

Leading suppliers for tomorrow's scientists

VITTA

AUTUMN TERM 2023

LAUNCH THE NEW TERM WITH A BIG BANG

Out-of-this-world ideas
for Space Week | p16

LOCK-IN TO MORE REWARDS

Boost your VITTA Reward
Points when you spend | p3

TREAT YOURSELF WITH SCIENCE

Spend your VITTA Reward
points on new VITTA Treats | p20

NEW TERM, NEW PRODUCTS

Explore a selection of new
products on offer | p28

ALSO INSIDE...

T-Levels, Biology Week, Advice,
Downloads, Competitions and more!



The latest industry news, deals & digest from VITTA Education...

WELCOME TO THE AUTUMN TERM EDITION OF VITTA MAGAZINE

Inside this issue:

3 | Back to School...

Your chance to WIN a
£500 VITTA gift card, plus
gain extra reward points

6 | Join the ASE

Find a shoulder to lean on
with ASE membership

12 | Chemistry Week

Show off your chemistry
skills with these ideas

14 | Be Smarter, with a PASCO Smart Cart

Discover what to do with
this great bit of kit

20 | Making Science More Rewarding

Treat yourself to VITTA
Rewards and VITTA Treats

25 | Introducing T-Levels

Get up-to-speed on the
new curriculum options for
your science students

37 | Puzzling

New term, new puzzle,
new prize! Take a break
for a chance to win!



WHAT'S ON AND WHERE THIS AUTUMN & BEYOND

As we get back into the swing of things and kick-off the autumn term the VITTA team will once again be out and about across the country at a host of workshops, tech-meets and conferences.

New Scientist Live 2023

7-9 October
ExCel, London



Lab Innovations

1-2 November
NEC, Birmingham

ASE Conference

4-6 January
University of
Northampton



Keep up to date with VITTA and take a look at the dates for all
science-related days and events at vittaeducation.com/events

BEAT THE BACK TO SCHOOL BLUES WITH VITTA

As autumn arrives and the familiar excitement of a new academic year fills the air, we extend a very warm welcome back to the Autumn Term edition of VITTA magazine.

In only our second ever edition, VITTA magazine is back and crammed full with featured inspiration for upcoming STEM celebration events, information from our friends at ASE with details on January's unmissable ASE Annual Conference, and a focus on the latest curriculum developments, including T-Levels, which will undoubtedly shape the educational landscape for the months and years ahead.

Additionally, we proudly showcase a thoughtfully curated assortment of lab equipment and resources designed to cater to diverse educational needs. From state-of-the-art laboratory equipment that bolsters advanced research to

in-stock essentials and everyday affordable glassware that keeps your lessons ticking over, we've got you covered.

There's more inside about our VITTA Rewards programme with new ways to save and spend points, plus a chance to win a year's supply of Hobnobs in this terms' break-time teaser.

We would like to thank all this edition's contributors and without further ado, we thank you for being a part of VITTA. Have a great term and see you soon!

We hope you love this term's edition and we'd love to hear your thoughts – drop us a line on hello@vittaeducation.com

Wendy & Team

Editor & Brand Manager



WIN A £500 VITTA GIFT CARD...

Grab hold of your science gear and keep your cupboards stocked with VITTA from September, and with every order placed online before 22/12/23 you will automatically be entered into our prize draw to WIN a £500 VITTA voucher to spend on science. Plus there's also 3 runner-up prizes of £50 too!

Every order placed online 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!

See website for full terms and conditions.

And it doesn't stop there... Spend over £1500 online with VITTA Education during September to lock-in extra reward points on all your online orders placed during the 23/24 school year.

See page 20 for further details.



SCIENCE WITH SILAS

Meet VITTA product specialist Silas Norman, as we talk everything from the magic of flame tests to embracing T-Levels and the thrill of finding the perfect solution for every customer.

Q: Can you tell us about your academic background and how you got started in the science and business fields?

During my school years, like many others, I took the science GCSE. However, I opted for the separate science option, which allowed me to delve deeper into specific subjects. Later, in college, I pursued A-levels in physics, chemistry, and accounts because I found them intriguing. Combining my interest in science with the business world, I chose accounting alongside.

Q: What brought you to VITTA, and what is your role?

At VITTA, I work as a product specialist. My main responsibility is to have comprehensive knowledge of our products so that I can offer the best recommendations tailored to customers' needs. This involves understanding all our product ranges, conducting training sessions, and staying updated on industry trends. I make sure that when I deliver products, I also provide the necessary training, ensuring customers are fully equipped to use them effectively.

Q: What aspects of your role excite you the most?

There are two things that truly excite me in my role. Firstly, I love encountering diverse set-ups and hearing amusing stories from individuals working in the science industry. Secondly, I take great pleasure in working with technicians and

the head of science, guiding them from uncertainty to providing them with a customised equipment and training package.

Q: What do you appreciate most about the science and STEM fields?

What I truly appreciate about the science and STEM fields is the curiosity to understand the underlying reasons behind how things work, rather than simply accepting them at face value. This mindset lays a strong foundation for various career paths, ranging from medical to research, mechanics, and beyond.

“...Who wouldn't enjoy a dynamics cart that you can wave around to demonstrate the centripetal force?”

Q: Do you have any favourite practical activities or experiments that you enjoy sharing with others?

Absolutely! One of my favourite practical activities is the flame test. It's a relatable experiment that allows people to grasp the science behind phenomena like fireworks. Conducting flame tests offers various methods, and witnessing a beautiful purple cloud emerge is truly impressive.



Q: What's your preferred piece of equipment to demonstrate during workshops?

The PASCO Wireless Smart Cart is my top choice. Who wouldn't enjoy a dynamics cart that you can wave around to demonstrate the centripetal force? It's a fantastic way to engage participants and showcase principles in a hands-on manner.

Q: How do you ensure excellent customer focus in your role?

Customer focus is paramount for me. I take pride in being the go-to person for customers, even when they are uncertain about their needs. I relish answering their questions, making recommendations, and helping them identify their precise requirements. Often, people realise that what they initially thought they wanted may differ from what they truly need. Guiding them on this journey of exploration to find the right solution is immensely rewarding.

Q: Can you tell us more about the VITTA Discovery Days and Workshops you conduct?

At VITTA, our Discovery Days and Workshops empower technicians with a profound understanding of the equipment, from setup to maintenance and its potential uses. This ensures

Looking to **explore the VITTA Education offering** or have a specific item or range you'd like to know more about?



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



informed recommendations and prevents redundant equipment purchases. For teachers, we emphasise practical applications of the equipment and explore ways to integrate science, coding, and STEM learning.

Q: What are your plans for the future? Any upcoming projects or workshops you're excited about?

Looking ahead, we are eager to offer workshops for T-Levels, as it's a relatively new course with limited available knowledge. We anticipate helping individuals gain a better understanding

of T-Levels, focusing on good practices, quality schedules, and utilising higher-level equipment effectively.

Q: Finally, what do you enjoy doing outside of work?

Outside of work, my passion lies in sports activities, especially football and go-karting. Engaging in outdoor activities like this keeps me active and brings joy to my life. Plus who doesn't love adrenaline and endorphin pumping activities!

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.

