

# HELP TAKE SCIENCE TO THE NEXT-LEVEL WITH VITTA

SCIENCE T-LEVEL HANDBOOK





# LOOKING AFTER YOUR SCIENCE EDUCATION

**VITTA Education, the leading supplier to tomorrow's scientists have created this handbook to assist educational professionals in implementing T-Levels**

This guide outlines our service commitment and course expertise alongside a brief overview of equipment and categories crucial to delivering a successful T-Level experience in the classroom.

Furthermore you can access case studies, equipment lists and resources by visiting the science T-Levels hub at [vittaeducation.com/T-Levels](https://vittaeducation.com/T-Levels)

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For additional product information and in-depth T-Level support contact the team on **0333 996 1611** or email **[hello@vittaeducation.com](mailto:hello@vittaeducation.com)**

# SUPPORTING TOMORROW'S SCIENTISTS

**The heritage of VITTA Education goes back more than 65 years, with our roots firmly planted in producing and supplying well-loved brands to scientific industries and academic institutions.**

Part of the wider VITTA Group, VITTA Education operates alongside our industry specialist provider VITTA Scientific. Together, along with links into healthcare and our own in-house brand development, as a collective, VITTA has a deep and varied understanding of scientific industries. This includes food, energy, and research, together with core curriculums in education ranging from primary through to post-graduate studies, with T-Levels amongst that.

Our primary objective is to support scientists, whether they are scientists working in life-critical industries today or they are the scientists of tomorrow. We achieve this by delivering engaging, innovative, and captivating next-gen educational resources and learning through our products and services.



# PROVIDING THE BOND BETWEEN INDUSTRY AND EDUCATION



**VITTA Education is the home for scientific supplies direct to educational institutions such as schools, colleges, and universities.**

A dedicated team with science-ed connections is complimented with exceptional products, 1,000's of in-stock lines and an unwavering commitment to supporting educators, lab technicians, students, and graduates in whatever pathway they're on.

As we embrace the future, we are proud to play a pivotal role in the implementation of T-Levels.

**Our products and services are supported by our association with leading education bodies including:**



**VITTA Scientific prides itself on serving life-critical industries such as pharmaceuticals, public utilities, food and beverage and testing laboratories.**

VITTA Scientific is a well-known and dependable partner for supporting the demands of in-the-field testing, maintaining operations within modern-day laboratories and ultimately facilitating critical supply chains in the UK and throughout the world.

**Our products and services are used to help maintain the continuation and distribution of well-known brands including:**



# TRANSITIONING TO T-LEVELS

**Science T-Levels provide an exciting pathway opportunity for students that are keen to incorporate hands-on industry experience with classroom learning.**

While exciting for students, the reality for educators can be a little more daunting. VITTA has listened closely to the questions raised by T-Level colleges and have developed a T-Level process that's been specifically designed to overcome the critical issues facing T-Level providers today.



## The Challenges



### CHALLENGE #1

Uncertainty over course and equipment requirements.

### CHALLENGE #2

Understanding and fully utilising advanced equipment.

### CHALLENGE #3

Obtaining industry placements for the students.

## Our Process

1



### UNDERSTAND

#### Getting to grips with your transition journey and requirements

We focus on getting a deep understanding of all the different facets of your transition to T-Levels with the objective of developing a plan that's tailored to your key requirements, including:

- Equipment Requirements.
- Staff Training Requirements.
- Work Placement Requirements.

2

### DESIGN & OUTREACH

#### Translating the tailored plan into tangible deliverables

Our education and industrial science experts develop an insight led proposal to include:

- Technical equipment.
- Associated consumables.
- Un-boxing, set-up, calibration and staff training.

As a complimentary part of our process, we reach out to our industrial science partners and clients and engage with them over your industry placement requirements.



3



### DELIVER

#### Turning the plan and proposal into reality with our project delivery team

Our project delivery team work with you to:

- Seamlessly deliver your new T-Level equipment.
- De-risk the implementation through un-boxing, set-up, calibration and staff training.
- Introduce industry work placement options to you and your work experience team to take forward.

# T-LEVELS IN 28 DAYS

**This case study stands out for its remarkable speed in moving from initial discussions to order placement. What sets this partnership apart is the comprehensive support package offered, which has been a key factor in its success.**

## BACKGROUND

USP College, a prominent educational institution offering T-Level courses, faced a significant challenge in effectively delivering their courses due to a lack of suitable equipment. Compounding the issue, the faculty lacked confidence in using higher-specification equipment, which hindered their ability to provide quality instruction.

To address these challenges, Emma Clay, the Curriculum Director for Medical Technologies and Science, and Lee Sayer, the Senior Science Technician, collaborated with VITTA Education. Silas Norman represented VITTA and worked closely with the college to facilitate the smooth implementation of T-Level courses and ensure the availability of appropriate resources.

