversity of science role models in the classroom, but we invite teachers to not just consider who they see in lessons: what language do they hear in the classroom? How does what they learn in lessons impact their everyday lives and future lives? It's important for us to consider how young people's experience of science can be different and this will affect the way they relate to science lessons.

What does the Inclusion in Science CPD programme cover?

- Introduction to inclusion in school settings
- Unconscious bias
- Inclusive language
- Inclusive classroom practice
- Developing an inclusive/diverse curriculum
- Inclusion in careers

The more that students know where a subject can lead and the future careers opportunities it can offer them, the more likely they are to engage with it (see Benchmark 4 of the Gatsby benchmarks). It is therefore important that students can see the range of opportunities that science education can open up for them and this will have an impact on the uptake of science post-16. Schools are already working to meet the Gatsby benchmarks: we extend this to ensure that the careers information is inclusive and challenges stereotypes of people working in STEM and what these jobs involve.

If you're interested in developing your inclusive practice, sign up now to our Inclusion in Science online CPD programme. Fully funded for teachers of KS3/4/5 Science in state funded schools in England.

Visit **ase.org.uk/IIS** to sign up!

ASSOCIATION FOR SCIENCE EDUCATION

INCLUSION IN SCIENCE

The Gatsby Benchmarks is a framework to help schools to provide a well-rounded careers provision for their students, including careers education, information advice and guidance. To learn more about the benchmarks, speak to your careers lead in your school or go to the Gatsby webpage about them: **gatsby.org.uk/education/focus-areas/good-career-guidance**

GET *More* BACK FROM SCIENCE

Earn reward points when you shop at vittaeducation.com to exchange for discounts, treats and more!

Science can be so much more rewarding every time you shop online with VITTA and VITTA Rewards. Every order placed can earn you points to exchange for discounts on future product purchases or towards a great selection of VITTA Treats.

Earn points straight away and build up your balance... getting more is easy with **VITTA Rewards!**

How to get started...

Earning points is easy! Log in or request an account and points will automatically be accrued with every qualifying transaction made through the VITTA Education website.

Once your points begin to build up, you can redeem them as full or part payment towards a next product purchase or in exchange for special VITTA Treats. You can even pool your points with other colleagues for a bigger reward.

We love giving out points, so keep an eye on our monthly newsletter and socials for more ways to build up your balance faster.

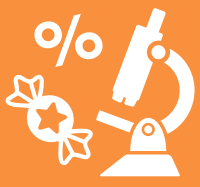
You can view your points balance at any time, as well as view all your previous order history and account details in your customer portal.

Need an account? Scan the QR code on your mobile or visit **vittaeducation.com/register** and fill in the form.

Log in or request a VITTA account

Earn reward points as you spend online

View your points total in your portal



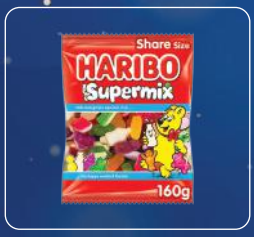
Spend your points on science or treats

Find out more and start saving today at vittaeducation.com/rewards

"A big VITTA Beaker of coffee... what better way to start the day!"

Beatrice, Customer Account Executive

SPEND YOUR POINTS ON THIS TERM'S VITTA TREATS...



200 VITTA Points

1000 VITTA Points

2000 VITTA Points

500 VITTA Points

500 VITTA Points

850 VITTA Points

500 VITTA Points

500 VITTA Points

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

EAT SLEEP SCIENCE REPEAT

SPARK CONVERSATION AT LaBLiFe.CO.UK | La B Li Fe

STAND OUT! BECOME A TECH CHAMPION...

***Technical Champions* is a quality mark that awards secondary schools and FE colleges in the UK who fully support and recognise the importance of their technical workforce.**

Technicians are an essential part of any successful school or college staff. Their roles are diverse and often complex, requiring a high level of expertise and knowledge, and yet technicians are often underutilised, and their roles are not fully understood.

Following in the footsteps of the higher education equivalent, *Technician Commitment*, which was made a success by Kelly Vere MBE, The Technical Champions Award is the culmination of Chris Galvin's (director of Prep-room and founder of Technical Champions) tireless efforts and hard work to extend that success to the secondary education sector. With a successful pilot initiative, schools and colleges now have the chance to lead the charge in acknowledging and celebrating the indispensable work of their technical staff.

The accreditation lasting three years and requires a modest investment of £325 per application. The recognition comes in two tiers: the Technical Champions - Standard Award and the prestigious Technical Champions - Gold Standard for institutions going above and beyond in supporting and recognising their technical staff.

The assessment process isn't a mere formality; it's a profound exploration of how well your institution equips its technical staff for excellence.

Successfully joining the ranks of Technical Champions also brings a plethora of benefits. You'll receive a certification pack, and digital banners for web and print, along with detailed feedback and continued online support.

The benefits of the award for your school are two-fold. Firstly the assessment aims to equip your leadership team with the tools they need to ensure their technicians are best supported, maximising potential and enhancing efficiency, whilst from the outside it shows the school to be committed to provide the best standards of learning for its pupils across STEAM subjects.

Ark Burlington Danes Academy were recently awarded Technical Champion Gold Standard for the work and commitment carried out by their science technician team of Paul Cook and Katia Rodrigues. Supported by the school they have helped lead practical lessons and run enrichment activities, inspiring future scientists in the process.

"...With full support from the academy's principal and SLT, we are the first school in the country to be awarded Technical Champion Gold. It's an amazing honour and testament to the extra work put in by myself and colleague, Katia..."

Paul Cook, Ark Burlington Danes Academy

For those considering becoming a Technical Champion, here's what you need to do:

Email Request: To get started, reach out and request your application pack by emailing **admin@technicalchampions.org**

Leadership Completion: Ensure the application is completed by a member of SLT (senior leadership team) or the line manager for technical staff.

Technician Survey: Technicians participate in an online survey linked in the application pack.

Submission: Submit the completed application and a £325 purchase order to admin@technicalchampions.org.

Assessment: The application is assessed within 28 days, with further communication made if additional information is required.

Success or Feedback: Successful institutions receive a certification pack, detailed feedback, survey data, and specific targets for future applications.

THINGS TO DO WITH PASCO

VITTA EDUCATION EXCLUSIVE

#3: PASCO Wireless Carbon Dioxide Sensor

Measuring carbon dioxide (CO_2) has never been this exhilarating and accessible in the classroom, thanks to the Wireless CO_2 Sensor from PASCO Scientific. This incredible device brings the wonders of carbon dioxide measurement to life, opening up a world of exciting experiments and applications for educators and students alike. Let's dive into some of the awesome possibilities offered by this cutting-edge sensor...

1. Enhance Air Quality Monitoring

Introduce students to the sensor in the classroom or laboratory setting. Place the sensor securely above the students' heads, ensuring that their breath does not interfere with the data. By employing the data logging feature, track fluctuations in CO_2 levels throughout the day. Encourage students to explore CO_2 concentrations in various school locations, from the bustling canteen to the oxygen-rich greenhouse, providing them with insights into the dynamics of indoor air quality. Familiarise them with the recommended CO_2 concentration levels for a healthy environment, emphasising the significance of maintaining optimal conditions in shared spaces.

2. Investigate Cellular Respiration

The versatility of the Wireless CO_2 Sensor allows students to explore the intricate process of cellular respiration, offering an engaging and efficient means of studying the vital metabolic activity in various organisms. Utilise the included sample bottle to observe respiration data from diverse sources such as invertebrates, germinating seeds, and other small organisms. Experiment with environmental factors like light and temperature, providing students with the opportunity to explore the impact of these variables on respiration rates. Expand their understanding by examining the responses of bacterial and yeast solutions, as well as aquatic species, enabling a comprehensive exploration of diverse biological systems and their CO_2 production dynamics.

...run studies overnight or across a weekend for long-term carbon cycling investigations...

Product shown: PASCO Wireless CO_2 Sensor (PS-3208).

Want to go further?

Expand your student's understanding by examining the responses of bacterial and yeast solutions, as well as aquatic species, enabling a comprehensive exploration of diverse biological systems and their carbon dioxide production dynamics.

3. Measure Carbon Flux

Extend the scope of experiments beyond the confines of the classroom by facilitating in-depth analysis of plant and soil dynamics within a controlled environment. Encourage students to isolate specific plant specimens or soil patches for meticulous analysis without disrupting the surrounding ecosystem. Compare and contrast the carbon exchange dynamics of different ecosystems, fostering a comprehensive understanding of their varying roles as carbon sinks or sources under specific environmental conditions. Extend this methodology to monitor carbon flux in aquatic ecosystems, providing students with valuable insights into the complex interplay between aquatic habitats and atmospheric CO_2 levels. Foster a holistic understanding of environmental dynamics by encouraging students to analyse long-term data sets, and facilitating comprehensive assessments of seasonal and diurnal fluctuations in carbon flux dynamics.

Next stop, photosynthesis...

3. Explore Photosynthesis

Facilitate captivating photosynthesis experiments using the Wireless CO_2 Sensor, a fresh dark green leaf, and the accompanying sample bottle. Calibrate the sensor meticulously, ensuring accurate data collection. Implement controlled variations in light exposure and manipulate temperature to gauge their influence on the photosynthetic rate of the leaf. Encourage students to investigate additional factors such as the impact of carbon dioxide concentration and the presence of external stressors on the photosynthetic process. Foster critical thinking by enabling students to compare and contrast different types of photosynthetic pathways and their responses to environmental stimuli, providing them with a comprehensive understanding of the intricate mechanisms governing plant physiology.

5. Study Soil Microbes and Decomposers

Simplify the process of sample collection and soil measurements using the Wireless CO_2 Sensor in conjunction with a section of PVC pipe. Encourage students to conduct field or laboratory-based experiments, allowing them to explore the impact of various environmental factors on microbe respiration rates within the soil ecosystem. Encourage students to conduct rigorous analyses of soil samples under varying conditions, facilitating a comprehensive understanding of the intricate relationship between soil micro-organisms and their immediate environment.