Learn more about VITTA Discovery Days and hands-on product workshops at vittaeducation.com/discovery



SHAPE THE FUTURE OF SCIENCE WITH ASE MEMBERSHIP

Join the ASE and become a member of our amazing community of professional support

The Association for Science Education (ASE) is a professional body and global network of science educators. We are advocates for excellence in science education, we support ongoing professional development and offer a welcoming and inclusive community of support for science educators both in the UK and abroad. By harnessing the power of our community and speaking with one voice on the issues that matter, we empower all science educators to deliver the best possible outcomes in their educational setting.

So why become a member? Whether it's to stay on top of current pedagogical thinking and science education news or to expand your professional and personal networks; whether you want to transform your science department or shape science education policy at the highest level, you'll find that membership of the ASE can help and could become a substantive part of your professional journey.

Lifelong professional learning

We know that staying up to date with developments in the science education field is of the utmost importance to help shape future generations of scientists, which is why our CPD is led by experts in the field to give our members the highest quality of learning.

As well as access to a wide range of face-to-face events and online webinars that help members advance specific skills, we also offer a number of in print and online journals that help the science education community keep their finger on the pulse of emerging issues and developments.

A community of support

One of the most popular aspects of ASE is the community of support it offers. ASE membership numbers in the many thousands – and as a result the breadth of knowledge and experience held by the ASE membership is very wide indeed! In practice, this can help you to find others in your profession with whom you can share and learn about best practice, from whom you may feel inspired, supported, understood, motivated or just heard!

As an organisation, the various committees and groups responsible for steering ASE policy and strategy are all made up of volunteer members, and we are lucky to be able to call upon the expert advice of our membership in many areas.

Speaking with one voice

ASE membership plays a significant role in supporting the advocacy and policy work we do to shape national science education policy, promote curriculum innovation and evidence-informed practice. By being a part of ASE, our members actively contribute to the advancement of science education at both local and national levels, making a positive impact on the future of the field and the experiences of science educators and learners alike.



**JOIN THE ASE TODAY**

To find out more about ASE membership, the benefits and discounts on offer, and to join ASE for as little as £25 per year, please visit ase.org.uk/membership

**SAY HELLO TO THE VITTA TEAM IN 2024...**

We'll be back at the ASE Conference with another trolley to give away... Keep an eye out later this term for more details!

"One of the most popular aspects of ASE is the community of support it offers... as a result the breadth of knowledge and experience held by the ASE membership is very wide indeed!"



ASE Annual Conference 2024

4th-6th January 2024 | University of Northampton

Scan to find out more....



GET *Move* BACK FROM SCIENCE

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

Science is now even more rewarding with VITTA, and from this September there's even more ways to build up your points' balance and even more ways to spend your points, with a great new selection of VITTA Treats! Visit our website or see page 20 for more details.

Welcome to **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 product purchases 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 in your new and improved customer portal.

Request an account and start saving...

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



* * * _ _

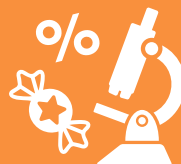
Log in or request
a VITTA account



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 at vittaeducation.com/rewards





VITTA treats!



scan to start saving

All the information you need, anytime and at your fingertips...

Did you know... You can view all your order history, check invoices and make payments all from your My Account dashboard. 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, online at **vittaeducation.com**





**EAT
SLEEP
SCIENCE
REPEAT**

SPARK CONVERSATION AT LaBLiFe.CO.UK |    

La B Li Fe

Money, Money, Money

A step-by-step guide to grant applications

Stacey Wheeler (RSciTech), LaBLiFe Ambassador and Senior Technician at Mounts Bay Academy, brings over a decade of experience. As a STEM Learning Associate Facilitator, she established a Cornwall-wide community of Technicians, offering free CPD training, equipment sharing, and building confidence through regular face-to-face meetings.

As a Science technician, I consider myself incredibly fortunate. My role allows me to work in a school without the added responsibilities of planning lessons, marking work, or grading exam papers at the end of each term. Instead, I get to work behind the scenes, focusing on preparing practical science activities and creating solutions. I constantly look for fun and inspiring lessons to teach the next generation of scientists.

As the year quietened down towards the summer, I used my free time to explore ways of raising funds for the department. To my surprise, I discovered numerous opportunities to bring in money for the school. It just takes some time and effort to explore the possibilities. While I recognise my good fortune in managing science practical requests, I am aware that many prep rooms face challenges due to being understaffed and underfunded.

This is all the more reason why we should see science technicians as a coveted species and it highlights the importance of acknowledging these technicians as invaluable contributors. Our unique skills and talents are not only essential within schools but also extend across various industries. If you have a technician on your team, it is vital to make an effort to retain them, provide proper training, and appreciate the true value of their job.

I have found a way to expand my role by actively applying for grants, and I am delighted to share that my efforts have been recognised in my place of work, all the way to the top of the food chain.



Beyond simply enhancing our knowledge, applying for grants allows us to build character and introduce new ideas into the school environment.

For those who don't have a science club yet, applying for a grant to start one is a fantastic idea. Likewise, if you desire a poly-tunnel in school or want to delve into coding, seeking out suitable grants can make your dreams a reality!

Admittedly, applying for grants can be time-consuming and competitive, but the satisfaction of winning is genuinely rewarding.

My passion for this stems from wanting to provide as many opportunities as possible for our students. I firmly believe that their experiences in school can have a profound and inspirational impact on their lives.

For those considering applying for grants, here's my helpful step-by-step guide:

Plan ahead: Clearly define what you want to achieve, why it's important, and how you intend to reach your goals.

Create a detailed budget: Outline precisely how you'll spend the grant money, including items like chemicals, beakers, poly-tunnel covering, coding robots, etc. Provide accurate pricing to calculate the total cost effectively.

Give your project a captivating name: Whether it's "Science Club," "Potion Practice," or "Growers Tunnel," a catchy and unique title can make your application stand out.

Dedicate sufficient time: Preparing grant applications requires time and effort, but having all the necessary information and plans in place will make the process more manageable and efficient.

Provide relevant details: Be ready to share your charity number and pupil premium information, and compellingly explain why your students deserve this valuable opportunity.

CHEMISTRY WEEK 2023

November 5–11, 2023

Celebrating Chemistry Week is a fantastic opportunity to showcase the wonders of chemistry and the remarkable impact it has. It supports advancement in healthcare, climate, environment, industry, and more, and is essential in many ways, like developing medicines, safeguarding the environment, and promoting economic growth.

VITTA Education has a wide variety of equipment, apparatus and chemicals to bring chemistry week to life. Why not give these a try..

Chemical Magic Show: Captivate all ages with the magic of chemistry by using chemical reactions and scientific principles to create mind-blowing tricks and illusions.

As it's the season for fireworks, the Rainbow Flame Test is an ideal way to engage students with chemistry. This classic flame test is a qualitative analytical technique used to identify certain elements present in a sample by observing the characteristic colours produced when the sample is introduced into a flame – read more about the 'Science Behind Fireworks' on page 35 and protect bench tops with Bench-Armour heat-proof mats (left).

Periodic Table Card Game: Encourage students to learn the elements of the periodic table and build chemistry-confidence with a fun card game that includes 5 different ways to play.



Elephant's 'Halloween' Toothpaste: Try the popular and spectacular 'messy' chemistry demonstration involving the rapid decomposition of hydrogen peroxide by using a catalyst, typically potassium iodide, to produce a large volume of oxygen gas and water. Throw in a pumpkin for some Halloween theatrics and keep students engaged for the whole lesson! See page 22 for all the details you need.