## COLLABORATION

The process commenced with exploratory discussions between Silas and Lee Sayer, focusing on understanding USP College's current requirements and the challenges they faced. Based on these discussions, VITTA proposed an initial solution, comprising a range of equipment and services to support T-Level implementation effectively.

Lee Sayer reviewed the proposal and offered valuable insights. To ensure a cohesive approach, Emma Clay was introduced to join the conversation. Ahead of the official meeting, Lee and Emma held a precursory discussion to align their visions and expectations. During the meeting, the education solutions provider and USP College team reviewed the initial proposal, making necessary adjustments.

The discussions also encompassed a comprehensive support package, featuring exclusive un-boxing and training services, employer set projects, and other factors vital to the success of T-Level courses.

## STREAMLINED IMPLEMENTATION

Following the meeting, the proposal was fine-tuned and submitted to USP College's finance team for approval. Regular check-ins were conducted during the waiting period to ensure preparedness for swift action upon receiving the purchase order. Once the equipment was procured, a meeting with Emma Clay confirmed the next steps, including delivery, training, and implementation dates.

## SUCCESSFUL DELIVERY

A couple of months later, after the completion of USP College's new state-of-the-art laboratory, VITTA personally delivered the equipment. The team assisted in setting up the purchased items and provided comprehensive training to ensure effective usage. As a result, the USP College staff left the session confident in utilising their new acquisitions, knowing they had a clear lifetime support plan for any future assistance.

## TANGIBLE BENEFITS

Thanks to the implemented solutions, USP College now boasts industry-relevant equipment directly linked to course fulfilment, significantly enhancing the student learning experience. USP College stands out from competing institutions with its clear point of difference, establishing itself as a model for effective T-Level delivery in the region.

## CONCLUSION

The collaboration between USP College and VITTA exemplifies the successful implementation of T-Level courses through the strategic utilisation of industry-relevant equipment and a unique support package. The success of T-Level implementation at USP College demonstrates the transformative impact of equipping educational institutions with the right resources and support, ultimately enriching the learning experience for both faculty and students alike.



# T-LEVELS CASE STUDY



"The whole process was made much easier with VITTA involved... The training day was great and our team thoroughly enjoyed it." **CURRICULUM DIRECTOR, USP COLLEGE**

## UNDERSTAND



### INITIAL CONTACT

USP requested support in their T-Level Implementation



### NEED REFINEMENT

Face-to-face with technician, to help clarify their requirements

## DESIGN & OUTREACH



### PROPOSAL PREPARED

Our team prepared a bespoke proposal



### PROPOSAL PRESENTED

Virtual presentation of initial proposal with technician



### PROPOSAL REVIEWED

Initial proposal reviewed with the Curriculum Director

## DELIVER



### PROPOSAL AMENDED

Amendments made to proposal following feedback and discussion



### REQUISITION SUBMITTED

Proposal submitted to the finance team



### APPROVAL PERIOD

Regular check-in's and preliminary paperwork completed whilst awaiting decision



### IMPLEMENTATION BEGINS

Approval received and PO placed



### CONFIRMATION & NEXT STEPS

Meeting with Curriculum Director to confirm next steps, delivery, training and implementation dates



# CLASSROOM EQUIPMENT

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# 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.

## 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.

## 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: FOCUS

Flat field correction is a key part of this - how much of the image is in focus. This can range from achromatic 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: EYEPieces

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

## MECHANICAL STAGE

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

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 be sure to 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 your students on a microscope which has similar features and design will set them in best stead for industry.

**Need help with your next microscope purchase?**

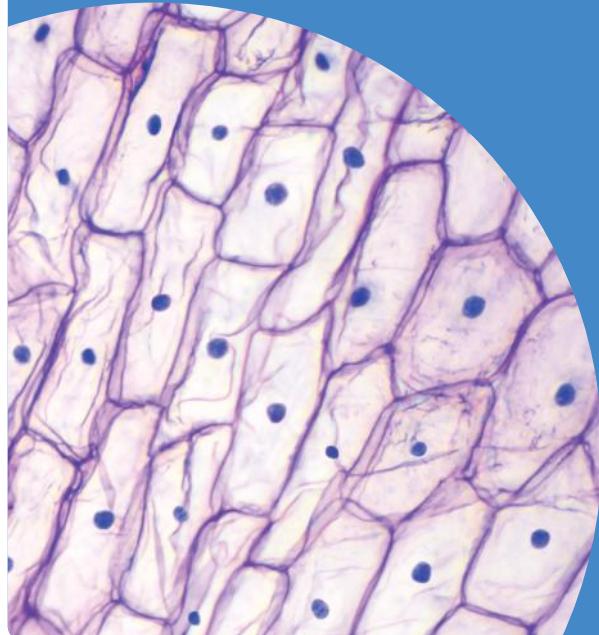
**Find out more and explore our full range of microscopes online at [vittaeducation.com](http://vittaeducation.com)**

# MICROSCOPES


**BMS**
**Microscopes**

## BMS 146 FLASQ Microscope – 230V

- Dual Coaxial coarse and fine focus controls
- Monocular, 360° rotatable head
- Quadruple revolving nosepiece
- New generation High Power LED illumination
- Magnification 40x, 100x and 400x (optional extendible up to 1500x)
- Stage limit stop: pre-set and adjustable



VTT12300654

## BMS 100 FL LED Microscope – 230V

Combining fantastic optics with an extremely strong microscope stand. With all parts being locked to the microscope.