TOP TIP

To ensure the longevity of this sensor, remember to wash the metabolism chamber with warm soap and water. But be cautious! Avoid washing it in boiling water, using dishwashers with hot cycles, or autoclaves, as this may cause plastic deformation.

6. Analyse Dissolved CO_2 in Aquatic Environments

Ignite students' curiosity about aquatic ecosystems by introducing them to the complex dynamics of dissolved CO_2 levels within these diverse habitats. Facilitate comprehensive analysis of the dissolved CO_2 concentration within aquatic environments by employing the specialised Dissolved CO_2 Sleeve in conjunction with the Wireless CO_2 Sensor. Guide students through a detailed exploration of the factors influencing CO_2 solubility within aquatic habitats, enabling them to develop a comprehensive understanding of the intricate interplay between physical and biological parameters within aquatic ecosystems.

With the Wireless CO_2 Sensor, the classroom becomes a hub of scientific exploration. Embrace the ease and efficiency of carbon dioxide measurement and inspire your students to embark on an exciting journey into the wonders of science!

#TECHOGNITION

Friday 8th March 2024

PRIZES TO BE WON!

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

Join us on Friday 8th March 2024 at **www.techognition.org** and across social media for our seventh annual event

FROM PREP-ROOM TO PEDESTAL... #TECHOGNITION '24!

Are you the hidden hero behind the amazing experiments, the super-organised set-ups and mind-boggling demonstrations in your school or college lab?

Well, now's your time to step into the spotlight!

VITTA Education is excited to be a sponsor of this year's prestigious #TECHOGNITION, the ultimate celebration of the vital contributions of school and FE technicians across the UK.

#TECHOGNITION serves as a platform to highlight the crucial work done by technicians in educational institutions, emphasising their significant influence on student success and their key role in shaping technical careers.

By taking part in this event, school leaders and the wider public gain valuable insights into the pivotal role played by technicians and their impact on creating the platform for a thriving educational environment.

The upcoming seventh edition of the event is set for Friday 8th March 2024 and is gearing up to be bigger, better, and more uplifting than ever before.

Delivering an engaging and interactive experience, the event invites technical staff from schools and colleges across the UK to share photos displaying the diverse range of responsibilities they undertake.

It's a day to share and showcase your stories, challenges, and triumphs – the moments that often go unseen but make a significant difference in shaping the minds of future generations.

Join us in capturing the heart and soul of your work by sharing captivating snapshots of your laboratory adventures. From creating colourful chemical reactions to orchestrating complex physics experiments, let the world witness the ingenuity and passion you infuse into every test tube and microscope slide.

#TECHOGNITION highlights the crucial work done by technicians...

Participants are encouraged to upload these snapshots to the event's official website and social media platforms using the hashtag #TECHOGNITION.

But that's not all! As a token of our appreciation, in collaboration with all the sponsors, we're launching a line-up of exciting prizes that will make your scientific heart skip a beat.

Recognising the exceptional skills and invaluable expertise of technicians, who often operate behind the scenes, #TECHOGNITION aims to raise the profile of these essential roles and celebrate the unsung heroes within the realm of education. Through joint efforts, the event strives to amplify awareness and appreciation for the pivotal contributions made by technicians in shaping the future of education in the UK.

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 2024 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** (8am-6pm on the day).

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

NAVIGATING THE EDTECH LANDSCAPE

BETT UK 2024, 24-26 January, ExCel, London

Investing in educational technology (EdTech) presents an exciting and beneficial avenue for enhancing science education by supporting educators, creating vibrant learning experiences, and easing administrative burdens.

With the support of suppliers like VITTA Education, the integration of EdTech in science classrooms becomes a more strategic and impactful process. However, here are three key things to consider before navigating this journey:

1. Identifying Challenges and Needs

Before investing, pinpoint the specific challenges you aim to address. Rather than following trends, it's crucial to select reliable, efficient technology aligned with your needs. Clarity on challenges enables targeted investments for maximum impact. The VITTA Education team can provide tailored resources and consultations, assisting you in understanding how technology can address specific challenges in the science curriculum.

2. Proven Solutions for Science Education

After identifying challenges, seek solutions from reliable brands with proven results or explore innovative technologies that have demonstrated potential, with a specific focus on science. Learning from the experiences of peers who have successfully overcome similar challenges is invaluable. VITTA Education, leveraging its customer network and supplier partnerships, offers insights into successful technology implementations in science classrooms. Networking and conducting due diligence with research and case studies help to make informed decisions, reducing the risk of investing in technology that may not meet your needs.

3. Effective Implementation

The initial investment in EdTech is just the beginning of the journey; ensuring proper implementation and ongoing support for these technologies is key. VITTA Education plays a pivotal role by offering workshops, un-boxings, training sessions, and resources tailored for science educators. This ensures that teachers and technicians are well-equipped to seamlessly integrate technology into their practices. Education leaders should also consider long-term use, including troubleshooting procedures, ongoing assessments of educators' technology proficiency, and regular reviews of the technology's impact.

Effective networking, research, and strategic planning empower educators to make confident decisions about EdTech investments. This approach not only leads to greater adoption of technology but also enhances overall learning experiences. By addressing specific challenges, relying on proven solutions, and ensuring effective implementation, schools can leverage EdTech to transform education and achieve positive outcomes.

VITTA Education's core mission is to support tomorrow's scientists. With VITTA Education, you're not just choosing a supplier; VITTA Education is fully committed to consistently delivering engaging, innovative, and next-generation educational resources. To explore education technology solutions please visit **vittaeducation.com/stem**

Discover Next-Gen STEM learning at Bett UK 2024 with PASCO...

Visit PASCO Scientific at Bett on **Stand NF40** for award-winning, hands-on science EdTech and solutions that connect your students directly to science and STEM concepts with sensors, interfaces, and data collection software.

Available exclusively in the UK from VITTA Education, our team will also be on hand throughout the show to answer your questions.

A DAY AT SCHOOL IN 2040

With technology and innovation making waves in the classroom, we imagine what a day in the classroom will look like in 20 years.

8:30am: Children are digitally registered on entry, and as Mr Lee looks around the tables in the classroom are full, but not all occupied by humans. Small interactive AI robots sit on two tables, the avatars of Ben and Samir who can't make it today. Samir has been in hospital, but thanks to her avatar, she hasn't even missed a single day of school.

Over by the window, Jasmine is putting on her headphones. They help filter some of the noises from her classmates which can trigger anxiety. Supporting neurodivergent students, and much more than ear defenders, these smart headphones can alternate between ambient noise and a feed of just the teacher's voice.

10am, History: It's Ancient Egypt today. Everyone puts on their virtual reality headsets - including Ben and Samir, who have them at home and in hospital.

The whole class takes a journey into the catacombs below a pyramid where they examine hidden treasures, using AI to translate hieroglyphics.

11:15am, Biology: It's time to open up a human heart. No dissection is needed now - these are holographic hearts, which keep beating as everyone uses a virtual scalpel to investigate.

12:30pm, Lunch: At lunch many students head for the playground, but others choose to gear up for e-sports and compete internationally with other schools.

2pm, Climate Studies: This year, the students are learning about how wind, solar and tides power the world. Students have buddied up with others their age in three different countries and taken guided virtual tours of different power stations. Now they're collaborating online and using tools which help them share notes and drawings for their project.

4:30pm, Home Time: At the end of the day, after Mr Lee waves his students off, uses AI to mark the pupil's work and record their progress allowing more time to plan the next day of lessons.

Embracing the rapid wave of innovation, schools are actively incorporating technology in their classrooms, equipping students with vital skills to thrive in an ever-evolving world. From academic excellence to fostering social and emotional growth, educators and policymakers are discovering the incredible potential of technology in transforming education.

Join VITTA and PASCO Scientific on **Stand NF40** at Bett UK where partners, innovators, and educators shape the future of education.

Reference: https://www.bettshow.com/bett-articles/day-school-2040.

Girl Power...
WOMEN IN SCIENCE

International Day of Women & Girls in Science: 11 February 2024

A recent survey commissioned by Stemettes, in collaboration with the British Science Association, reveals a disconcerting reality: 1 in 3 young people claim to have not been taught about a woman scientist in the past two years or simply do not remember such instances.

However, amidst this concerning statistic, there is a glimmer of hope. Astonishingly, 70% of surveyed young people aged 14 to 19 express their belief in the importance of including information about women's STEM role models in school curricula. This sentiment transcends gender lines, with 71% of boys and 65% of girls affirming the significance of such inclusion.

In honour of the **International Day of Women and Girls in Science**, we celebrate some of the many remarkable British women, paving the way today in science, technology, engineering, and mathematics (STEM).

From ground-breaking discoveries to overcoming obstacles, these trailblazers exemplify the importance of recognising and championing the contributions of women in STEM.

Dr. Anne-Marie Imafidon MBE
(@aimafidon / @Stemettes)

A child prodigy turned tech influencer, Dr. Imafidon heads Stemettes, fostering female interest in STEM. Recognised in Forbes and Computer Weekly, she champions diversity in technology, shaping the future of work and company culture.

Prof Alice Roberts
(@theAliceRoberts)

Renowned academic and author, Alice seamlessly blends her medical background with historical passion, advocating for widespread knowledge sharing as Professor of Public Engagement with Science at the University of Birmingham.

Dr. Suzie Imber
(@SuzieImberSpace)

An Associate Professor of Planetary Science, Dr. Imber specialises in space weather and plays a pivotal role in the joint ESA/JAXA BepiColombo spacecraft. She also engages in education programs to promote scientific understanding.

Dr. Maggie Aderin-Pocock MBE

Esteemed space scientist and TV presenter, Maggie's ground-breaking programme "Do We Really Need the Moon?" earned her accolades and recognition in the scientific community, including an MBE and the 'Out of the Box Thinking Award' from Yale University.

Prof Sue Black OBE
(@Dr_Black)

A distinguished Computer Science expert, Sue is a social entrepreneur and sought-after keynote speaker globally. Recognised with an OBE, her non-traditional career journey is chronicled in the bestseller "Saving Bletchley Park."

Liz Bonnin
(@lizbonnin)

A passionate presenter with Honours degrees in Biochemistry and Wild Animal Biology, Liz excels in sharing the beauty of the planet and the latest scientific advances, particularly in big cat conservation and animal behaviour.