Chemistry in the Kitchen

Explore how ingredients interact, the role of temperature, and how chemical changes lead to delicious food. From the process of caramelisation to pH indicators.

A quick and easy pH investigation can be done with either litmus paper or the PASCO Scientific Wireless pH sensor (PS-3204):

Fill 4 x 250ml beakers each with one of the following ingredients:

- vinegar
- baking soda solution
- window/glass cleaning spray
- orange juice

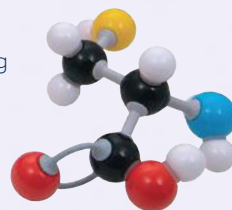
Make predictions and record and graph the data!



Molymod Model-Off:

A great tool for hands-on learning and understanding molecular structures, organise team-based matches where students collaborate to build intricate molecular structures based on given criteria. These challenges can be based on real-world applications, like drug design or material science.

You can also create puzzles or challenges where students must use Molymod models, like the Molymod Molecular Organic Student Set (VTN12301961) to solve hypothetical molecular problems. For instance, they might have to design a molecule with specific properties or fit certain atoms and bonds into a given space.



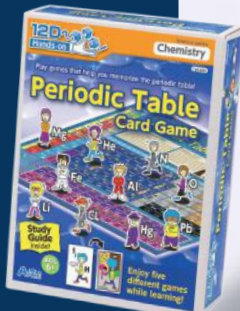
WIN 1 OF 3 Periodic Table Card Game for Chemistry Week!

For your chance to win, simply answer the following question and send your details to win@vittaeducation.com

Q. What is the longest word that can be made using only SINGLE LETTER elements from the periodic table?

You can re-use letters.

Good luck!



Let us know what you get up to... Share your Chemistry Week activities on our social pages and read more about our updated glassware range on page 33.



THINGS TO DO WITH PASCO

#1: PASCO Smart Cart

The PASCO Smart Cart is an amazing device that brings the wonders of physics to life in the classroom. With its advanced features and customisability, the Smart Cart offers an extensive range of experiments and uses.

There's a lot of physics we can do with a Smart Cart, too much for one article so we delve into some of the best applications of physics topics that can be explored using this remarkable device, providing educators and students with a comprehensive overview of its capabilities.

Let's kick off with kinematics...

1. **Acceleration on an incline**
2. **Freefall**

One-dimensional motion is just the beginning when it comes to the Smart Cart. By studying acceleration on an incline and even freefall, students can gain a deeper understanding of fundamental principles of motion. The Smart Cart allows for precise measurements and analysis, enabling students to explore kinematic concepts with accuracy and clarity.

How about we do some dynamics? Newton's Laws of Motion are brought to life with the Smart Cart.

3. **Newton's First Law**
4. **Newton's Second Law**
5. **Newton's Third Law**

Through experiments involving Newton's First, Second, and Third Laws, students can witness

first-hand the relationship between force, mass, and acceleration. The Smart Cart's built-in force sensor, encoder wheel, accelerometer, and gyro provide the necessary tools for investigating dynamic phenomena.

Next stop, work and energy...

6. **Work-Energy Theorem**
7. **Hooke's Law**

The Smart Cart is a powerful tool for studying the principles of work and energy as its customisability allows for a wide range of work and energy applications, fostering a comprehensive understanding of these fundamental concepts. Students can analyse the transfer and transformation of energy in various systems.

The customisability is a key element of why the Smart Cart is loved by physicists.

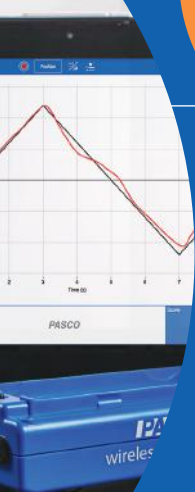
Another great application includes topics in momentum...

8. **Elastic and inelastic collisions**
9. **Explosions with equal and unequal masses**

The Smart Cart facilitates the exploration of momentum and its related phenomena. By investigating elastic and inelastic collisions, students can observe the conservation of momentum and understand the principles underlying these interactions. Additionally, experiments involving explosions with equal and unequal masses provide insights into the transfer of momentum during dynamic events.



Product shown: PASCO Wireless Smart Cart (ME-1240)



Watch the video and see these great PASCO Wireless Smart Cart ideas (and more) in action!

With a built-in force sensor, encoder wheel, accelerometer, and gyro, there are so many things you can do with a PASCO Smart Cart!

Let's look at some of those additional applications...

10. Simple harmonic motion

11. Centripetal acceleration

12. Centripetal force

Beyond the core physics topics mentioned, the Smart Cart opens doors to further exploration. Students can investigate concepts such as simple harmonic motion, centripetal acceleration, and centripetal force. These experiments allow for a deeper understanding of oscillatory motion and circular motion, expanding students'

comprehension of more complex physical phenomena.

The versatility, combined with its advanced features, makes the Smart Cart an invaluable tool in the student lab environment, but it's also a very useful tool for demonstration purposes. By engaging in experiments across various physics topics, students can develop a profound understanding of the principles that govern our physical world. The Smart Cart empowers students to become active participants in their learning journey, fostering a love for physics and paving the way for future scientific pursuits. Embrace the possibilities offered by the Smart Cart and unlock the wonders of physics in your classroom.

PASCO

Shop the PASCO Smart Cart and wider range exclusively at **vittaeducation.com** – including PASCO's five-year warranty.

**New
Scientist
Live**



**WIN a pair
of tickets
with VITTA**

For your chance to win,
head to **vittaeducation.com/NSL23**

THE WORLD'S GREATEST FESTIVAL OF IDEAS AND DISCOVERIES

SAT 7 - SUN 8 OCT | SCHOOLS' DAY MON 9 OCT EXCEL LONDON AND ONLINE

IF I WAS AN ASTRONAUT...

Space Week: October 4-10, 2023

World Space Week is observed annually to celebrate space science and technology's contributions to humanity's advancement. It highlights the significance of space exploration and its impact on our lives, commemorating significant milestones in space exploration.

If you're looking for some great ideas on how to celebrate? Here are a few suggestions!

Space or Sci-Fi Themed Movie Marathon: Watch favourite movies like Star Trek, Star Wars, Apollo 13, Armageddon, Interstellar, Gravity, The Martian, Guardians of the Galaxy, WALL-E, Hitchhikers Guide to the Galaxy, E.T. and more with students and colleagues to explore the wonders of space.

A Celestial Simulation Activity: Use the Lascells Gravity Well (top right), a captivating piece of apparatus with marbles and a large metal ball, which allows students to visualise the attraction of massive objects due to gravity. Consisting of a flexible sheet that simulates curved spacetime and a collapsible frame, the kit brings the study of gravity to life. This activity covers model star formation, orbital periods, force with mass variation, and Earth-Moon trajectory.

Visit Your Local Science Centre and Space Exhibits:

Arrange a guided tour or space talk at a science centre, aerospace museum, or education centre to delve into fascinating space exhibits.

Space Trivia Test: Aiming to engage and challenge individuals of all ages, from budding science enthusiasts to seasoned learners, you will find scientists fact sheets, printable science-inspired bunting and stimulating quizzes including a Space themed quiz to keep your students entertained! Visit the downloads area on vittaeducation.com and discover a range of fun activities.