- 5 year warranty
- 3 powering methods



VTT12300651

## BMS 146 FLARQ Mono Microscope – 230V

- Built-in mechanical stage with XY adjustment
- 5 year warranty
- 3 powering methods



VTT12300655

# ADVANCED MICROSCOPES



**At VITTA we believe there is significant value in students being educated in equipment which is relatable to what they will see within the Industrial setting.**

The microscope is the one piece of equipment which is synonymous with science. They are the figure head of the subject, which is why we champion our suite of advanced microscopes to draw in the scientists of the future.

Learning with industry-like features, the advanced technical specification opens up new opportunities and avenues to explore which you just don't have available with your standard microscope.

Discover the full range at [vittaeducation.com/bms](http://vittaeducation.com/bms)

## BMS EduLed FLArQ Binocular Microscope

The BMS 146 FLArQ is the first model of the Advanced Plus range with rack and pinion system for the condenser and integrated mechanical stage.

A high quality, robust and well equipped microscope complete with semi plan objectives.

Height-adjustable Abbe condenser with iris diaphragm allows you to use oil immersion objectives.



VTT12300661

## BMS D2-220SP Binocular Microscope 1000X

This flexible, efficient and comfortable microscope is ideal for use in a variety of educational and professional environments. Two Wide Field (WF) eyepieces and plan optics provide users with high contrast, clear and colourful images.



VTT12300724

## BMS D3-220EP Binocular Microscope 1000X

The BMS D3 will meet all the demands that are made in the field of both laboratory and educational sectors.

Equipped with a large rack-less stage and integrated movable specimen holder, capable of holding two slides at once.

- 40x, 100x, 400x and 1000x.  
(optional to be extended to 2000x)



VTT12300725

# MICROSCOPE CAMERAS



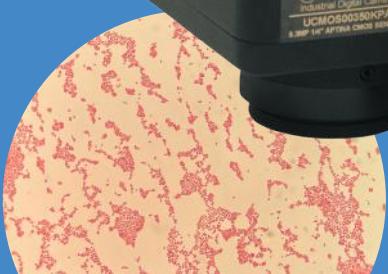
**BMS**  
Microscopes

**BMS USB 2.0 Microscope Camera and CMOS Adapter Kit – 10MP**

- Offers stitching, EDF (Extended depth of focus), video recording and measurement functions
- Conducts measurements for lengths, angles, arcs, areas etc.
- Edit and process microscopy images
- Live video and still image capture can be set in different resolutions simultaneously
- Resolution: 3584 x 2748 (approx. 10MP)



VTT12300697





**CCD & CMOS**  
Digital Camera Solution Disk

Driver  
 SCCCD  
 EXCCD  
 UHCCD  
 UCmos

SDK  
 Native C/C++  
 DirectShow  
 Twain

Application Software  
 ToupView

“Combining the BMS D3 with a Full HD Camera Kit works a treat... It's the perfect combination if you're looking to stretch your budget a little further for the best-in-class!”

**SILAS NORMAN, VITTA PRODUCT SPECIALIST**



**BMS USB 2.0 Microscope Camera and CMOS Adapter Kit – 3.1MP**

Utilising a user friendly software to capture still images, as well as stream and record live video.

Resolution: 2048 x 1536 (approx. 3.2MP).





**BMS HDMI Full HD Camera Kit**  
Highly integrated and compact, mouse controlled full HD Camera.

1920 x 1080 resolution.

VTT12306929

# DATA LOGGING

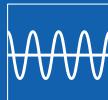
# PASCO

Discover **NEXT-GEN** science equipment and teacher resources with PASCO.



PASCO Scientific provides schools and pupils with award-winning, practical science tools and data logging solutions that connect students directly to science and STEM concepts with classroom technology such as sensors, interfaces and data collection software.

Exclusively available from VITTA Education in the UK, PASCO design and manufacture industry-level lab equipment to offer curriculum solutions for schools and universities in physics, chemistry, biology and environmental science.



PHYSICS



CHEMISTRY



BIOLOGY



ENGINEERING



STEM



PS-3215

## PASCO Wireless Colorimeter & Turbidity Sensor

Simultaneously measures the absorbance and transmittance of six different wavelengths.

## PASCO Wireless Smart Gate Dynamics System

When used with a computer for data recording, display, and analysis, this photogate timing system provides a wide range of time, speed, and velocity measurements.

The photogates mount to the Dynamics Track using the provided brackets. The provided Picket Fences mount directly to the Dynamics Carts.