Dr. Emily Grossman
(@DrEmilyGrossman)

Renowned molecular biologist and science writer, Emily seamlessly integrates her acting background into science broadcasting. An honorary STEM ambassador, (awarded at the STEM Inspiration Awards), showcasing her commitment to science education.

Libby Jackson
(@LibbyJackson__)

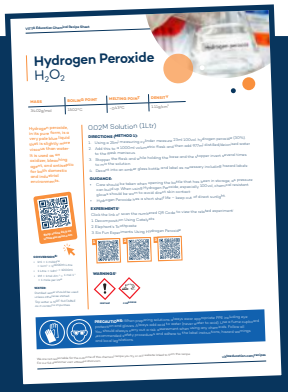
Head of Space Exploration at the UK Space Agency, Libby's decade-long expertise in human space-flight includes a pivotal role in Tim Peake's ISS mission. Author of "A Galaxy of Her Own," she received an OBE for elevating women in space and promoting STEM to youth.

Read the full blog online at **vittaeducation.com**

Look out... our Steminist badges are back!

From February, to celebrate International Day of Women & Girls in Science, you can redeem your VITTA Reward Points for a STEMINIST badge in your next order! Only 50 points.

Log in and order online at **vittaeducation.com**



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

Hydrogen Peroxide

0.02M Solution (1Ltr)

DIRECTIONS:

1. Using a 25ml measuring cylinder measure 23ml 100vol. Hydrogen Peroxide (30%).
2. Add this to a 1000ml volumetric flask and then add 977ml distilled/deionised water to the flask meniscus.
3. Stopper the flask and while holding the base and the stopper invert several times to mix the solution.
4. Decant into an amber glass bottle and label as necessary including hazard labels.

GUIDANCE:

- Care should be taken when opening the bottle that has been in storage, as pressure can build up. When using Hydrogen Peroxide, especially 100vol, chemical resistant gloves should be worn to avoid direct skin contact.
- Hydrogen Peroxide has a short shelf life.
- Keep out of direct sunlight.

WARNINGS:

Like what you see? Download the full explanation of this recipe and find more online 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

LOVE IS IN THE AIR*

*and other gasses

Just as you've packed up the trimmings, there's a little guy trying to shoot you with arrows! Yes, Valentine's Day (February 14th) is fast approaching and no matter how you're celebrating or avoiding this day don't forget, you can always find a love for science!

Skip a Beat with Biology

Explore the connection between physical activity, heart health, and the cardiovascular system using a hand-grip heart rate sensor. Embrace the heart motif in collaborative activities, aligning with the spirit of partnership linked to Valentine's. Investigate resting heart rates and the impact of exercise with tools like the PASCO Wireless Hand-Grip Heart Rate Sensor (PS-3206) and SPARKvue software. Connect scientific concepts with the sentiments of Valentine's Day, promoting heart health awareness in a fun way.

My Heart Will Go On

Dive into the heart and circulatory system's anatomy for a deeper understanding of human physiology. Connect the biological aspects of the organ to its symbolic representation of love and emotion. Options like posters, dissections, 3D-pumping hearts, or organ tunics are available for exploration.

Love's Trajectory in Physics

Embark on an engaging exploration of projectile motion, delving into the physics behind Cupid's arrow. With plastic bows, arrows, protractors, measuring tape, and stopwatches, students experiment outdoors, merging theoretical concepts with real-world applications. Measure launch angles, distances, and flight times carefully. Utilise protractors and timing devices for precise data. This hands-on approach brings physics to life and deepens understanding, creating an arrow-studded intersection of physics and romance.

Bleeding Hearts Experiment

Experience the Bleeding Hearts experiment, a captivating blend of chemistry and creativity.

1. Use a 250ml beaker, a reagent bottle, a glass rod, and iron wire fashioned into heart shapes.
2. Sand down the iron wire, attach to glass rods, and prepare a solution.
3. Dissolve 1g of potassium thiocyanate in 100ml of water, add 1ml of 12M hydrochloric acid and 1ml of 30% hydrogen peroxide.
4. Lower the iron heart into the solution and witness a vivid blood-red iron thiocyanate complex.

This visually stunning transformation illustrates redox reactions' principles, adding a fun element to the learning for a true Valentine's experience.

Find the full list of equipment and complete experiment method at **vittaeducation.com/valentines-day**

Products shown: Heart Model (VTN12301740), SATZ Timer (VTT12302297).

ADDRESSING MISCONCEPTIONS WHEN TEACHING PHYSICS

Physics surrounds us from an early age, even if we don't realise it, and we often use everyday experiences to develop ideas about how the world works. Some experiences align with core physics principles, but others seem counter-intuitive, for example, a bike stops when we stop pedalling, so it's obvious a constant force is needed to keep an object moving...isn't it?

We all build up preconceptions about how the world works from these everyday experiences. When these do not match what is agreed to be the correct explanation, these are referred to as misconceptions (sometimes alternative or naïve conceptions). Research in science education shows that misconceptions in relation to physics concepts are common and can be deep-rooted and resistant to change.

The role of teachers in pre-empting and intervening in problem areas caused by student misconceptions is seen as a key part of good science teaching and is identified as one of the seven recommendations for science teachers made in the EEF's 'Improving Science teaching' report (2018). Effectively tackling misconceptions can prove particularly challenging for teachers teaching out of specialism and signposting common misconceptions is only part of the process of good planning and teaching. A key feature of our Subject Knowledge for Physics Teaching (SKPT) programme is time given to explore misconceptions in order to refute them and to reconstruct the correct understanding, with expert practitioners modelling how to translate this effectively into classroom practice.

In this article, we share some ideas that we've built into our SKPT online learning, face-to-face days and online tutorials.

The report recommends that teachers build on ideas that pupils bring to lessons, this can be broken down into several steps:

- Understand and identify preconceptions before the lesson or topic
- Highlight, address and challenge potential misconceptions
- Teach and reinforce correct ideas

It is also important for teachers to think about their own misconceptions that were perhaps not addressed during their learning journey. These may have become embedded and could lead to confusion when teaching certain topics.

Where to start?

You'll find lists of misconceptions online, organised by topic area for example on the Institute of Physics' Spark website: **spark.iop.org/misconceptions**

Upcoming events

SKPT modules are delivered across England. Subject Knowledge Awards accredited by the Institute of Physics and school subsides are available on completion.

- Energy and Matter & Space (Spring Term)
- Forces and Atomic Physics (Summer Term)
- A residential SKPT programme starts at Easter covering electricity, energy and forces

A particular consideration is linguistic confusion that can grow from the use of imprecise scientific language in everyday life. As teachers, we need to remember to be precise, even when simplifying an explanation. Words like gravity or electricity can be vague and mean different things to different people; nucleus or displacement have different meanings in different settings; the common usage of the terms mass and weight in everyday language interchange helps us to understand why students can struggle to differentiate between them.

For example, many students think heavier objects fall faster. Try dropping a sheet of paper, initially flat and then crumpled. Their weight is the same, but they fall at different speeds because air resistance depends on shape.

Ask your students to predict whether a watermelon and a paper clip will float or sink and ask them to explain their prediction. Then place both items in a tank of water – after they have observed what happens revisit their explanation. In these examples, the teacher has prepared activities in advance to help students confront and resolve their misconceptions.

> "...Best Evidence Science Teaching resources are a great source of diagnostic questions based on research that can be used with the whole class. They are designed to highlight misconceptions that you may not have even thought of and offer response activities to help you challenge misconceptions and develop students' understanding of science..."

Once a misconception is revealed, it needs to be addressed. Teachers can use simple activities, questions and demonstrations to challenge these ideas explicitly.

These, and other examples, are designed into the SKPT course, helping teachers understand the challenges and equipping them with classroom solutions.

By recognising the role of misconceptions in learning, it's easier to understand why good teaching doesn't always have the expected impact. If your students build their learning on core ideas that are confused, their understanding is more likely to be inconsistent and insecure. Taking time to get the foundations of physics right will pay dividends in the long term.

The SKPT programme is a safe learning community where teachers of physics who don't have a physics teaching specialism can explore their ideas through discussion, practicals and other activities.

The Ogden Trust
making physics matter

Written by Nicky Thomas
Teaching & Learning Coach, The Ogden Trust

SKPT
SUBJECT KNOWLEDGE FOR PHYSICS TEACHING

For more details about SKPT courses, dates and to book your FREE STEM Learning place, head to **stem.org.uk/skpt**

THE TECH FILES

EMILIA ANGELILLO

Meet Emilia Angelillo, a former microbiologist and seasoned science lab technician, who has been working at the esteemed Sancton Wood School in Cambridge for the last 9 years.

With an illustrious background in biomedical science and a passion for nurturing scientific curiosity, she has become a leading figure in promoting STEM education and the crucial role of technicians.

Emilia's journey into the world of science began early, fuelled by a childhood fascination with microscopic wonders and a desire to analyse human samples to help sick people get better. Having transitioned from the bustling environment of working alongside doctors as a medical microbiologist to the vibrant halls of education, her commitment to inspiring future scientists remains unwavering.

Armed with a comprehensive academic foundation, including a BSc in Biology and MSc in Microbiology & Virology from Italy, Emilia embodies the essence of expertise in her field. Today, as a Registered Science Technician, Emilia is the sole overseer of 4 labs, 2 prep rooms, and a storage room, supporting Physics, Biology, and Chemistry. Her responsibilities encompass a broad spectrum, from meticulously orchestrating practical lessons and demonstrations in the labs to ensuring stringent safety standards and preparations are met. She also assists the teachers during the practical sessions, and when needed, she will demonstrate experiments for the classroom.

"...technicians can serve as beacons of inspiration, guiding young learners toward fulfilling careers in STEM..."

Beyond the prep room, Emilia's influence extends to the realm of social media, where her Instagram (@emilia.science) has garnered over 100k devoted followers. Through this platform, she not only showcases the amazing experiments and the intricacies of her role but also champions the significance of technicians and promotes the role of women in STEM, emphasising the values of equality and diversity within the scientific community.