Explore Planetary Motion: Experience the Solar System Model, a 3D representation of the sun and eight planets, demonstrating their relative positions and movements. The Eisco Solar System model includes movable metal rods, a sturdy base labelled with months, and an experiment guide for in-depth exploration of the solar system's dynamics.

Space Inspired Listening Party: Ideal to accompany a star-gazing party or space-related science fair, we have created a playlist that's out of this world...



ASCELLS[®]

From the supermassive to the subatomic, Lascells have your Physics lessons covered

Deduce an approximate value for Planck's constant by monitoring the voltage at which an LED begins to emit light and its frequency and easily measure h to within 5%.

Planck's Constant Apparatus

VITTA Code: VTN12302496



Scan for more
product info



AVAILABLE
AT
VITTA
EDUCATION

WIN ME!

Join the Lascells' mailing list to be in with a chance
of winning a **Planck's Constant Apparatus!**

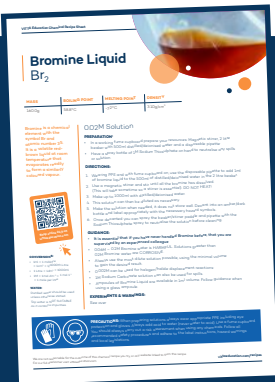
To enter, simply send your name, school and email address to
lascells@vittagroup.com. Competition entries close 14/12/23.
Winner will be announced on Lascells' Twitter / X feed (@lascells).

Lessons made easy at **lascells.com**

Designed, manufactured and supported in the UK

By entering this competition, you acknowledge and agree that your personal data provided during the entry process will be shared with Lascells for the purposes of administering and conducting the competition. Lascells will process this data in accordance with the General Data Protection Regulation (GDPR) and other applicable data protection laws.





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

Bromine Liquid 0.02M Solution

DIRECTIONS:

1. Wearing PPE and with fume cupboard on, use the disposable pipette to add 1ml of bromine liquid to the 500ml of distilled/deionised water in the 2 litre beaker.
2. Use a magnetic stirrer and stir until all the bromine has dissolved. (This will take sometime so a stirrer is essential). **DO NOT HEAT!**
3. Make up to 1000ml with distilled/deionised water.
4. This solution can then be diluted as necessary.
5. Make the solution when needed, it does not store well. Decant into an amber/darkbottle and label appropriately with the necessary hazard symbols.
6. Once decanted you can spray the beaker/stirrer paddle and pipette with the sodium thiosulphate spray to neutralise the solution before cleaning.

GUIDANCE:

- It is essential that if you have never handled bromine before, that you are supervised by an experienced colleague.

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

THE TECH FILES

PAUL COOK

Senior Lead Technician at ARK Burlington Danes Academy, Paul Cook is an advocate for recognising the pivotal role of technicians in practical student learning. His efforts focus on elevating the profile of technicians and emphasising the importance of well-resourced continuous professional development (CPD) opportunities.

With a strong commitment to science education and technician development, Paul has extensive experience spanning several years of service as a Senior/Head Technician across multiple schools in Essex and London.

Paul's expertise led him to become one of the six National Technician Advisors for the GATSBY technician project, supporting technician teams. His RSciTech registration and being an Association for Science Education (ASE) Technician committee member continually highlight his commitment to advancing the role of science technicians.

Championing Innovation & Training

Passionate about enriching student learning experiences, Paul designs and presents captivating demonstrations to bring scientific theories to life in a tangible and understandable way. He's gone beyond the ordinary by creating cost-effective homemade equipment to illustrate principles aligned with the National Curriculum.

Regularly sharing practical demonstrations through his social media channels and becoming a LaBLiFe ambassador, Paul is committed to fostering a culture of innovation and knowledge-sharing in science education.



Within his academy, Paul initiated ARK Technician Hub training days, offering hands-on activities and experiments. He shares insights from National Science Learning Centre (NSLC) courses and collaborated with STEM Learning Ltd to offer a tailored training program for the ARK academy network. The response has been exceptional, with science technicians from across the nation attending and enhancing practical implementation in various schools.

Paul has also become the first ever Secondary Science Technician awarded an Honorary Fellow at the Institute of Physics.

Paul's impact isn't confined to the academy; he's also formed valuable connections with feeder primary schools, providing crucial science resource support and insightful, well received visits.

Beyond local bounds, Paul's influence extends to events like the SciTech Conference, where he delivers workshops for the ASE and Institute of Physics. His expertise has even reached international shores, with workshops presented at schools in Abu Dhabi, Dubai, and Switzerland!

Read all about Paul on our blog and why not share your story and be recognised in next term's Tech Files.
Email hello@vittaeducation.com

reward YOURSELF AND THE TEAM WITH VITTA TREATS

Save up and spend your VITTA Reward points on a range of sugary treats, tools and team sharers...



Haribo Supermix 160g x3

Give your team a sugar boost!



200 VITTA Points

Stanley Multi-Tool

Fix almost every issue with the 14 in 1 Stanley Multi-Tool.

Bi-material handle offers better grip and comfort.



1000 VITTA Points

Electric Kettle

A good brew will solve any problem! Add this prep-room essential to your basket.



2000 VITTA Points

VITTA Beaker Mug

Say you love science with every sip as you enjoy a drink in our glass measuring mug.



500 VITTA Points

White Universal Lab Coat

Dress to impress and swap out the old with a new, clean, white lab coat. Size options available.



850 VITTA Points

Rubber Gripper

Protect hands and improve grip when handling hot beakers.



500 VITTA Points

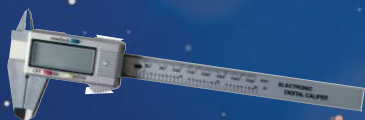


Educate, appreciate,
accumulate...
Get back a little bit
more with VITTA
Rewards & Treats!



Electronic Digital Caliper

Get measurements down to a T, with these carbon fibre composite digital calipers. Battery powered with an accuracy of $\pm 0.2\text{mm}$.



500 VITTA Points

Steppa Stoppa (Small)

Long lasting, versatile and ideal for chemicals at the back of the cupboard!



500 VITTA Points



LOCK-IN TO EXTRA REWARD POINTS FOR THE WHOLE YEAR

Spend over £1500 with VITTA Education during September and lock-in to extra reward points on all your online orders placed during the 23/24 academic year.

Earn 3 points for every £1 spent once you reach a combined spend of £1500 before 30th September 2023.



SPOOKY SCIENCE...

Halloween, 31st October 2023

The Elephant's Toothpaste reaction experiment is a great way to demonstrate the rapid decomposition of Hydrogen Peroxide with the catalyse of Potassium Iodide that students will love, and with Halloween on the horizon, this great visual chemistry experiment can be brought back to life with a bit of added pumpkin magic and mess...