### Includes:

- 1x Wireless Smart Gate
- 1x Photogate Head
- 1x Photogate Brackets (2 Pack) – IDS
- 1x Cart Picket Fences (2 Pack) – IDS



PS-3703

## PASCO Wireless pH Sensor

The Wireless pH Sensor is a must-have for any chemistry, biology, or environmental science course. Equally capable in the lab or field, the sensor eliminates the hassle of cables, reducing spills and improving safety.

- Logs pH data directly onto the sensor for long-term experiments



PS-3204

## PASCO Wireless Weather Sensor with GPS

An all-in-one instrument for monitoring complex environmental conditions. It houses several sensing elements within a single unit to provide 19 different measurements.

- Water resistant
- Logging mode



PS-3209



### PASCO Wireless Drop Counter

The Wireless Drop Counter has a wider (18 x 13 mm) drop window for better drop detection and easier alignment with burettes. It works equally well with large or small, fast or slow drops.

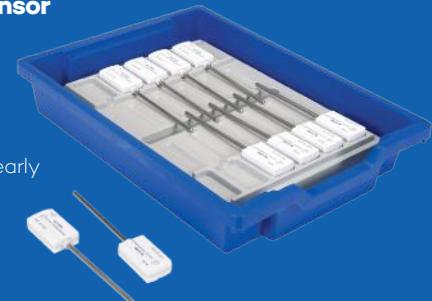
Able to measure up to 40 events per second with drops as small as 0.5mm.



PS-3214

### PASCO Wireless Temperature Sensor

Transmits live data and allows students to continuously monitor, log, and plot temperature measurements on nearly any device.



PS-3201 / PS-3330 (8Pk)

### PASCO Wireless Voltage Sensor

The Wireless Voltage Sensor is ideal for exploring the fundamental concepts of electricity, voltage, and basic circuits. It measures voltages up to  $\pm 15$  V with built-in overload protection.



PS-3211

### PASCO UV-Vis Spectrometer

The PASCO UV-Vis Spectrometer is an easy-to-use, wide range UV-Vis spectrometer that delivers fast, accurate and reliable performance for routine analyses in chemistry and biochemistry teaching labs.

Designed for lasting durability, the SE-3607 includes specialised features such as an internal drain that reduces the risk of damage from drips and an isolated optic bench that guarantees consistent accuracy over time.

Optional accessories, such as the Quartz Fiber Optic Cable Set can be used to extend the spectrometer's capabilities for the analysis of emission spectra, light sources, and the classification of lasers.



SE-3607



# WATER STILLS



## Why do I need a Water Still?

Purifying water through a still leaves you with water which is free from potential result changing impurities.

Utilising a water still over pre-distilled water gives you a regular predictable supply, while saving you both valuable time and consumable spend.

With the added bonus of increasing experimental reproducibility.

## Cole-Parmer®

### Cole-Parmer Stuart Water Still D4000

High-efficiency condenser ensures top distillate purity at an economical price. Reservoir level control feature automatically turns off the heater to prevent overflow. Built-in acid addition funnel and drain stopcock allow for easy descaling without dismantling the glassware.

- 4Ltr/hour capacity
- 3 year warranty



VTT12302500

### Cole-Parmer Stuart Water Still W4000

Save money while maintaining high performance.

- 4Ltr/hour capacity
- 3 year warranty



VTT12302499

### Cole-Parmer Stuart Water Still WS-200A

Produces cold distilled water for immediate use.

- 4Ltr/hour capacity
- 3 year warranty



VTT12302501

# WATER BATHS

*Clifton*



"The Clifton Digital Unstirred Water Bath is a great choice for colleges... It has a temperature stability of  $\pm 0.2^\circ\text{C}$  and the heating element is hidden under the tank, making it ideal for heating flammable chemicals."

**SILAS NORMAN, VITTA PRODUCT SPECIALIST**

## Clifton Digital Unstirred Water Bath – 22Ltr

This concealed unit hides heaters and sensors under the tank providing a clutter free working area that's easy to wipe clean. Supplied with a removable sturdy low height stainless steel perforated shelf, for even heat distribution.

- Temperature Range - Ambient  $+5^\circ\text{C}$  -  $99^\circ\text{C}$
- Sensitivity  $\pm 0.2^\circ\text{C}$
- Three-year warranty



VTT12300802

## Economy Water Bath – 20Ltr

This easy to use waterbath from our essentials range is an ideal option for a lab on a budget. Its reliable, sturdy and quick to set up whilst being incredibly cost effective.

The bath is 20 litres and has a drain outlet for easy removal of the water for cleaning and storage.



VTT12306376

## Cole-Parmer Open Heated Circulating Bath System RH-400 – 8Ltr

Safely heat liquids with an intelligent display and simple controls.

- Backlit display
- 3 year warranty



VTT12306958

# INCUBATORS



## Genlab Multi Purpose Fan Assisted Bench-top Incubator – 40Ltr

The Genlab range of bench-top incubators offers a range of highly efficient, reliable and cost effective units to suit most biological analysis, research and general laboratory applications.