For Emilia, the true essence of her work lies in the joy of interacting with the children; there is nothing more rewarding than looking at the enthusiasm and amazement in their eyes. As a dedicated STEM Ambassador, she revels in the opportunity to engage with the inquisitive and curious minds of primary school students, fostering an enthusiasm for science.

As a STEM ambassador, Emilia actively collaborates with primary schools, orchestrating engaging workshops and STEM clubs to ignite the flame of scientific curiosity in young minds. Her strong belief in the pivotal role of practical science in early education is showcased in the dynamic CPDs and STEM workshops she conducts for primary school teachers, both in-person and online.

Speaking from her own journey, Emilia advocates for her fellow technicians to embrace their roles as more than just support staff. Encouraging them to step into the spotlight, she advises fellow techs to seize opportunities to conduct demonstrations, spearhead STEM clubs, participate in open days, become STEM ambassadors, and show the world what technicians can do.

By sharing their deep passion for science and showing how beautiful it is to work in a laboratory, Emilia believes that technicians can serve as beacons of inspiration, guiding young learners toward fulfilling careers in STEM and nurturing a generation of bright, inquisitive minds eager to explore the wonders of the scientific world.

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

EMBRACING THE BLUES

With cold weather and dark days combined with a post-holiday melancholy, January and the early part of the year are often referred to as the 'January Blues'.

In homage to this seasonal sentiment, we've picked our favourite blue lab equipment and 'blue-themed' required practical that we hope washes any blues away!

Making Salts:

You will need:

- 20cm^3 1.0M dilute sulfuric acid
- 5g copper (II) oxide powder
- spatula
- glass rod
- 100cm^3 beaker
- 250cm^3 beaker or water bath
- Bunsen burner
- tripod
- gauze
- heatproof mat
- filter funnel and paper
- small conical flask or small beaker
- evaporating basin
- crystallising dish or petri dish without lid
- tongs
- eye protection

What to do

1. Measure 20cm^3 of sulfuric acid into a measuring cylinder and carefully pour it into the 100cm^3 beaker.
2. Set the beaker over the Bunsen burner using the tripod and gauze.
3. Gently heat the sulfuric acid in the beaker until almost boiling.
4. Use tongs to place the beaker on the heatproof mat. Gradually introduce small amounts of copper oxide powder to the sulfuric acid whilst stirring.
5. Continue adding copper oxide until no further effervescence is produced.
6. If done correctly, the mixture will turn clear and blue.
7. Filter the solution into a small conical flask using filter paper and a funnel.
8. Transfer the filtered solution into the evaporating basin.
9. Place the evaporating basin over a 250cm^3 beaker (or a water bath) and gently heat it to facilitate evaporation. Heat until you notice the initial formation of crystals within the solution.
10. Test the solution by dipping a clean glass rod into the solution and waiting for it to cool. When small crystals form on the glass rod, stop heating the solution.
11. Use tongs to carefully pour into a crystallising dish in a warm place for a minimum of 24 hours, allowing the crystals to fully crystallise.
12. Once the crystals have formed, handle with care and dry using filter paper.

Read the full guide online at vittaeducation.com/practicals

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.

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

For a list of equipment and product links required for this activity please visit **vittaeducation.com/practicals**

EduLab Power Supply 0-15v
(VTT12302917)

Designed for the classroom and used by physicists worldwide, the EduLab 0-15V power supply provides stepped voltage of 0-15V in one-volt steps for both AC and slightly smoothed DC.

Not only is it a cost-effective solution, but its unwavering reliability and durability make it a coveted asset for any school laboratory. With a solid 5-year warranty, this blue powerhouse makes for a sound investment.

Adam Balance Dune
(VTT12300414)

Meet your reliable partner for quick delivery of accurate readings, the portable Dune DCT601 Compact Balance! With a user-friendly design, automatic calibration, and easy-to-read display, it simplifies precision measurements.

The large high-contrast display ensures effortless readability, while its energy-saving mode, overload protection, and versatile power options make this blue balance a must-have for any setting.

Bunsen Burner Kit
(VTN12301371)

Ignite chemistry experiments with a blue flame from our Bunsen Burner Kit! Each kit is equipped with 5 blue-based natural gas Bunsen burners, 5 bench mats, 5 cast iron tripods, and 5 ceramic centre gauze wires.

Update your science department with everything you need for hands-on learning. Unleash the thrill of experimentation and kindle the flames of discovery in your classroom.

EnduraFlex Tubing
(VTT12302404)

If you're talking Bunsen burners, then you have to mention this revolutionary blue square tubing that's a durable alternative to natural rubber. Lasting a remarkable 10x longer, it is suitable for LPG and natural gas and its flat-sitting design ensures no more kinks!

Lascells Ripple Tank
(VTN12302601)

Dive into the world of waves with the Lascells Mini Ripple Tank. Experience no more setup headaches; it's self-contained design and translucent screen reveal a 12cm water tank, free from unwanted reflections. A selection of barrier shapes and lenses are also provided to enable reflection, refraction, diffraction and interference along with the focussing properties of lenses to be demonstrated.

BMS Microscopes

MUCH MORE THAN MEETS THE EYE

BMS Microscopes provides a wide range of microscopes and accessories that are suitable for professional, education and hobbyists.

The BMS 146 FLAsQ is the second model in the Advanced Plus range. It has the fine shape of the 146 with the reversed nose-piece but improvements to the spiral condenser and stage clips.

The microscope has antibacterial paint (metal parts) and anti-fungus coating on the optical (glass) parts.

- Monocular, 360° rotatable head
- 400x magnification (optional extendible up to 1500x)
- Height-adjustable Abbe condenser
- Coaxial adjustment
- LED Illumination
- Multiple power sources
- 5-Year warranty

Enhance your experience with BMS Microscope accessories

Microscope Slides

Auxiliary Lenses

Full HDMI Camera Kits (VTT12306929)

Discover the wide selection of BMS Microscopes and other equipment available at VITTA Education

vittaeducation.com/bms

FINDING A FOCUS

Considered the gateway instrument to the world of science, mastering the art of microscopy is not only fundamental in learning but it underpins everything going forward!

In the education setting compound microscopes are the microscopes of choice, as they are a perfect compromise between price, magnification and usability. However when choosing a microscope, it can be daunting due to the wide range of information and the sheer variation of microscopes available. However there are a few key factors to consider when purchasing a microscope.

Construction Quality

Sturdiness is one of the most important qualities to consider when purchasing a microscope, as it will allow greater durability and longevity over a plastic construction. This can be avoided by purchasing from a reputable vendor.

Optical Quality: Focus

Flat field correction is a key part of this; how much of the image is actually in focus. This can range from achromatic (standard lens) which leaves 65% of the image in focus, through to plan objectives which have 95% of the image flat and in focus giving a vastly different quality image.

Optical Quality: Objectives

The objectives are a key part of the microscope and is the biggest differentiating factor of a microscope, insuring they are achromatic and DIN compatible (Deutsch Industry Norm) as this is integral as DIN objectives are interchangeable from one microscope to the other.

Optical Quality: Eyepieces

Put simply, a wider eyepiece allows for easier viewing, with some of the best eyepieces including Wide Field (WF) or Super Wide Field (SWF).

Mechanical Stage

When viewing at high magnifications a mechanical stage becomes very important, as fine slide adjustments are made possible.

Condenser and Diaphragm

A good quality condenser and diaphragm is also useful. Typically an Abbe condenser allows for greater levels of adjustments, with some microscopes having an iris diaphragm in addition to the condenser.

Power Options

Think about the environment the microscope will be used in and the power option available, consider if battery capable microscopes will be required.

All being considered, the best advice to be given on choosing a microscope is to think beyond just the initial outlay, look at it as an investment which will last for decades. And account for any future requirements, to ensure that you have a suitable specification to cover any future needs for it.

The other factor to consider is industry relevance. Training students on a microscope which has similar features and design will set them in best stead for future careers in industry.

Need help with your next microscope purchase?

Explore our full range online or book a discovery day with our experts at **vittaeducation.com**

Product Shown: BMS D3-220EP Binocular Microscope 1000X (VTT12300725).

WORKING A WAY UP TO THE NEXT T-LEVEL

Fostering inclusivity and empowerment through T-Level work placements

T-Levels represent a paradigm shift in the education system, providing a dynamic blend of academic knowledge and practical skills. Their importance in offering a well-rounded educational experience cannot be overstated.

T-Levels were designed in partnership with industry and business to equip students with the skills to support the industrial economy. They are two-year courses and sit alongside other post-16 options such as A levels and apprenticeships. They focus on technical skills and knowledge, relevant English, maths and digital skills and include an industry placement to build knowledge and skills. The placement equates to around 45 days or 20% of the course, the rest is spent in college/school. T-Level work placements stand out as the key differential, offering students an immersive experience that goes beyond textbooks and classrooms. They act as a powerful force in shaping students' educational journeys. T-Level placements foster inclusivity and empowerment, ensuring that students from all backgrounds thrive in their academic and professional pursuits. In simple terms, work experience opportunities are not limited by who you know and are carefully managed to maximise their impact.

Completion of the placement is a mandatory requirement by the Department for Education to pass the course so that has necessitated a different approach to traditional work experience programs. At MidKent College, like many other providers, T-Level placements are managed by our workplace coordinators leading to a very bespoke service.

Care is taken to understand the student's career aims and the factors that may affect attending a placement such as travel needs. Entry onto a work placement is a selective process; students submit CVs and are interviewed as potential employees. These aspects are carried out in a supportive way with feedback given at each stage. The inclusivity embedded in the projects ensures that every student feels confident to pursue their aspirations, fostering a sense of agency and capability.

The placements are rigorous with defined objectives and listed activities to undertake. Students have mentors in the workplace and are visited three times by the provider to follow their progress. The process is subject to audit by the Department for Education. Students start building professional networks much earlier than conventional level 3 students and can begin the journey of professional registration as a scientist. At the end of the placement, they gain a reference and a portfolio of skills. T-Level work placements make a pivotal difference to the student on this qualification in terms of de facto social capital.

While celebrating the successes of T-level work placements, it is crucial to acknowledge challenges in supporting inclusivity. A legitimate concern of work placements is their availability, but progress is being made in terms of the flexibility of offer to suit the routes being offered. Delivery provision is under continuous evaluation for each industry sector where offers might be limited geographically and adaptable approaches have been put in place for SEND and YOI students.