You will need:

- A large pumpkin
- Tools to carve pumpkin
- Safety goggles
- Nitrile gloves
- Black bin liner
- 250ml narrow mouth conical flask
- A funnel – to fit in the conical flask
- 100ml beaker
- Hydrogen Peroxide (100vol)
- 2g Potassium Iodide crystals
- Washing up liquid
- Food dye (optional)
- 2x disposable plastic pipettes
- Bucket (for disposal)

What to do

1. Buy a pumpkin and use the carving tools to cut a hole in the top of the pumpkin and scoop out the insides.
2. Cut a hole in the bottom of the pumpkin large enough for the base of the conical flask to fit through, so it can sit flat on the desk during the demonstration.
3. Carve the face of your pumpkin making sure the mouth is low down so the 'toothpaste' can flow out.
4. Open up a bin liner and use it to protect the bench top.
5. Before you begin, ensure students are standing at a safe distance away from the demonstration.
6. Wearing safety goggles and gloves, measure 30mls of Hydrogen Peroxide into the 100ml beaker and, using a funnel, pour this into the 250ml conical flask, taking care to make sure the Hydrogen Peroxide does not come into contact with the neck of the flask.
7. Using the pipettes, add a small amount of washing up liquid (~2mls) and the optional food dye (~2-3mls).
8. Gently swirl the flask to mix the contents well.
9. With the pumpkin in the middle of the covered bench area, place the conical flask inside, through the hole in the base of the pumpkin so that it sits flat on the desk.
10. Next, carefully add 2g of Potassium Iodide into the conical flask (inside your pumpkin) and step back from the demonstration.



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



Clean up and disposal

Wear gloves and goggles when cleaning up after your experiment.

Place everything into a large bucket of water in order to rinse off and dilute any remaining Hydrogen Peroxide.

Once the pumpkin and bin liner have been thoroughly rinsed off, they can be placed into the normal waste and the remaining bucket of water can be poured down the foul water drain, flushing away with further water.

Ensure no traces of Hydrogen Peroxide are left on the work bench area.

Read the full blog online at vittaeducation.com/halloween

MAD FOR IT!

Organising a 'Mad Scientist' themed party or decorating the department can help spark curiosity among students. Here are some ideas to start you off:

- Create an atmosphere by decorating with lab equipment like microscopes, magnifying glasses, lab tools and placing "specimens" (plastic insects or plants) in jars.
- Use caution tape and "No Entry" signs around the area and arrange bubbling "potions" using coloured water and dry ice in beakers and test tubes.
- Kit everyone in coats and goggles, and then introduce hands-on science experiments, like crafting slime, simulating erupting volcanoes, or observing simple chemical reactions.
- Incorporate interactive science demonstrations like generating static electricity or bending light using prisms; both playful and educational!
- Perform 'science magic' tricks that appear magical but are, in fact, rooted in scientific principles.
- Host puzzle-solving activities and scavenger hunts!



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

Product Code:
VTT12300654



Microscope Slides



Auxiliary Lenses



Full HD Camera Kits (VTT12306929)

**Discover the wide selection of BMS Microscopes
equipment exclusively available at VITTA Education**

vittaeducation.com/bms

REVOLUTIONISING STEM EDUCATION:

CHANGING THE LANDSCAPE WITH T-LEVELS

As the world becomes more and more technology-driven, focusing on science education is more important than ever. With more funding and focus, can T-Levels really make science inclusive for all students?

T-LEVELS
THE NEXT LEVEL QUALIFICATION

T-Levels, which blend practical and academic study, offer 16-19-year-old students a pathway to high-quality technical education across STEM subjects.



T-Levels are a two-year qualification that is equivalent to three A-levels, combining classroom learning with on-the-job training.

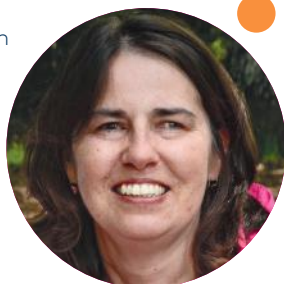
They equip students with the necessary technical skills, knowledge, and experience to enter the workforce with confidence, fully prepared to meet industry demands.

T-Levels represent a significant departure from A-Level programs, as they integrate classroom study, simulated workplaces, and a three-month industry placement, effectively bridging the gap between academia and the real world.

This makes T-Levels an excellent option for students who may find traditional academics challenging and prefer a more hands-on approach. The program provides them with practical skills and work experience, showcasing a range of competencies.

By merging traditional academic degrees with vocational education, T-Levels contribute to workforce diversification and the creation of well-paying jobs for people from all backgrounds.

Alison Ackroyd, a lecturer at MidKent College with over 25 years of experience working in the FE sector in London and the South East recently shared her experience with the Royal Society of Chemistry.



“My experience of the process so far is positive. Visiting our students in the workplace and hearing the overwhelmingly complimentary feedback has been reassuring in our decision to switch to T-levels.

The students’ professionalism shines through; we have been told by more than one employer that their performance matches or exceeds that of graduate recruits... It is a win-win situation with students returning to college more confident. Students are more able to contextualise knowledge in exams, such as the employer-set project – confidently handling Laboratory Information Management System (LIMS) databases and then communicating these results by presentation and collaborative discussion.”

Sounds good, but how does this impact schools and colleges? Implementing T-Levels requires substantial changes in the curriculum, timetabling, training, and infrastructure of educational institutions. Schools and colleges must demonstrate robust quality assurance mechanisms through a rigorous Ofsted inspection framework to offer T-Level provisions. This raises the standards for quality delivery and program development.

ACCESS THE SUPPORT YOU NEED FOR SCIENCE T-LEVEL SUBJECTS WITH VITTA

As a T-Level ambassador, VITTA Education champions T-Level Science and Healthcare Science. We endorse practical competency and aspire to bring science to life through real-world narratives.

VITTA is here to support you throughout your T-Level journey with the following:

- Course content and specification scoping
- Equipment fulfilment
- Equipment training and support plans
- Specialist funding applications
- Access to subject matter experts and industry networks



At VITTA Education, we strongly advocate for the integration of scientific theory and practical skills. We take pride in leading the way by providing tailored solutions and assistance to schools and colleges.

Our dedicated team helps institutions overcome any challenges they may face, ensuring they are well-prepared to offer the best possible education to their students. Alongside a well-stocked range of equipment and dedicated customer service, VITTA Education provides comprehensive teaching and learning resources to effectively deliver T-Levels in the classroom.

We run in-person departmental workshops to help institutions prepare for T-Level implementation with refresher training and set-up all part of our fit-out service.

Our website and collaboration with the LaBLiFe community platform also provides easy access to video resources, recipe sheets, practical guidance, and direct support for science teachers and technicians.

In conclusion, T-Levels present a unique opportunity for students to acquire the essential skills, knowledge, and experience needed to thrive in STEM and the science industry. These qualifications hold immense significance, particularly in today's fast-paced technological landscape. With VITTA Education's support, schools and colleges will be supported to tackle the challenges of implementing T-Levels and empower students to reach their fullest potential. Education is evolving, and T-Levels represent the future of technical education.

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

new FOR SEPTEMBER

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



The **Adam Equipment Analytical Solis Precision Balance SAB224i** offers an outstanding solution for laboratories and prep rooms with a high-resolution graphic display and intuitive features. The Solis is ideal for research and manufacturing labs along with science education where precision results are needed. Users can readily view the comprehensive data on the amply sized graphic display with multilingual capability. Recognisable icons help the weighing process flow smoothly and formulation is simplified, as the Solis easily stores up to 99 ingredients for frequent use.

At just over £2000, the Solis is more of a luxury item for school budgets but there's no harm in looking! Product code: VTT12306937.