- Touchscreen control system
- Excellent stability  $<+/-0.6^{\circ}\text{C}$



VTT12300870

## Genlab Multi Purpose Bench-top Incubator – 18Ltr

Highly efficient, reliable and cost effective units to suit most biological analysis, research and general laboratory applications.

- Temperature Fluctuation  $+/-0.25^{\circ}\text{C}$  at  $37^{\circ}\text{C}$



VTT12300861



**Make the most of your new equipment and help look after it correctly with VITTA's Standard Operating Procedure downloads.**

Available across the range of equipment required for T-Levels, these PDF guides provide the reassurance you need to get the best out of them.

**Download our handy SOP Guide at [vittaeducation.com/sop](http://vittaeducation.com/sop)**



## Clifton NE1V-56 Oven/Incubator – 56Ltr

Provides a stable temperature environment for general purpose applications and features a digital PID controller for precision.

- Temperature range:  $+5^{\circ}\text{C}$  to  $250^{\circ}\text{C}$



VTT12306822

# AUTOCLAVES

**Tuttnauer**  
Your Sterilization & Infection Control Partners



## Tuttnauer T-Edge Autoclave 10|11 – 23Ltr

Get peace of mind with the T-Edge Autoclave. This space-saving, fully automatic tabletop autoclave gives you high speed Class B performance that saves you time. Operates without interruption on a daily basis, offering efficiency and safety.



VTT12306946

## Prestige Classic Media 121° Autoclave – 12Ltr

The purpose-designed autoclave provides schools with a safe and affordable solution for sterilising media.



VTT12300891

## Tuttnauer T-Top Autoclave – 22Ltr

T-Top offers universal capacity, handed to you, in an affordable and reliable solution you can count on for managing your daily sterilisation workload.



VTT12306968



### Did you know...

Autoclaves are used to carry out industrial and scientific processes requiring elevated temperature and pressure in relation to ambient pressure and/or temperature.

# BENCH TOP BALANCES



## Adam Equipment Compact Dune Balance DCT2000 – 2000g x 1g Readability

With a simple three-button operation and a sturdy plastic construction, the Dune portable compact scale is a smart choice for schools and laboratories. Both battery or mains powered, it quickly delivers accurate readings on a large easy to read display.

- Automatic calibration
- Safety 'overload' indicators
- Low battery level



VTT12300416



## Adam Equipment Compact Balance CB3000 – 3000g x 1g Readability

This lightweight, portable balance from Adam Equipment is ideal for use in multiple situations and locations.

- Battery or mains powered



VTT12300406

## Adam Equipment Highland® Portable Precision Balance – 3000g x 0.1g Readability

The Highland offers advanced features in a compact, durable scale that stacks easily for storage.

- Robust ABS construction
- Audible overload alarms
- Capable of piece counting with pre-set sample sizes



VTT12300363

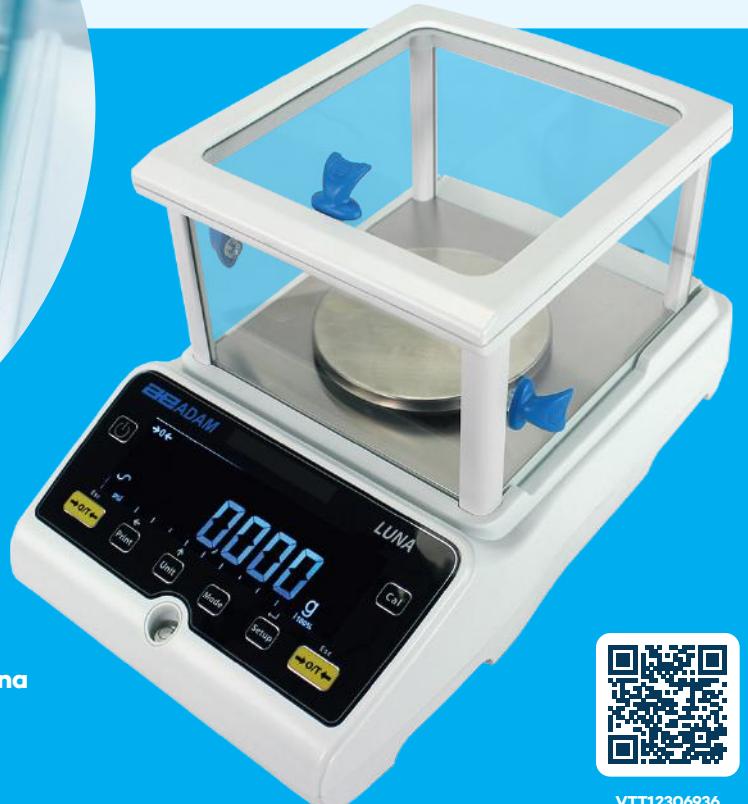
# ANALYTICAL BALANCES



**ADAM**

## Adam Equipment Precision Balance Luna LPB623i – 620g x 0.001g Readability

With its numerous features and functions, Luna precision balances are suitable for most weighing tasks in the laboratory.