"...T-Level work placements make a pivitol difference to the student on this qualification..."

The work placements offer another dimension to T-Levels and that is teacherpreneurship, a connectivity to industry leading to the co-creation of resources to enhance the delivery of the courses and further equip our students. New contacts have been made locally and through the Education and Training Foundations Industry Insight program that are mutually beneficial to students and industry. A sense of good will and vision has prevailed; PhoreMost contributed techniques on lab videos and Wellcome Connecting Science have been pivotal in supporting CPD and student experiences. Alliances with the NHS Futures Platform and visionary programs such as the AMGEN Biotech Experience further underpin the investment in widening participation in the post-16 sector.

VITTA Education is itself is paving the way with adapted standard operating procedures. Our employers have been incredibly responsive and understanding of our students' needs. A T-Level webinar made earlier this year by the RSC Kent Local Section showcased two of our providers AbBaltis and Kent Scientific Services extolling the benefits of hosting students.

Some benefits are not easily quantifiable, but the soft indicators of success are so important going forward. Our students return from work placement more confident in their ability to communicate and more self-assured. The emphasis on practical work in lessons certainly eases the move to the industry where they learn to apply theory in practice. Students gain industry specific knowledge which helps shape their career decisions. For further information, the T-level info site lists provides many such case studies.

Written by Alison Ackroyd
Lecturer at MidKent College

T-LEVELS
THE NEXT LEVEL QUALIFICATION

Want to know more? Find out how VITTA Education can assist your transition to T-Levels and support your implementation, visit **vittaeducation.com/T-Levels**

New FOR JANUARY '24

A new year, a new term and the perfect time to take a look at a selection of new products on offer from the big brands you know and trust.

Launched late last year, the **Lascells E-Field Detector** (VTT12307039) is gaining accolades left, right and centre. This very neat detector provides a new and novel way to demonstrate positive or

negative charge. This highly sensitive electronic device is an essential piece of equipment in the Physics teachers' armoury as it can detect very small charges and their polarity, as well as charge at a distance. Very quick and easy to set up, the Lascells E-Field Detector is a benefit for specialist and non-specialist teachers alike and is so easy to use that students can gather data themselves.

EduLab's Mini Science Kits are set to revolutionise primary science education with hands-on learning experiences aligned with the current UK curriculum. Tailored for ease, each kit includes comprehensive workbooks, lesson plans, and equipment. Versatile for any teaching environment, they address educational challenges, providing teachers with the tools for engaging and effective science education.

A must-have for passionate educators. Kit topics include Year 5: Earth & Space, Year 3 & 4: Animals, including Humans, Year 4: States of Matter and the Moss Safari Explorer Kit.

If you've not heard or been on a Moss Safari, by the end of 2024, you most probably will have! Explore the microscopic wonders of moss with **EduLab's Moss Safari Explorer Kit**, exclusively launched and stocked by VITTA Education. Led by Dr. Andy Chandler-Grevatt, the kit offers an immersive upper-primary curriculum experience, unveiling the hidden 'Big Five' organisms found in moss.

In-person and virtual tours enhance the adventure, promising a captivating journey into the world of science, math, and English.

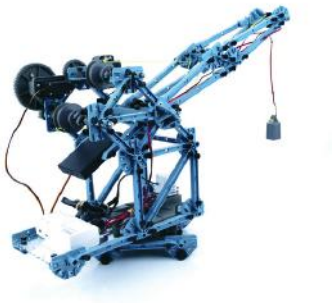
As well as piloting Chemvue, an intuitively designed software for chemistry investigations, meticulously crafted with input from faculty to ensure optimal success for university lab students. PASCO Scientific add three new innovative kits – the Motorized Crane, StructureBot, and Motorized Drawbridge to the PASCO Scientific Structures System.

Enriching the learning experience in structural engineering, these kits offer hands-on design and construction of lifelike structures, ranging from trusses to dynamic kits. They have ultra-realistic components, numbered and scalable, enabling authentic, quantitative analysis with Load Cells.

The **PASCO StructureBot** (ME-7029) is a versatile robot that offers various configurations for use. Navigate mazes and pick up objects using embedded Blockly coding in PASCO's purpose-built Capstone or SPARKvue software.

The **PASCO Motorized Drawbridge** (ME-7028), constructed from PASCO Structures, integrates a stepper motor and gears, allowing students to raise and lower it while measuring forces with a Wireless Load Cell/Accelerometer.

The **PASCO Motorized Crane** (ME-7030), also built from PASCO Structures, allows students to control and power the crane using Blockly coding, exploring electromagnetism,

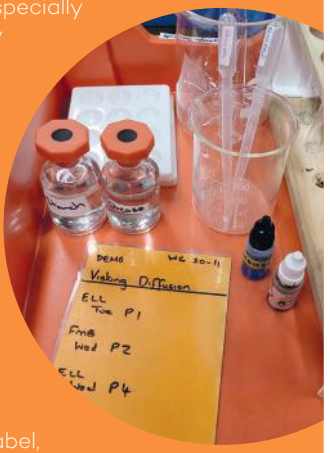


gear ratios, and lifting capabilities. Plus, any PASCO sensor can be used with the crane to expand its capabilities!

Showcasing at **Bett UK 2024**, these new PASCO kits are ideal for providing a thorough understanding of structural engineering principles through engaging experiments and real-world applications.

TECH'S TIPS FOR THE TERM...

It's hard to know where to start, especially as we all have our own little quirky ways to do things.



My biggest tip when wanting a great tip is to go to preproom.org and LaBlife.co.uk. Check out their websites and chat with other technicians on their forums. It's full of colourful technicians sharing information, helpful advice, and the odd funny story. It's a great support network. Go have a look, and you might even find a few of my tips; look out for *Littlemumdent*.

I always use electrical tape as a label, from stock and chemical bottles to freezer bags and beakers.

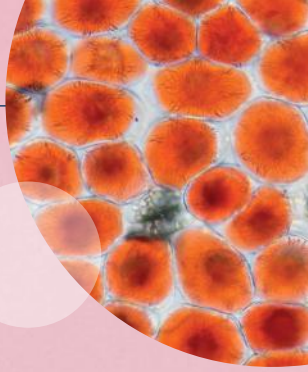
It's easy to write on with a marker pen and biro; it doesn't smudge or come off when wet. Then when you're all finished, it's easy to peel off. If you want to be super organised, you can use different colours. I've got five colours that I chose from, but I mainly use white.

When the practicals go on their merry way to the teachers, I use different coloured laminated sheets to write "what, who, where, when". Yellow labels mean they go out once, so when I collect them, I know everything can just be cleaned and put away. Then if the practical is going out multiple times, it gets an orange label. If I need the teacher to do something, then they have a blue label in the tray. They are just laminated coloured paper, and I use a whiteboard marker that I can just rub off.

A very important tip for all new technicians out there: learn to say "NO". This took me a few years, and even now, I'm still not that good at it. Oh, and stop washing the teachers' mugs and plates up; we are not their parents!

Thanks to Emma Dent (Snr. Science Technician at St John Henry Newman Catholic School) for sharing her tips... We're always keen for more tips, so why not share yours with us?

Send as many as you like in an email to **tips@vittaeducation.com** with the subject 'tech tips' and you might just see them featured in our next magazine or on our social media channels.



SPRING INTO SCIENCE

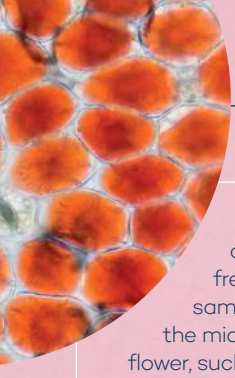
Make the most of nature's classroom

Celebrating spring is a unique and ideal opportunity for students to get outside and engage in hands-on learning experiences that are directly related to the natural changes and phenomena occurring during the season.

From understanding how plants grow and how animals behave to how the weather changes, this can also help raise awareness of how everything in nature is connected and why we need to take care of the environment.

VITTA Education has a wide variety of equipment to help facilitate a whole range of spring-themed science activities, why not give some of these ideas a try:

Weather and Climate Monitoring: Set up weather monitoring instruments, like the PASCO Wireless Weather Sensor with GPS (PS-3209) on the school grounds to record temperature, humidity, and other weather-related data during the spring season. Compare the data collected over the course of several days or weeks to identify any trends or patterns in the weather. Simultaneously, educate students about the impact of seasonal changes on the environment and the importance of climate conservation.



Flower Power: Tulips, daffodils and cherry blossoms, these fresh spring flowers are ideal samples for being examined under the microscope. Choose a part of the flower, such as the petals, stamen, or pistil, for observation. Place the trimmed flower section onto a clean microscope slide. Add a drop of water, observe under the microscope and document the structures. In addition to developing apparatus and technique skills, this is a fantastic way to investigate plant reproduction and understand plant structures.

The BMS 037 LED Microscope is ideal for this activity (VTT12300650), and why not team it up with the BMS HDMI Camera Kit (VTT12306929) for easy and engaging whole-class participation.

Water Quality Analysis and Conservation: Collect samples from nearby ponds or streams and analyse the water quality with the Testing Ponds & Streams Kit from EduLab (VTN12302138).

Designed to engage a class of up to 40 students, analyse the samples, and discuss the impact of pollutants and the importance of water conservation. Why not launch a recycling campaign to foster conservation awareness and action.

Competition Time... WIN* a PASCO Wireless Weather Sensor with GPS

For your chance to win, simply answer the following weather-related riddle and send your details to **win@vittaeducation.com**

Q. I touch the Earth, I touch the sky, but if I touch you, you'll likely die. What am I?

Good luck!

Nature Walks and Observation: Create an observation area for local insects and birds, such as butterflies and migrating species, and encourage students to study their behaviours and roles in the ecosystem. Conduct nature walks, encouraging students to document the biodiversity they encounter, fostering a deeper understanding of ecosystem roles.