If stirring isn't your thing, Cole-Parmer brings you the choice of analogue or digital stirrers with two new lines; the **ST-200-S Stuart Undergrad Analog Stirrer** and **SHP-300 Series Digital Stirring Hot Plate**.

Constructed with powerful magnets and motor, the analog stirrer provides you with stirring speeds of up to 2000 rpm and a mixing capability of up to 15 litres of liquid. The compact, stackable design takes up less benchtop and storage space too. Ideal for day-to-day use by scientific professionals and students, the SHP-300 also offers precise stirring speed and temperature control of your samples. Mixing large volumes is easy with a capacity of 15 litres and powerful magnets provide consistent stirring speeds.



As expected, you pay more for digital with the SHP-300 (VTT12306967) retailing at £500 compared to the analogue (VTN12300462) at £275.

Get tooled up for Halloween and theatrical experiments the students will love with the **Burkle Dry Ice Maker**, again from Cole-Parmer.



Compact and lightweight, the dry ice maker allows you to produce a -110°F (-79°C) tablet in approximately one minute. The simple unit easily installs on any commercial CO₂ gas cylinder with standpipe.

The dry ice tablets produced provide a very low-temperature, low-cost cooling solution for lowering the temperature in cooling baths or cold traps.

With a retail price of £345 this cost-saving Burkle Dry Ice Maker (VTT12306966) will save you £££'s in the long-run.

Featured earlier in this magazine, the **BMS HDMI Camera Kit** (VTT12306929) adds extra focus to the range of digital accessories exclusively available to VITTA Education through BMS Microscopes.

The camera offers 4K live-view imaging at 30 FPS (HDMI or USB), using a Sony Exmor CMOS sensor with RGB filters. It's compatible with stereo and biological microscopes.



It works as a recorder or live-streams to a PC, enhancing image quality with software.

Retailing at £795, the BMS HDMI Camera Kit makes microscope demonstrations clearer and easier for whole class participation.

Create textbook-perfect ray diagrams with the new **Lascells Laser Reflection Tank**.

By adding water and some scattering agent to the tank, the observation of the light path of a laser beam can easily be made visible. This apparatus allows for the exploration of several fundamental optical phenomena, including refraction, total internal reflection and critical angle.

With the additional diffraction grating (not included), the rays of diffraction maxima can be observed.

Use the Lascells Laser Reflection Tank to engage your students and bring your optics demonstrations to life.

The Laser Reflection Tank (VTT12306979) is priced at around £50.

Keep up to date with the latest must-have kit in the form of the **Cole-Parmer Single Channel Electronic Pipettor**.

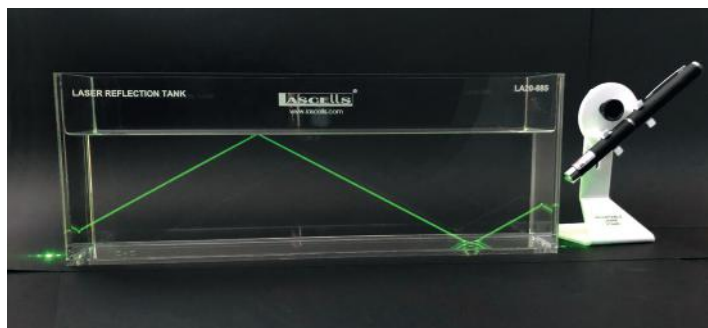
Designed to operate up to 5 different modes of pipetting, the electronic pipette also features the capability of storing up to three of your more frequently used modes. Another feature is a display panel for ease of use.

It has a Smart Power Saver, which activates a sleep mode to enhance battery life, whilst charging can be achieved by either the charging stand or USB power cord.

The electronic pipettor charges in 2 hours and provides 5 hours of continuous pipetting. Plenty of time to cover a double period!

This must-have (VTT12306951) retails at around £400 and is definitely worth spending some VITTA Reward points on!

Get kitted out with these great new products, available online at vittaeducation.com



KEEP ON TOP OF THE LATEST PRODUCT NEWS

Sign up to our monthly newsletter for all the latest product, sector and VITTA news – in your inbox and at your fingertips!

Sign up at **vittaeducation.com/newsletter**

BIOLOGY WEEK

October 16-20, 2023

With the goal of celebrating and elevating bioscience achievements along with the significant contributions of bioscientists, Biology Week presents a great opportunity to inspire a genuine passion for biology within the classroom and beyond the curriculum. The research conducted in these fields plays a pivotal role in addressing critical global challenges, encompassing climate change,

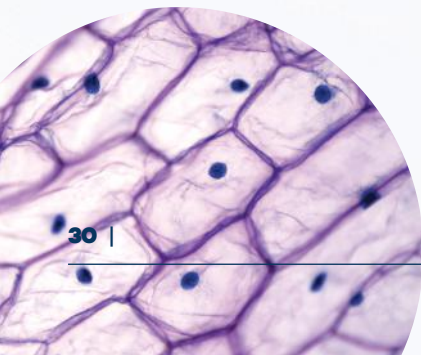
the creation of sustainable food and fuel sources, as well as the identification and treatment of diseases.

From classroom quizzes and field trips, to biology-inspired artwork competitions, there are several avenues through which you can actively participate and enjoy learning about the marvels of biology.

Biology Week is a great excuse to get hands-on with a microscope. It's an easy and exciting way to highlight the importance of microscopic exploration and its role in understanding the biological world. Here are some creative ideas to celebrate microscopes:

PICK A PERFECT 2-IN-1 STARTER MICROSCOPE WITH THE BMS 037 LED

Incident and transmitted light microscope with 10x widefield eyepiece, 360° rotatable head and total magnification of 400x.



Microscopic Photography Competition:

Encourage participants to capture stunning images of microscopic subjects using digital microscopes or smartphone attachments such as the BMS PhoneTube Mobile Phone Adaptor. Working with almost all smartphone models, including the latest devices from Apple, Samsung, and Google, it is compatible with binocular and monocular microscopes. Award prizes for the most visually striking and informative images.



Microscopic Mystery:

Create a fun challenge where participants must identify mystery specimens under microscopes. Provide clues and information to guide them toward correct identifications.



can learn how to use microscopes, prepare slides, and observe various specimens. Provide guidance on proper techniques and help participants explore microscopic life.

Microbe Hunt: Hold a “microbe hunt” in your local environment, such as the playing-field, park or pond. Collect water samples and other materials to examine under microscopes. Document and discuss the diversity of microorganisms found directly on your doorstep.

Need some external assistance? Imagine going on a safari, but in the microscopic world. Read more about Moss Safari below.

Microscope Workshops:

Organise hands-on microscope workshops where participants

Microscopy Trivia Night:

Host a lunch-time quiz with questions related to microscopy, famous microscopists, and significant discoveries made using microscopes.

Remember, most of all, whatever you do, make your activities engaging and educational, catering to participants of all ages and backgrounds. Foster curiosity, appreciation, and a deeper understanding of the hidden world that microscopes unveil and enjoy Biology Week!

FOCUS IN ON MICROSCOPES WITH A DISCOVERY DAY

From maintenance to measuring, the VITTA team are on hand to support and deliver free workshops and training, get in touch via vittaeducation.com/discovery

TAKE A TOUR UNDER THE MICROSCOPE WITH MOSS SAFARI

Put on your explorer's hat and take a trip across the mossy plains of discovery under the microscope. Swap Africa's 'Big Five' mammals with the microscopic 'Big Five' alternative, hidden from the naked eye in ordinary moss.

