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WELCOME TO OUR 11TH EDITION OF THE EDULAB CATALOGUE.

Edu-lab® is now officially a part of the International-Scientific Group (ISG®) and this enables us to bring you a wider range of professional quality products at excellent prices.

OUR NEW 11TH EDITION CATALOGUE - OUR MOST EXTENSIVE SELECTION OF RESOURCES (INCLUDING EXCITING NEW AND IMPROVED PRODUCTS) - WILL HELP YOU DELIVER AN EXCELLENT LEVEL OF PRACTICAL SCIENCE WHEREVER YOU ARE IN THE WORLD.

Our export team is fully focussed on providing our international school customers with the best service and support available in the industry. Years of dedication and passionate experience result in the best outcomes for all our global partners. ISG® has an extensive network of distributors worldwide. Working closely with international school groups for many years to support schools in 95 countries worldwide. We have been active in schools worldwide for 25 years.

We believe that quality equipment, delivered on time is key to success and that is why almost 100% of what we offer is our own products. This enables us to guarantee the availability, quality and performance of the products and most importantly offer a comprehensive after-sales service.

We look forward to working with you in 2017.

Mark Hynd

Managing Director, Edulab®/ISG®

FREE FAST DELIVERY SAME DAY DISPATCH

Free same-day despatch from stock is a fantastic service for those that need equipment quickly, but only if those items are actually in stock! So, we invest heavily in an enormous quantity of the latest equipment, particularly for the most popular items.

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WE'RE AT THE FOREFRONT INNOVATION

Our product development team includes former teachers with decades of experience. By constantly monitoring changes in curriculum and exam board specification, they develop products that improve learning, save costs and reduce set-up time...

ENDURA-FLEX™

We are continuously developing new products such as our Endura-Flex™ non-perish/non-kink tubing. Guaranteed to last 10x longer that the traditional orange rubber tubing.

SEE PAGE 12 FOR MORE INFO

STEPPA-STOPPA™

Officially launching our New Bung range, Steppa-Stoppa™ universal bungs no more searching for a specific size bung. The stopper is available in two sizes (small and large) available in a box of 10.

SEE PAGE 8 FOR MORE INFO

FUME CABINETS

We also have our own ISG® Range of Fume cabinets which can be shipped anywhere in the world in 7 days. Just specify the electrical connection and requires no time-consuming Installation.

SEE PAGE 11 FOR MORE INFO

EDULAB YOUR PERFECT LAB PARTNER

FOR MORE INFORMATION ABOUT OUR LAB FIT-OUTS OR TO DISCUSS YOUR REQUIREMENTS CALL US ON **+44 (0) 1366 385 777**

NEW SCHOOLS

Edu-Lab has become a trusted partner for new schools and has assisted with the setting up of more new schools (EU and Worldwide) than any other UK Based company. We guarantee to get your labs equipped within budget, on time, every time.* Our highly qualified team of Chemists, Biologists and Physicists understand the requirements of curricula and experimental outcomes. They review the curriculum being taught, the number/type/location of Labs and will supply recommendations for the required equipment that is not only tailored to class/group sizes but comes with our fit-for-purpose guarantee!*

We understand and manage the issues around delivery and installation of the equipment to ensure a seamless process - simply contact us to discuss a free consultation/recommendation and to discover the scope of the support we can offer. We welcome visitors to our UK Office and the opportunity to visit you if required.

NEW LABS OR COURSES

You may be having a refurb, additional labs or simply (or not so simply) changing exam Board and we can help with that too. In addition to the service offered above, we can run needs-analysis studies based upon the equipment you already have and then supply a list of "fill-in" equipment required to adequately equip the new labs for the given curricula.

EXISTING LABS

For your day-to-day requirements we offer free delivery into the EU*, competitive hassle-free delivery outside of the EU and a no-hassle satisfaction promise – contact us for details.

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CALL US TODAY
FOR MORE INFORMATION

THE EDULAB BASTION® GLOVES RANGE - ISG®

Through its partners in ISG® Edulab have developed an extensive brand new glove range. The Bastion® glove range is world leading quality and compliant with all the industry standards for UK, USA and other global standards in including the new HACCP regulation for Australia. Edulab brings you medical grade gloves at competitive prices for the education market.

Every Bastion® glove has its very own technical datasheet that can be downloaded from the Edulab website **www.edulab.com**

TO ORDER CALL US TODAY
ON +44 (0)1366 385 777

PRODUCTION
The manufacturers of Bastion products have been carefully selected following our extensive product testing and evaluation of companies who comply with relevant international standards and certifications.

QUALITY ASSURANCE
Our policy also involves regular monitoring and inspections by Bastion management of our production facilities and their testing and quality control procedures to ensure the highest level of quality and consistency. Bastion also engages an independent agent to inspect and test each shipment following production prior to dispatch.
This ensures the correct AQL levels, tensile strength, thickness and colour.