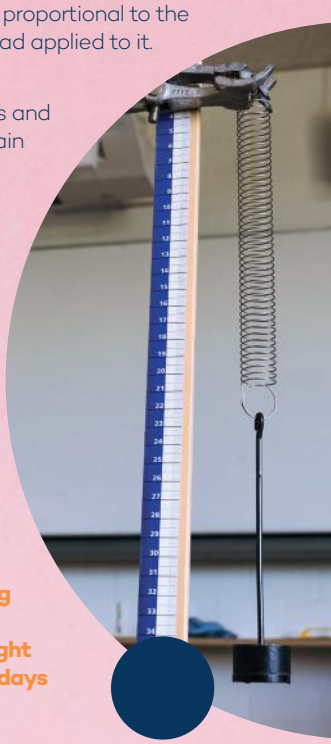
A Habitat Guide like these wipe-clean laminated sheets are ideal (VTN12301654).

A Literal Spring: The season of spring is a time of renewal and growth, much like the way a spring can be stretched and compressed. Use this as a reason to demonstrate Hooke's Law (VTN12302387) and the relationship between the extension on a spring is proportional to the load applied to it.

By combining these activities and experiments, students can gain a deeper understanding of various scientific concepts while developing a strong appreciation for the natural world and the importance of environmental sustainability during the spring season.

Don't forget to share what you get up to on our social page... we love to see science in action!

A LITTLE REMINDER... Spring forward on Sunday, March 31, 2024, (2:00am) as Daylight Savings Time brings longer days and brighter evenings.



See page 50 for a list of all the products shown. *Enter by midnight on 31/03/24 for your chance to win. See website for full terms.

TECHNICIANS: THE DAVID SAINSBURY GALLERY

***Technicians: The David Sainsbury Gallery* is a permanent, interactive exhibition at the Science Museum which allows young people to step into an interactive world of careers and take a look behind the scenes, to explore a variety of different roles.**

Visitors can try hands-on exhibits that bring to life a wide variety of workplaces, from a blockbuster film set to a pharmaceutical lab, allowing them to experience the hidden yet vital careers of technicians.

Visitors can experience a world of careers in one place and:

- Set foot inside Shuri's Lab from Marvel Studios' Black Panther to re-enact the role of a film-set lighting technician
- Have a go at making lifesaving medicine as an NHS pharmacy technician
- Operate a robotic arm and try your hand at welding a roller-coaster track
- Step into the world of renewable energy and solve problems faced by a wind turbine technician

Working with industry leaders such as Marvel Studios, the NHS, National Grid and the University of Sheffield Advanced Manufacturing Research Centre and many more, the innovative exhibits are true to the tasks their technicians do every day so visitors can unearth their own skills and find out how they could make a real difference as a technician.

There is also the opportunity for KS3 and KS4 students to book a 'Meet an Employee' session, where students can meet with a real technician and experience what it's like to do their job through hands-on activities and live Q&A sessions.

Students will carry out job-related tasks led by a real-life technician as a role model helping to showcase how your students' skills and aptitude is used in the day-to-day work of technicians, with lots of opportunity to ask the technician questions throughout the task.

In the Q&A session students will ask technicians what it's like to do their job, finding out for themselves how to become a technician, what inspired them and more.

As well as *Technicians: The David Sainsbury Gallery*, the Gatsby Charitable Foundation run the Technicians: We Make the Difference initiative, to engage and inspire 11–16 year old students to follow their skills and interests and consider a career as a technician.

As part of this, they have identified 100 technician roles across a wide range of industries such as engineering, food and drink, fashion, film and TV, healthcare, manufacturing, agriculture, design and more, to show young people that in almost every industry, there are hidden technicians, performing interesting and essential tasks which are key to the overall outcome being successful.

The website and campaign activity showcase the 100 roles, with employers putting forward technicians who are following non-university routes of education and training such as apprenticeships and T-levels to feature on the website and share their real-life experiences to show young people what they do and why they love their job.

If you are or have a great technician who would like to get involved with the Meet an Employee sessions at the Science Museum and / or appear on the technicians website and talk about their role, please email the team at **technicians@gatsby.org.uk**

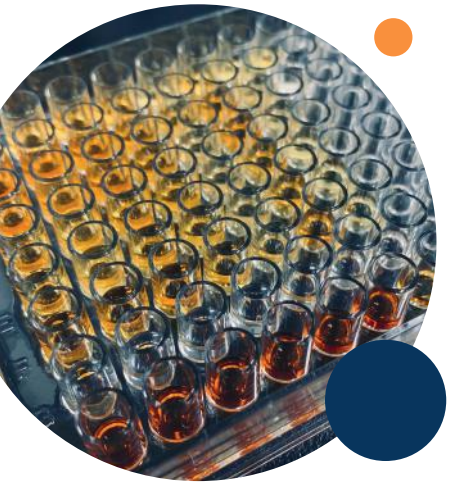
For more information on *Technicians: We Make the Difference* and the role Gatsby play in helping education providers, read our blog online at **vittaeducation.com** or visit **technicians.org.uk**

GATSBY

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

Biology: Enzymes

Investigate the effect of pH on the rate of reaction of amylase enzyme

EQUIPMENT LIST:

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

METHOD:

1. Set up a water bath at a specific temperature (e.g. 30°C).
2. Label 5 test tubes with the pH buffer solution values (low to high).
3. Add a drop of iodine solution to each well on the spotting tile.
4. Measure 2cm^3 of starch solution and place it into the test tube, followed by 2cm^3 of the first buffer solution being used.
5. Measure 1cm^3 of amylase solution and place it into the test tube.
6. Immerse the starch/buffer solution and the amylase solution into the water bath at the desired temperature.
7. Allow a few minutes for the temperature to equilibrate.
8. Add the starch/buffer solution and the amylase solution into one test tube and mix with a glass rod. Start the stopwatch.
9. Immediately take out a drop of the starch/amylase mixture and add to a well in the spotting tile. This is the sample for '0 seconds'.
10. Repeat step 9 every 10 seconds until the iodine solution remains brown and does not turn blue-black / no colour change.
11. Calculate the rate of reaction by multiplying the number of drops by 10 to get the time taken for the amylase to fully digest the starch.
12. Repeat steps 3-10 for buffer solutions with the different pH values.
13. Plot a graph of the rate of enzyme reaction (y) against pH (x).

LEARNING OUTCOMES:

AT 1: Use of appropriate apparatus to make and record a range of measurements accurately. AT 2: Safe use of appropriate heating devices and techniques. AT 5: Measurement of rates of reaction by a variety of methods.

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

EXPLORE THE RED PLANET

Mars Day, Tuesday 5 March, 2024

REGISTER AND GET INVOLVED...

Find out more information with all the links to register online along with a selection of 'space-related' product links online at **vittaeducation.com/mars**

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 24, a free virtual adventure scheduled for Tuesday, March 5, 2024.

The event, presented by the UK Space Education Office in collaboration with STEM Learning, aims to engage a diverse audience in the wonders of space exploration.

The previous Mars Day drew an impressive audience of over 120,000 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 24.

The upcoming event promises an out-of-this-world program, including live linkups, talks, and fireside chats with space luminaries. Set to land on Tuesday, March 5, 2024, Mars Day 24 will boast more speaker stars from ESA, NASA's Perseverance team, and the UK Space Agency. The Moon will take centre stage as the 'Guest Celestial Object of the Year,' with a focus on ESA's role in the upcoming Artemis 2 mission. The event will also feature classroom activities during Mars Hour, offering free downloadable resources, and highlighting hidden heroes of the UK space industry.

Additionally, Mars Day 24 will extend its impact with a week-long exploration of Mars-related events and sessions for schools during Mars Week. This event prepares students for future challenges in space-related fields, fostering a sense of community and excitement about the wonders of science and exploration. It's a unique opportunity for schools to engage students in a real-world context, making science education more relevant and inspiring.

Participants are encouraged to register in advance to be the first to receive updates on the launch program. This virtual space odyssey invites individuals, schools, and families to embark on an educational and inspiring journey into the realms of Mars, the Moon, and beyond.

Product shown: Solar System Model (VTN12302103).

TRANSITIONAL SCIENCE CLUBS

Bridging the gap from Primary to Secondary

For many children the transition from Primary to Secondary school is a stressful experience[1]. It is a time of rapid physiological, psychological and social change underpinned by the fear of unknown. Schools often have transition days where primary pupils visit the secondary school, meet some of their 'soon to be' peers and teachers. But for a lot of children that's not enough and a longer term transition programme needs to be implemented.

Extra-curricular activities, such as a science club, can really benefit children who need a longer, and more in depth, transition. The benefits of extra-curricular activities are well researched, social development, community involvement, character development among others[2] all of which are essential to a successful transition. School based extra-curricular activities are also particularly important for children from disadvantages backgrounds who often can't access out of school clubs[3].

Science clubs lend themselves particularly well to supporting children's transition from primary school to secondary school. Science is generally a popular subject among primary school pupils and the possibilities for exploring beyond the curriculum make science clubs a brilliant choice for a transition project. There is lots of opportunity for collaboration, project-based activities and practical investigations supported by excellent resources such as My Science Club.

Transition science clubs can be run in a variety of ways to support groups of children in different situations and with different needs. They are best initiated by the secondary school contacting nearby primary schools to offer support with transition.

Secondary school-based clubs

Primary children attend a science club which is run at the secondary school by secondary school staff. These clubs allow children to visit the school in an informal situation, meet some of the staff and their future peers. Running over 4 or 5 weeks clubs like this can have a huge positive impact on children who have anxieties over transition. Children can either sign up or be invited to attend depending on the situation. There can also be an option for parents, or teachers from the primary schools, to attend the first session to support pupils settling in to an unfamiliar environment.

Secondary pupil-led clubs

In this case secondary pupils can be trained up to deliver the science club in either the secondary school or a nearby primary school. They have the opportunity to talk to primary pupils about the secondary school experience while supporting them with some practical science.

Secondary supported clubs

In the third model the science clubs are run in individual primary schools supported by expertise from either secondary staff or pupils. Again, this format gives children the chance to meet with staff from the secondary school in an environment that they are familiar with and comfortable in.