Learn to identify the microscopic 'Big Five' along with a whole host of amazing animals and plants. These remarkable multicellular organisms boast distinctive characteristics that beguile the imagination.

There are a host of curriculum opportunities included within both the in-person and virtual Moss Safari tours, with host Dr Andy Chandler-Grevatt on-hand to introduce you to the wonders and educational/career opportunities available at a micro-level.

Moss Safari is an exciting adventure for schools and science clubs that's ideal for all ages. Find out more at vittaeducation.com/moss-safari





Deliver quality and value into your classroom with the latest SATZ equipment range

NEW!



The new **SATZ DS500 Digital Mini Pocket Balance** (VTT12306908) is a light, robust and practical laboratory balance for the classroom.

Providing a 0.01g resolution, 6x different unit readings and tare to full capacity, the DS500 is both versatile and budget friendly.

Includes 2x clear bowls.

Key Features

- 500g Capacity
- 0.01g Resolution
- Auto Calibration
- Back-lit Display
- Small Compact Design
- Counting Function



The new **SATZ School Power Station** (VTT12306890) is a compact 5amp power supply specifically designed for use in schools.

Robust, light weight and practical, with 6x DC output voltage options. It also features AC output that can be used simultaneously with the DC outputs for added versatility.

Key Features

- 3 Layers of Current Protection
- Max 5A AC or DC
- 2, 4, 6, 8, 10, 12V DC Outputs
- Reinforced Metal Construction
- Fast Response Overload Protection
- Compact Design Ideal for Grattells Trays

Available from all good education suppliers.
Find more information at **satzscience.com**

Available from late September 2023. See website for details.



ASE GREEN TICK: EISCO LABGLASS®

We are pleased to offer a range of Eisco LabGlass®, an innovative collection of laboratory glassware, which has recently been ASE Green Tick accredited.

Crafted from premium Borosilicate 3.3 glass, LabGlass® adheres to ISO standards, ensuring quality and compliance. Rigorous testing highlights its exceptional performance in various laboratory tasks, from titration to heating.

Compared to traditional options, LabGlass® offers a cost-effective solution for quality glassware, making it an ideal choice for schools with budget constraints.

This range resonates with VITTA Education's commitment to empower educators with state-of-the-art tools for enhanced learning experiences.



Explore the range at
vittaeducation.com

KEEPING UP-TO-DATE WITH VITTA

As we kick off the new school year for the very first time under the VITTA banner we'd like to share a few improvements coming your way as plans have now become a reality.

Since the beginning of 2023 one of the many changes and improvements VITTA has looked to implement has been both the availability of stock and a staple range of supplies that's tailored to the needs of our education customers.

Fast forward to this September and VITTA is close to finalising its new core range of in-stock, everyday science essentials, with guaranteed availability and the added option of next day delivery.

Warehouse Manager Huw (right) is delighted to see the impact of these changes. "We've taken our time to get this right but can't wait to start building the trust of our customers with an in-stock guarantee."

For even more reasons to choose VITTA, our VITTA Rewards platform has released the new range of VITTA Treats, providing our customers with more ways to spend their points' balance.

Finally, we're here to help.

We want the best for you so if you have a problem or a query just reach out to the team on email, or pick up the phone and give us a call.

Have a great term!



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**



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: Microscopy

Use a light microscope to observe, draw and label biological specimens

EQUIPMENT LIST:

In addition to general laboratory equipment, each student needs:

- Monocular Biological LED 400x Microscope
- Prepared plant and animal slides set (25)

METHOD:

1. Carefully set up the microscope as instructed by your teacher.
2. Choose a slide for observation and slide on to the microscope stage and fix it into place using the securing clips.
3. View the slide under the microscope at the lowest magnification.
4. Use the coarse adjustment knob to bring the stage close to the objective lens, while looking through the eyepiece. Be careful not to let the objective lens touch the slide.
5. Use the coarse and fine adjustment knobs to move the stage carefully downwards and bring the slide into a clear focus.
6. Draw a diagram of your object as accurately as you can and label any structures you see.
7. Now switch to a higher magnification objective (e.g. 400x) to observe the cells in more detail.
8. Draw a diagram of your object as accurately as you can and label any structures you see.
9. Calculate the magnification of the image and draw a suitable scale bar for your diagram.
10. Repeat the process for each slide.

LEARNING OUTCOMES:

AT7 – use of appropriate apparatus, techniques and magnification, including microscopes to make observations of biological specimens and produce labelled scientific drawings.

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

THE SCIENCE BEHIND FIREWORKS



If you and your students love the captivating allure of fireworks, the Rainbow Flame Test is a fantastic way to demonstrate the fascinating chemistry that ignites the dazzling stars in the night sky. We delve further...

When you look up at the night sky this Bonfire Night or New Year's Eve, the sky will be painted with bright colourful pellets (okay, stars sound better) that captivate our gaze.

These stars are crafted from metal salts, a mixture of metals and other chemicals in powder form. When ignited, these stars absorb a substantial amount of energy in their metal particles. Later, as these particles cool down, they release all that stored energy in the form of vivid light. The colours of the emitted light depend on how the electrons are arranged in the metal's core.

Each element possesses unique traits based on the number of electrons it holds. The interactions among these electrons in the element's outer part influence how they absorb and release energy. This gives rise to distinct "flavours" of light contributed by different metals in the fireworks.

As we journey across the periodic table, transitioning from lighter to heavier elements, the distribution of energy levels undergoes a transformation. This shift in energy levels causes a delightful change in the colours of light produced by these elements in the fireworks.

Celebrate the wonders of colour with your own Rainbow Flames Demonstration. This flame test is particularly useful for the identifying metal ions topic in GCSE Chemistry, as they tend to produce easily distinguishable colours.

You will need:

- Heatproof mats
- Borosilicate beakers
- Distilled water
- Ethanol
- Measuring cylinder
- Disposable pipette
- Spatula
- Weighing boat
- Balance
- 3g of each metal
- Metre rule and splints
- Matches or lighter
- Safety glasses

Rainbow Flame Demonstration (Extract):

- Make sure the laboratory is well ventilated and protect bench-tops with heatproof mats.
- Arrange the beakers in spaced out row along them.
- Add up to 3g of one type of metal salt into a beaker, before adding 12 drops of distilled water onto the salt.
- Measure and add 6ml of Ethanol (IDA only).
- Light the alcohol vapour on the furthest away beaker with a lit wooden splint attached to the end of a metre rule.
- Switch off lights to make the room is as dark as possible.
- Let the alcohol in the beakers to burn out and allow the apparatus to cool before attempting to handle the beakers.

Extract only. Please review the full directions of this demonstration on our website before attempting: vittaeducation.com/news

Get more from scales and balances when you choose Adam

With 50 years of weighing know-how and a global fanbase of users, Adam Equipment provides a comprehensive range of dependable and compliant weighing scales and balances, wherever you are.

Adam scales and balances provide the ideal solution for education professionals. Get industry quality for your class or prep-room and rely on Adam for accuracy.

EXCLUSIVE

Buy now and SAVE 10% across the range with VITTA

Discount applied to RRP. Price reduction in affect until 31/12/23.