VTT12306936



## Adam Equipment Precision Balance Luna LTB2602i – 2600g x 0.01g Readability

The Luna precision scale offers a combination of durability, performance and elegance.

A bright backlit LCD makes it easy to read even in low light conditions.

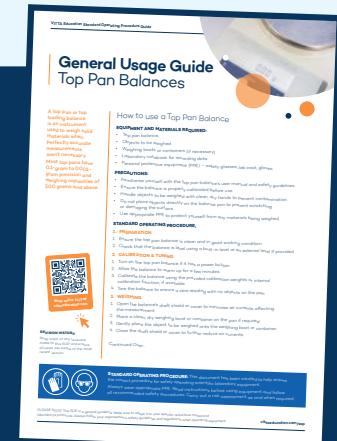
- Maximum capacity: 2600g
- Readability: 0.01g

VTT12306935

## Adam Equipment Analytical Balance Solis SAB224i – 220g x 0.0001g Readability

With a high-resolution graphic display and intuitive features, Solis analytical balances offer an excellent solution for a wide range of laboratory applications. Check-weighing with audible alarm amongst other features.

- Maximum capacity: 220g
- Readability: 0.0001g



### Need help with new kit?

**Make the most of your new equipment and help look after it correctly with VITTA's Standard Operating Procedure downloads.**

Download our handy SOP Guide at [vittaeducation.com/sop](http://vittaeducation.com/sop)

VTT12306937

# MAGNETIC STIRRERS



## Hanna Instruments Mini Analogue Magnetic Stirrer – 1L

Compact and lightweight, the stirrer incorporates electronic controls that allow the user to regulate the speed with greater precision while an internal speedsafe mechanism ensures its safety.



VTT12300625

## Cole-Parmer®

### Cole-Parmer Digital Stirring Hot Plate SHP-300-BS

This digital stirring hot plate provides accurate stirring and temperature control through the digital interface indicating the set and actual temperature on the display.

Features BioCote® antimicrobial protection which reduces the presence of odour and stain causing microbes by up to 99.9%.

The durable front panel also resists spills and chemicals – ideal for the learning environment.



VTT12306967

## Cole Parmer Analogue Stainless Steel Magnetic Stirrer ST-200-S

Constructed with powerful magnets and motor, it provides you with stirring speeds of up to 2000 rpm and mixing capability of up to 15 litres of liquid.

The compact, stackable design takes up less bench-top and storage space.



VTN12300462

# RIPPLE TANKS



**Ensure you are fully equipped and ready to teach with VITTA Lab Lists written exclusively for the T-Level scheme of work.**

A course specific lab list for both core components and the laboratory science occupational specialism are available to view and download from the VITTA website.

[vittaeducation.com/T-Levels](http://vittaeducation.com/T-Levels)



## Lascells Mini Ripple Tank

This compact unit provides an elegant method of demonstrating the wave phenomena of reflection, diffraction, refraction and interference with none of the setting-up problems usually associated with ripple tanks.

Illumination is provided from a high intensity built-in LED which can automatically strobe in sync with the waves to give perfectly stationary images, or switched to allow the user independent control of the wave and strobe frequencies.

- Self contained unit



VTN12302601



## Economy Ripple Tank

This dual purpose tank is a versatile apparatus allowing all types of waves and wave motion.

Includes illuminating lamp and accessories.

No tools needed for set up.

VTN12302605



## PASCO Ripple Tank System WA-9899

Demonstrate all manner of basic wave phenomena with this easy to use and complete system.

Also includes important low frequencies that make refraction more prominent.



WA-9899

# STUDENT POWER SUPPLIES



**Choose a power supply that's designed for the classroom and used by physicians in industry across the world...**

EduLab power supplies are a cost effective and reliable range, with there being a power supply designed to meet every educational requirement. Coupled with the fact that they have been designed with the educational laboratory in mind, with their features reflecting this.

They are truly an essential piece of equipment for any lab. Which is why they are also a crucial part of our A-Level general set up Lab List.

Make sure that you have all those essentials to deliver your A/T-Level courses by visiting our A-Level Lab essentials list below. Join this with our T-Level list to have the complete equipment solution!