It is possible to blend the transition science club models above to suit your own situation and the needs of the children that are been supported. Our experience is that running a block of extra-curricular activities as part of a transition programme has a huge positive impact on the children moving up from primary to secondary and helps the process of building relationships in advance of starting the new school year.

My Science Club produces high quality resources for educators to use to deliver outstanding science club experiences for children. The upper primary packs, covering Biology, Chemistry, Physics and Earth Science, are ideally pitched to support an extra-curricular transition programme in schools.

The Authors: Bryony Turford and Paul Tyler (pictured) are both primary educators with over 40 years of combined experience in teaching high quality science. In 2022 they co-founded My Science Club, a membership service for educators providing high quality science club resources for schools and the home learning community. Both Bryony and Paul regularly write articles and resources, and deliver teacher training, on a variety of primary science issues.

1: Evans D, Borriello GA and Field AP (2018) A Review of the Academic and Psychological Impact of the Transition to Secondary Education.
2: Christison C (2013) The Benefits of Participating in Extracurricular Activities. BU Journal of Graduate Studies in Education, Volume 5, Issue 2.
3: Donnelly M, Lažetić P, Sandoval-Hernandez A, Kumar K and Whewall S (2018), An Unequal Playing Field: Extra-Curricular Activities, Soft Skills and Social Mobility.

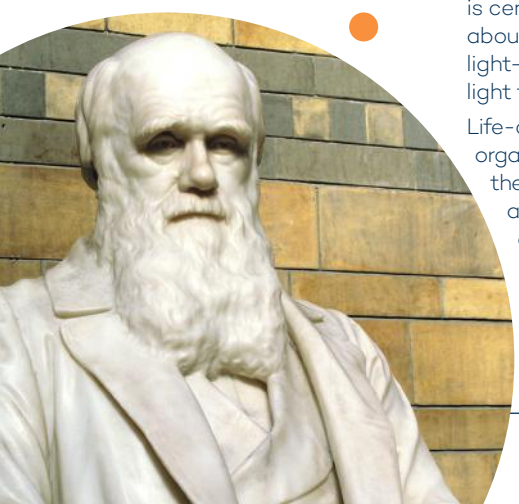
BRITISH SCIENCE WEEK

March 8-17, 2024

Happy 30th Birthday, British Science Week!

This annual ten-day celebration of science, technology, engineering, and maths (STEM) will take place between 8 - 17 March 2024. It is coordinated by the British Science Association and is funded by UK Research & Innovation (UKRI), aiming to encourage people of all ages to engage with and appreciate science in various ways.

The week typically involves a wide range of events, activities, and initiatives that take place in schools, museums, universities, and other institutions across the country. These activities are designed to make science more accessible, interesting, and fun for people of all backgrounds.



The theme for 2024 is 'Time', which is key to many discoveries in science, technology, engineering, and maths. Evolution looks at how plants and animals changed over a long period of time; the Earth's movements show us why we have seasons and different time zones. In fact, the study of all celestial bodies in our universe is centred around time; we talk about stars and planets being light-years away – the distance light travels over a year.

Life-cycles are all about how organisms grow and die during their time on our planet. The average human lifespan is almost 73 years. You could investigate the lifespan of other animals and how they spend their time.

Scientific innovations are also intertwined with time. The passing of time prompted the invention of ways to mark it, from the sundial to the pendulum clock to digital clocks – where would we be without them? Time is also vital in engineering; complicated machines have moving parts that all need to work in time with each other for the machine to work smoothly. Can you think of any?

Perhaps you could consider the issue of food waste by thinking about how passing time impacts different foods. We need to use this knowledge to reduce food waste; perhaps future inventions will help.

'Time' as a theme offers a huge range of topics to delve into as part of your British Science Week 2024 activities. Getting involved in British Science Week is really easy, and you can take part in lots of different ways by visiting **britishscienceweek.org**

Download a FREE Activity Pack

There are activity packs for children and young people from under 5 to around 14. These activity packs are a one-stop shop to support you during British Science Week, and you can use them all year!

The activities promote cross-curricular learning and break down the stereotypes surrounding science, technology, engineering, and maths (STEM).

British Science Week as an opportunity to link STEM to other curriculum subjects and to your students' own backgrounds, lives, and interests. The activities included are for students to complete in any setting, whether that's in school, in a club, or at home.

Poster Competition

Using the board theme, 'Time', children and young people are encouraged to create posters on a wide range of topics. From time-telling technology to how animals spend their time, and much more – there's no shortage of ideas!

The judges will assess entries based on creativity, clear and accurate content related to a STEM topic, and effective communication that engages the audience. Members of the British Science Association will shortlist entries, and a panel of judges will select a winner per category. The two runners-up in each category will be uploaded to Facebook, and the public will decide on a fifth 'popular vote' winner.

Winners in different age categories of this year's competition can receive exciting prizes such as 3D information books, AD magazines, animal adoption packs, art posters, buildable playsets, digital adventure picture books, eco bags, experiment book sets, family tickets to the Brooklands Museum, space-themed prizes including a fun branded bookmark, door hanger, sweets, glow-in-the-dark stars, and a pack of astronaut food, as well as sticker books, SuperQuesters books, and vegetable books.

The closing date for entries is at 6pm on Friday 31 March 2023. For more information, rules, and terms and conditions, visit **britishscienceweek.org**

VITTA-Time

Not one to miss out on the excitement, VITTA Education has put together a 2024 activity pack, designed to dress up your learning space and inject a burst of fun into those final minutes of your science lessons!

Launching with a bang in mid-January 2024, this pack is packed with Printable Bunting, Fact Sheets, and Quiz Sheets that are sure to spark enthusiasm.

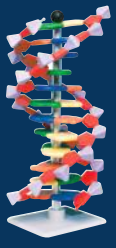
DOWNLOAD A BRIT OF THE GOOD STUFF...

Download our previous activity pack and set a reminder to be notified for the 2024 pack online at **vittaeducation.com/bsw**

BEST OF BRITISH

Showcasing innovation and quality here are three top-selling products from British companies, that meet the diverse demands of our customers.

A frontrunner in storage solutions, **Gratnells** trays come in a palette of 40 colours and four heights to provide a combination for any classroom.



Molymod molecular models are designed for chemistry, biochemistry, and biology education, spanning from KS3 to University level.

Completing the trio is Nickel-Electro's **Clifton Laboratory Equipment**, providing high-quality lab gear that lasts.

Product shown: Molymod 12-Layer DNA Kit (VTN12301872).

CLEANING UP FOR CANCER

Steve Young, Business Development Coordinator at Nickel Electro, is turning jewellery cleaning into a sparkling opportunity for goodwill, all in the name of saying 'thank you' to MacMillan Cancer Support.

In a heartfelt endeavour inspired by the organisation's incredible support during his wife's battle with breast cancer, Steve's initiative goes beyond the surface sparkle of gems and is a wonderful symbol of gratitude and kindness.

"MacMillan Cancer Support played a big part in our lives when my wife was diagnosed with breast cancer. The help and support that we received was unbelievable. She has since been given the all-clear. I thought the jewellery cleaning and donating the total would be a good way of saying thank you."

Steve and his colleagues at Nickel Electro have proudly proudly raised £275.00 in 2023 from various shows and events around the UK. This sum, though monetary, symbolises the collective goodwill and support from everyone touched by the cause. It represents the power of unity in the face of adversity, turning a small act of kindness into a significant contribution.

Starting with the ASE Conference in January, Steve and his team are looking to raise even more in 2024. So why not give your jewellery a quick dip for a few quid when you next see them!

MACMILLAN CANCER SUPPORT

 Products shown: Clifton Unstirred Water Bath (VTT12300746), Lascells E-Field Detector (VTT12307039), BMS EduLed FLQ (MIB570011).

SWAP THE DARK DAYS FOR A VITTA DISCOVERY DAY

It doesn't have to be all doom and gloom as we wait for the sun to shine brightly again, especially if you're looking to illuminate your knowledge and understanding of a few choice topics with help from our product expert Silas.

Dive into the full range of science equipment available from VITTA and find out more about a specific item or range with a **Discovery Day.**

Choose from our most requested days or discuss your specific needs with our team for a tailored solution:

Next-Gen Data-Logging with PASCO

Discover the power of PASCO Scientific, exclusively available from VITTA Education in the UK. PASCO designs and manufactures industry-level lab equipment to offer curriculum solutions for schools, colleges, and universities in physics, chemistry, biology, and environmental science. Choose from a range of award-winning wireless data-logging sensors, advanced structure sets, and software solutions that connect students directly to science and STEM concepts.

Much More than Meets the Eye: BMS Microscope Journey

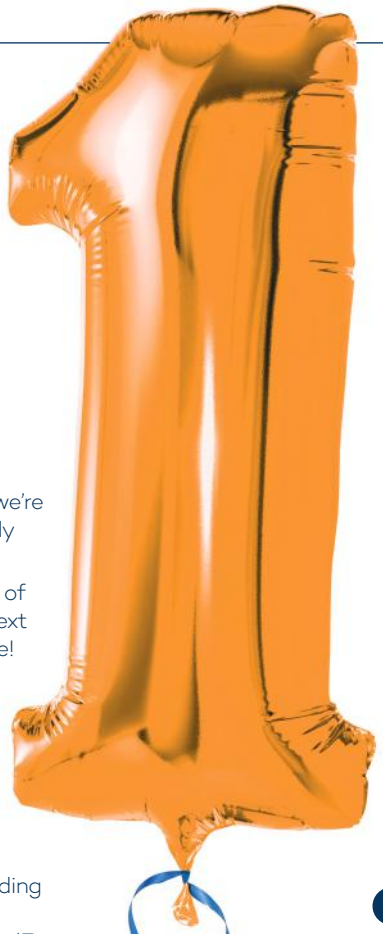
BMS Microscopes provides a wide range of equipment, parts, and accessories that are suitable for all levels of education from primary school to university. Compound, stereo, and digital microscopes are complemented by a catalogue of accessories including digital cameras and lighting to help bring classroom demonstrations to life. Other products are also available to support your lessons along with easy, hands-on primary science equipment to introduce the micro-world to a younger audience.

Silas' enthusiasm for science and education shines through in the exciting workshops he conducts and the joy they find in helping others explore the world of science.