ADAM



TECH'S TIP FOR THE TERM...

Whilst it looks great and is a straightforward method to demonstrate magnetism, removing iron filings from magnets afterwards, can sometimes be quite annoying.

One simple trick to say goodbye to those stubborn iron filings is to use a small piece of sticky tape. This is a simple yet highly effective solution for this task!

Thanks to Denise for this term's tip... We're always on the lookout for time-saving tips and tricks, so why not share your best ones with us?

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



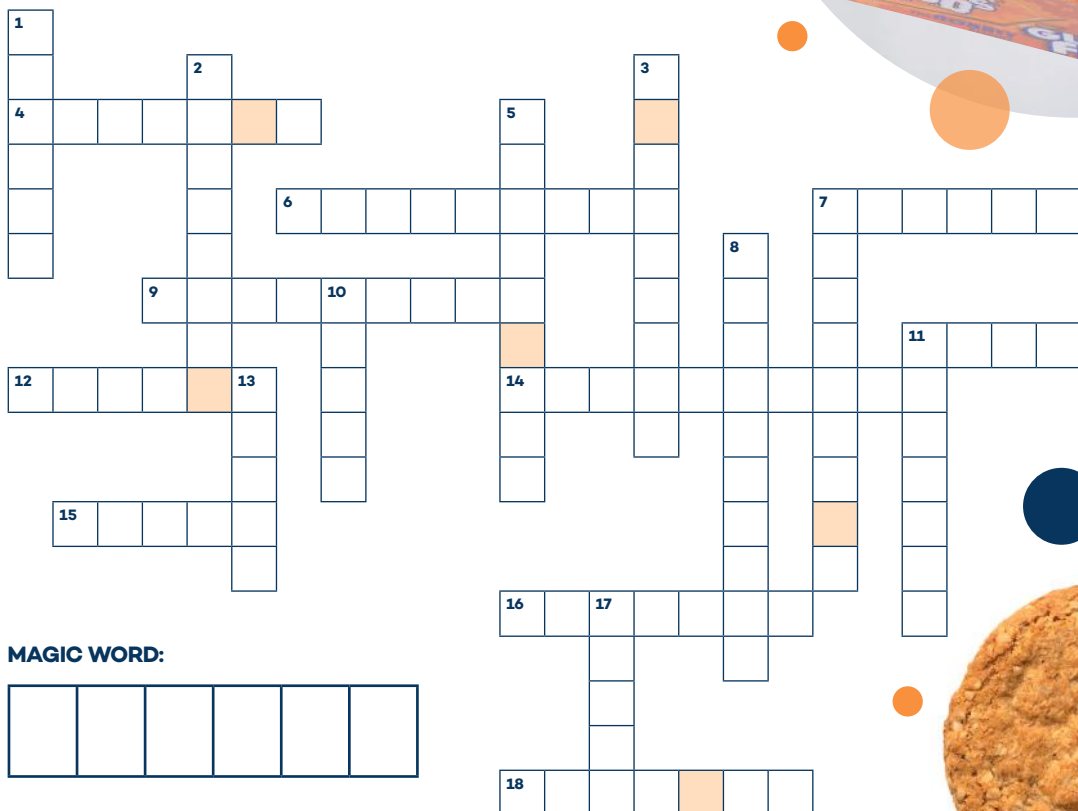
**Denise Ralph (RSciTech),
Woolmer Hill School**

TAKE A BREAK & WIN!

Find the magic word for a chance to **WIN a Year's Supply of Hobnobs!**

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 14/12/23. Terms apply. See website for full details.



MAGIC WORD:

--	--	--	--	--	--	--

DOWN

- He had a theory
- Last naturally-occurring element discovered
- There's a whole week dedicated to this too
- Not many weeks to go
- A skeleton may come in handy for this
- Get a discount when you sign up to this
- The human body is up to 60% of this
- Both a metal and a planet
- A Swedish chemist
- Find things to do on page 14

ACROSS

- Earn as they learn with VITTA...
- It helps us to breathe
- The lowest boiling point among all the elements
- Remember, remember
- There's a dark side
- It's the start of a new term
- Book a discovery day to find out more
- Our very own space man
- It's a giant
- This week begins on the 16th October



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 Autumn Term magazine.



Page	Product Description	VITTA Code
12	Bench Armour Heat-Proof Mats	VTT12301993
12	Periodic Table Game	VTN12302045
13	PASCO Wireless pH Sensor	PS-3204
13	MolyMod Molecular Model Set (Organic)	VTN12301961
14	PASCO Wireless Smart Cart	ME-1240
16	Lascells Gravity Well	VTN12302112
16	Eisco Scientific Solar System Model	VTN12302103
17	Lascells Planck's Constant Apparatus	VTN12302496
22	Safety Goggles	VTT12302594
22	Nitrile Gloves	VTT12301430
22	250ml Narrow Mouth Conical Flask	VTT12300068
22	Funnel, 100mm Diameter	VTT12301382
22	100ml Low Form Beaker	VTT12303632
22	Hydrogen Peroxide (100vol)	HYO46
22	Potassium Iodide Crystals	PO105
22	Disposable Pipettes	VTT12301607
24	BMS 146 FLAsQ Microscope	VTT12300654

Page	Product Description	VITTA Code
24	BMS HDMI Full HD Camera Kit	VTT12306929
24	BMS Microscope Slides, 76 x 26	VTT12303014
28	Solis Precision Balance SAB224i	VTT12306937
28	Stuart Undergrad Analogue Stirrer	VTN12300462
28	SHP-300 Digital Stirring Hot Plate	VTT12306967
28	Burkle Dry Ice Maker	VTT12306966
29	Lascells Laser Reflection Tank	VTT12306979
29	Cole-Parmer Electronic Pipettor	VTT12306951
31	BMS 037 LED Microscope	VTT12300650
31	BMS PhoneTube Mobile Phone Adaptor	VTT12306810
31	Microscope Slides, 75 x 26mm	VTT12300704
32	SATZ Digital Mini Pocket Balance	VTT12306908
32	SATZ 5A Power Station	VTT12306890
35	Borosilicate Beakers	VTT12300008
35	Distilled Water	VTT12300265
35	Ethanol (IDA)	VTC12300008
35	Measuring Cylinder	VTT12306631



GET INVOLVED WITH VITTA...

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



Glassware that conquers the elements



- Top quality ISO 9001 certified
- Borosilicate glass 3.3
- Extreme resistance
- Ecological products
- Competitive prices

SIMAX®
Glass that Lasts

Return Address:

Ashurst House, Southgate Park,
Bakewell Rd, Peterborough
PE2 6YS

Please let us know if we need to update your details.

☐ Tick here if you no longer wish to receive the VITTA Magazine (return to sender).

OPEN UP THE NEW SCHOOL YEAR WITH VITTA



**FREE DELIVERY ON
ORDERS OVER £75
WITH CODE: AUT23**

Account required. Single use code. UK only. See website for full details.



look out
for a sweet
treat in your
next order...



Shop science, supplies and so much more
with VITTA. Order 24/7 at **vittaeducation.com**

✕ VITTAEducation | in VITTAEducation | f VITTAEducation

Deals and promotions valid until 22/12/23 unless otherwise stated. Prices shown correct at time of print. Visit vittaeducation.com/autumn23 for full details. E&OE.