[vittaeducation.com/lablists](http://vittaeducation.com/lablists)



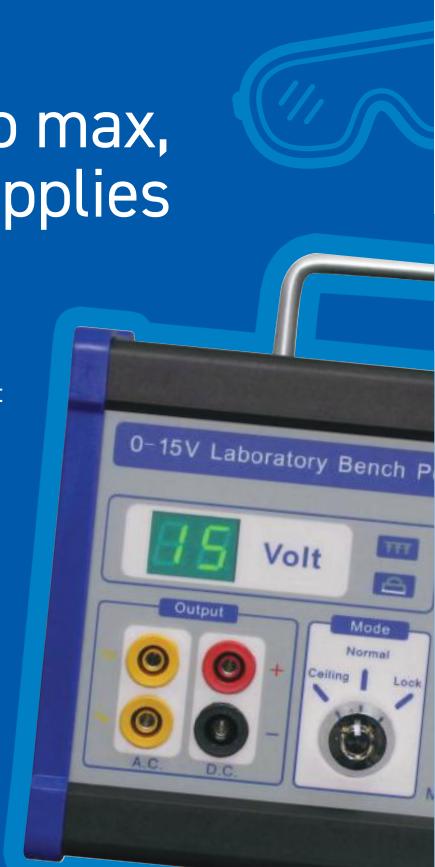
## Set learning to max, with power supplies from EduLab

Designed for ease-of use, durability and accuracy, **EDULAB** power supplies provide a sound investment for every classroom...

### Features include:



Features may vary. See website for product details.



VTT12302917

### EduLab 0-15V Stepped Power Supply

Provides stepped voltage of 0-15V in one volt steps for both AC and slightly smoothed DC.



### SATZ School Power Supply - 1.5A

Designed specifically for student use, the compact unit features voltage control and double insulation.

- Auto resetting and a multi-fuse design



VTT12302923

### EduLab Variable Power Supply - 0-15V

A precision variable, full specification power supply for the school laboratory that boasts a compact design for easy storage and transportation.



VTT12302917

# CENTRIFUGES



## Clifton

### Clifton Targa Centrifuge – 6 x 15ml

This compact and robust unit is ideal for routine low speed centrifugation. Constructed with a durable steel body, it is hard-wearing with removable parts for easy cleaning.

- Max speed of 4,000 RPM

#### Did you know...

The term centrifuge refers to a machine which houses a rapidly rotating container to separate its contents by density. The most common use is to separate different liquids, and solids from liquids but they can also be used for gases.

It gets its name from centrifugal force, however the real force at work is centripetal force, which is when spinning objects are pulled inwards.

All centrifuges are based on this same technique, however differing rotation speeds and rotor design can mean they can be used for multiple different applications. From high speed ultra-centrifuges, which can be used to enrich uranium, all the way through to human centrifuges which can be used to simulate high gravity. But centrifuges aren't just found within science! Medium sized centrifuges are common in daily life, for example a salad spinner or a washing machine, these are both simple centrifuges!



VTN12300466



VTT12306061

### Clifton Refrigerated Centrifuge

A compact highly specified durable bench-top centrifuge with wipe clean control panel, touch button controls and lid opening, rotor start or soft start.



VTN12300482





## EMPOWERING T-LEVEL STUDENTS FOR SUCCESS:

# INDUSTRY IN-SIGHT



**We interviewed Toni Carlton, Quality Management Systems Lead at the UKAS-accredited laboratory, Test Labs, to discuss hands-on learning in science.**

Toni has 6 years of experience in an ISO 15189 UKAS-accredited clinical biochemistry department within the NHS. During her hospital tenure, she earned a BSc degree in applied biomedical science at the University of Westminster.

### DISCUSSING THE FUTURE OF T-LEVEL PLACEMENTS

For a dynamic industry like ours, just reading from a textbook is insufficient for students to be able to truly gain the essential knowledge and practical skills to be able to thrive at the beginning of their careers, especially for those who are kinaesthetic learners.

With industries and technology constantly changing and advancing, aligning the curriculum with industry, not only allows for the students to have a more realistic representation of the industry but gives them relevant up-to-date knowledge and easily transferable skills. It exposes students to the latest trends, technologies, and practices, ensuring they are well-prepared for both placements and the competitive job market upon graduation.

T-Levels give students broad industry exposure and an insight into the various roles available, facilitating informed career path discussions. Collaborating closely with educational institutions and curriculum developers, we contribute to shaping curricula that reflect the industry's demands. This ensures T-Level students are well-prepared to meet industry expectations and challenges, making them valuable assets from day one of their placements.

### THE MOST VALUABLE SKILL FOR T-LEVEL STUDENTS

One of the most valuable skills T-Level students can possess is a strong foundation in interpersonal skills. Interpersonal skills encompass self-awareness, communication, collaboration, conflict resolution, problem-solving, and leadership. These skills are not only essential during placements but form the cornerstone of a successful future career.

Students with well-developed interpersonal skills are better equipped to navigate the workplace environment. Helping students become more self-aware of their strengths and weaknesses empowers them to cultivate the behaviours and tactics required for effective interactions with colleagues, clients, and supervisors.



### THE IMPORTANCE OF INDUSTRY-QUALITY EQUIPMENT

In addition to a well-aligned curriculum, investing in industry-quality equipment is paramount. Just as professionals rely on the right tools for their jobs, T-Level students must have access to high-quality equipment that mirrors workplace conditions.