Book a **FREE** 15-minute Discovery Call with Silas or arrange a Discovery Day with a member of our team.

Scan the QR Code to find out more or book online at **vittaeducation.com/discovery**

IT'S BEEN A VERY BUSY FIRST YEAR



HAPPY 1ST BIRTHDAY VITTA!

Yes, where has this last year gone... VITTA is officially 1-year old and although we've had our teething problems, as most youngsters do, we're no longer crawling but standing proud on our own two feet and ready to run full speed into 2024!

We launched **VITTA Rewards** just after the start of 2023 and plenty of you have already got a good pot of points to spend towards your next order or on our range of VITTA Treats – just don't forget they're there!

Competing with world-issues and supply chain issues as a result, we've invested heavily in our inventory and stock listings to ensure delays on over 1000 everyday essential lines are a thing of the past. **Next Day Delivery** is also available on all in-stock items when ordered before 1pm the previous day.

We've also spent time improving your **online shopping** experience with a user-friendly main menu upgrade and easy to navigate customer dashboard. Like flipping through a catalogue, it makes finding items easier for all shoppers. The layout helps you quickly discover educational products, and transparent tracking through DHL and FedEx keeps you informed. See the next page for full details.

We're dedicated to customer satisfaction, which is currently at a very positive **87%**†, and we thank you for all your feedback (the good and the bad) to continue to improve further and keep raising the bar.

Within the sector itself, the name VITTA is no longer a stranger with the help of this, our VITTA Magazine reaching 1000's of you each term and the release of the first edition of our comprehensive T-Level Science handbook, a dedicated resource crafted in response to the questions and concerns voiced by schools and colleges.

Designed to tackle the critical challenges T-Level providers face today, it offers valuable insights into industry placement support, course expertise, recent case studies, and essential equipment for a successful T-Level experience. To get your copy of this indispensable guide, whether in digital or hard copy format or if you would like to request a lab list, please visit **vittaeducation.com/T-Levels**

TAKE CONTROL OF YOUR SCIENCE SUPPLIES WITH VITTA

Get all the information you need, anytime 24/7 straight to your fingertips with VITTA. You can view past order history, check invoices and make payments all from your My Account dashboard when you log-in at **vittaeducation.com**

You can also create, send and order from saved quotes or check out your VITTA Rewards balance. It's all there whenever you need it.

- Real-time stock and product availability.
- Dynamic shopping. Build your order on multiple computers across multiple days – even on mobile!
- Save and email the items from your basket to anyone. Simplify your PO approval process and involve your colleagues for their input along the way.
- Easy one click re-ordering.
- Control budget and spend with Payment on Account,helping to consolidate invoicing and payments.
- View, share and convert any saved basket quotes into an order with just one click.
- Download all of your invoices and easily see outstanding balances from your account dashboard.

SPARK CONVERSATION!

In 2023 we partnered with LaBLiFe, a fresh online community for lab technicians, science teachers, and industry scientists, offering a supportive platform for sharing knowledge, ideas, product reviews, and training. LaBLiFe features diverse content such as video experiments, reviews, tips, downloadable resources, and a networking zone. Engage in discussions on the forum or social media and subscribe to the monthly newsletter for access to promotions, latest content and competitions.

Join us in championing the daily escapades of the scientific community online at **LaBLiFe.co.uk**

DON'T MISS OUT!

We love giving you the best deal we can on your science supplies, so when there's an offer or promotion running do remember to let your finance department know about it before they order. From free delivery codes, free sweets and more, don't let a good deal go to waste!

KEEP ON TOP OF THE LATEST VITTA NEWS

Sign up to our monthly newsletter for all the latest product, sector and VITTA news – in your inbox and at your fingertips! Plus, if you haven't already, you'll get **5% OFF** your next purchase* as a thank you.

Don't miss out, sign up today at **vittaeducation.com/newsletter**

*Terms and conditions apply. See website for details. †Average customer satisfaction score. December 2023.

SPRING TERM SCIENCE SAVINGS...

£50 OFF

When you buy a PASCObot (PS-2994)

Use code ST231

Offer ends 31/03/24. One use per transaction. Delivery charges may apply. See website for full terms and conditions.

500 POINTS

When you buy any EduLab trolley from the range

Use code ST232

Offer ends 31/03/24. One use per customer. Delivery charges may apply. See website for full terms and conditions.

SAVE £20

When you buy Adam 600g Precision Balance (VTT12300359)

Use code ST233

Offer ends 31/03/24. One use per transaction. Delivery charges may apply. See website for full terms and conditions.

10% OFF

On every microscope purchase

Use code ST234

Offer ends 31/03/24. Cannot be used in conjunction with any other offer. Deduction will apply to all miscroscopes in your basket. Delivery charges may apply. See website for full terms and conditions.

150 BONUS POINTS

Boost your VITTA Rewards balance with any order! **Use code ST235 at checkout**

Offer ends 31/03/24. Two redemptions per customer. Delivery charges may apply. See website for full terms and conditions.

THANK YOU FOR BEING A VITTA READER!

As always, we are eager to enhance your experience, and your feedback is crucial in keeping our magazine fresh, insightful and valuable to you. The Spring Term issue is a testament to our commitment to delivering engaging and insightful STEM education content.

We would greatly appreciate your thoughts and opinions on the articles, features, and overall design. Your feedback will not only help us understand what resonates with you but also guide us in shaping future editions to better meet your interests.

Whether it's constructive criticism, suggestions for improvement, or even compliments on what you enjoyed, your insights are invaluable to us. Thank you!

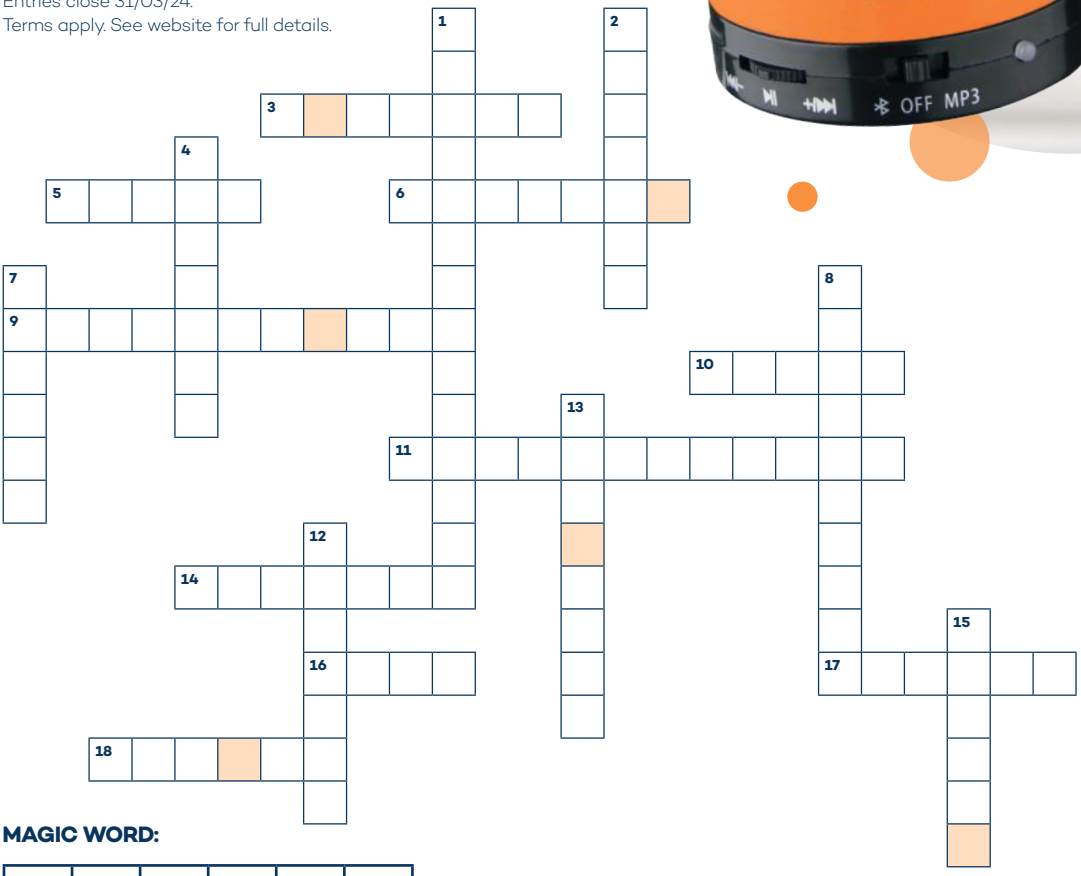
We look forward to hearing from you. Please go-ahead and **scan the QR Code** to submit your feedback.

TAKE A BREAK & WIN!

Find the magic word for a chance to WIN 1 of 5 Bluetooth Speakers

Solve the clues, complete the crossword and decipher the 6-word anagram from the highlighted letters. Take a pic and email your answers back to **win@vittaeducation.com**

Entries close 31/03/24.
Terms apply. See website for full details.



MAGIC WORD:

DOWN

1. Plants can start doing this again
2. This Stephen was a marvel
4. 24 carat mould
7. It's a new term
8. It's the gateway into science
12. Baby sheep are on the way
13. Considered the first computer programmer
15. The pollen producer

ACROSS

3. Save over £85 with these
5. Life goes on
6. A Nobel Prize winner in chemistry
9. Honey, I'm home
10. There's so many things you can do
11. Time to give them a cheer
14. Save up for a treat with VITTA....
17. Hop to it
16. Avoid feeling like this with VITTA
18. A natural selection for British Science Week

Well done to our Autumn Term winner: Robyn Giles, Physics Science Technician, Aylesbury Grammar School.

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 Spring Term magazine.

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5	EduLab Moss Safari Explorer Kit	TBC
12	PASCO Wireless Carbon Dioxide Sensor	PS-3208
21	PASCO Wireless Heart Rate Sensor	PS-3206
21	Heart Model	VTN12301740
21	SATZ Timer	VTT12302297
27	EduLab Power Supply 0-15v	VTT12302917
27	Adam Balance Dune	VTT12300414
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27	EnduraFlex Tubing	VTT12302404
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