Alongside the right curriculum, using industry-quality equipment enhances hands-on experience, providing students with practical experience that prepares them for their placements and future careers. This investment not only enriches their learning experience but prepares students for working with the most up-to-date equipment within specialised facilities, creating an immersive learning environment that closely simulates real-world settings (which will overall help the student to learn more effectively).

### CONCLUSION

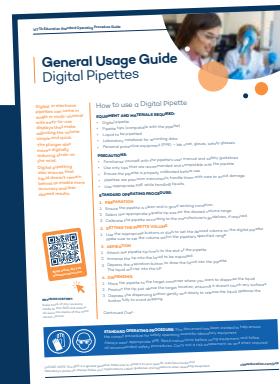
As an industry placement provider, we recognise the transformative potential of T-Level programs in preparing students for placements and future careers. Emphasising interpersonal skills, supporting curriculum alignment, and investing in industry-quality equipment empower T-Level students to excel in our dynamic industry.

Read the full conversation with Toni online at [vittaeducation.com/T-Levels](https://vittaeducation.com/T-Levels)





# DIGITAL PIPETTORS



**Help look after your equipment with VITTA's Standard Operating Procedure downloads.**

Download our handy SOP Guide at [vittaeducation.com/sop](http://vittaeducation.com/sop)

## Cole-Parmer Fixed Volume Pipettor – 100 $\mu$ L

Easy to operate with its ergonomic, lightweight push-button design with forward and reverse pipetting modes.

- Fixed volume of 100 $\mu$ L



VTT12306953

## Cole-Parmer Single Channel Electronic Pipettor – 5-100 $\mu$ L

Designed to operate up to 5 different modes of pipetting.

- Volume of 5 to 100 $\mu$ L



VTT12306951

## Cole-Parmer®

### Cole-Parmer Adjustable Volume Pipettor – 10-100 $\mu$ L

Adjustable-volume pipettors feature click-stop volume settings.

Volume is displayed through hand-grip window for quick glance.

- Fully autoclavable



VTT12306952

# MUST-HAVE EQUIPMENT

## PASCO Wireless Spectrometer

The award-winning PASCO Wireless Spectrometer is specifically designed for introductory chemistry, biology, and physics education.

Includes free PASCO Spectrometry Software for easy operation with fast scan times, ranging from milliseconds to minutes depending on the required settings.



PS-2600A



## EdvoTek PCR

The sleek form factor has been miniaturised with 16 wells to run individual PCR experiments.

A vivid and intuitive touchscreen and on-board computer simplify operation by not requiring a secondary device.



VTT12306970

## Burkle Dry Ice Maker

This compact, lightweight dry ice maker allows you to produce a -79°C tablet in 1 minute.

Installs on any commercial CO<sub>2</sub> gas cylinder with standpipe.

VTT12306966

## Cole-Parmer Accu-Jet® Pipette Controller – 0-5000µL

Features pressure sensitive buttons for accurate control with 0.1 to 100ml pipettes.



VTT12306955

## Cole-Parmer Shaking Water Bath WBS-300 – 24Ltr

- Static or shaking bath
- Shaking speed: 20 to 130 rpm



VTT12306959

## ADAM

### Adam Equipment Luna Density Kit

A density kit is used in co-ordination with an analytical balance, and is used to determine the density of an object.



VTT12306939

## Cole-Parmer Economical Glove Box – Small

The wide front access door makes loading equipment easy.



VTT12306975

# PRODUCTS & KNOW-HOW

**With a unique set of capabilities and resources, VITTA Education is a trusted partner for colleges and schools seeking to excel in T-Level delivery.**

Being part of the wider VITTA Group enables VITTA Education a unique advantage of being able to successfully bridge the gap between education and industry. Supplying both sectors with equipment and expertise gives our team valuable insights into the needs and expectations of both educators and the workforce. This insight enables us to confidently offer industry-aligned equipment that is suitable for educational purposes but prepares students for not only their industry placement but also their future careers.

We don't just provide equipment; one of the stand-out features of the VITTA Education offering is the emphasis on product-specific training for relevant staff members. Alongside our bespoke un-boxing and set-up service, we provide one-to-one training, access to online resources through our **T-Level Hub**, and assure the ongoing support needed to maximise the potential of the equipment.

Our training is tailored to your individual needs and requirements, covering everything from calibration methods to standard operating procedures and troubleshooting. The goal is to leave colleges and staff fully equipped with the knowledge to operate and maintain the equipment, thereby maximising its usage, enabling the correct delivery of the curriculum and making it easier to engage students effectively.

For additional product information and in-depth T-Level support contact the team on **0333 996 1611**



**T-LEVELS**  
THE NEXT LEVEL QUALIFICATION



Wherever you are on your T-Levels journey,  
VITTA can help find the answers you're looking for.

Contact our T-Levels team on **0333 996 1611**  
or email **hello@vittaeducation.com**

For further resource and support, visit:

La **B** Li Fe