LOGISTICS
Effective logistics, dispatch methods and reliable transport agents ensure products will be delivered to your warehouse safely and efficiently.

ENVIRONMENTAL AWARENESS
Bastion consistently monitors all our manufacturer's procurement systems and encourages socially & environmentally responsible policies and fair trade practices.

INNOVATION
At Bastion Pacific we realise the importance of innovation. We continually source and develop new products, and investigate particular requirements to ensure progress and success in the marketplace.

07

NEW PRODUCTS SECTION

IN SCIENCE TOGETHER

BASE **5MM**

TOP **34.5MM**

LENGTH **52MM**

STEPPA-STOPPA SMALL (BOX 10)

The ISG® Steppa-Stoppa is a simple yet innovative product designed to replace the standard rubber stoppers.
The stopper is made from blended polymer and features an incremental taper to suit most applications and eliminating the need for multiple sized rubber stoppers.

The stopper is available in two sizes (small and large) and both come in a box of 10 stoppers. They are autoclavable.
The stoppers work best when dry and a microfiber drying cloth is provided for your convenience.

Code 153-925 is the stopper to the right of the picture.
(Registered Design No. 003027184-0003 with OHIM Trade Marks and Designs.)

NEW KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Base:	5mm
Top:	34.5mm
Length:	52mm

CODE	PRICE
153-925	£23.00

BASE **20MM**

TOP **48MM**

LENGTH **52MM**

STEPPA-STOPPA LARGE (BOX 10)

The ISG® Steppa-Stoppa is a simple yet innovative product designed to replace the standard rubber stoppers.
The stopper is made from blended polymer and features an incremental taper to suit most applications and eliminating the need for multiple sized rubber stoppers.

The stopper is available in two sizes (small and large) and both come in a box of 10 stoppers. They are autoclavable.
The stoppers work best when dry and a microfiber drying cloth is provided for your convenience.

Code 153-926 is the stopper to the left of the picture.
(Registered Design No. 003027184-0003 with OHIM Trade Marks and Designs.)

NEW KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Base:	20mm
Top:	48mm
Length:	52mm

CODE	PRICE
153-926	£23.00

WATERBATH, DIGITAL, 2 LITRE - ISG®

The premium ISG® digital unstirred waterbath is for laboratories that need high accuracy, excellent durability and great design. The waterbaths come with a gabled lid as standard, a large backlit LCD display and are available in a range of sizes to cover all needs. An integrated countdown timer and three user-configured pre-sets saves time and increases consistency in the laboratory.

NEW | KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Temperature Range:	Ambient +5 to 99C
Temperature Stability:	0.1C
Temperature Uniformity:	0.2C
Working Access:	9.9 x 10.9 x 15.2cm (L x W x D)
Overall Dimensions:	22.9 x 30.5 x 26.7cm (L x W x D)
Electrical Requirements:	240/50/.5 (V/Hz/A)

CODE	PRICE
153-204	£356.69

AMBIENT +5-99C | STABILITY 0.1C | UNIFORMITY 0.2C

WATERBATH, DIGITAL, 5 LITRE - ISG®

The premium ISG® digital unstirred waterbath is for laboratories that need high accuracy, excellent durability and great design. The waterbaths come with a gabled lid as standard, a large backlit LCD display and are available in a range of sizes to cover all needs. An integrated countdown timer and three user-configured pre-sets saves time and increases consistency in the laboratory.

NEW | KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Temperature Range:	Ambient +5 to 99C
Temperature Stability:	0.1C
Temperature Uniformity:	0.2C
Working Access:	12.7 x 27.4 x 15.2cm (L x W x D)
Overall Dimensions:	36.8 x 30.5 x 26.7cm (L x W x D)
Electrical Requirements:	240/50/1.6 (V/Hz/A)

CODE	PRICE
153-206	£480.71

AMBIENT +5-99C | STABILITY 0.1C | UNIFORMITY 0.2C

AMBIENT **+5-99C**

STABILITY **0.1C**

UNIFORMITY **0.2C**

WATERBATH, DIGITAL, 10 LITRE - ISG®

The premium ISG® digital unstirred waterbath is for laboratories that need high accuracy, excellent durability and great design. The waterbaths come with a gabled lid as standard, a large backlit LCD display and are available in a range of sizes to cover all needs. An integrated countdown timer and three user-configured pre-sets saves time and increases consistency in the laboratory.

NEW KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Temperature Range:	Ambient +5 to 99C
Temperature Stability:	0.1C
Temperature Uniformity:	0.2C
Working Access:	26.9 x 29.5 x 15.2 cm (L x W x D)
Overall Dimensions:	39.3 x 43.2 x 30.5cm (L x W x D)
Electrical Requirements:	240/50/4.5 (V/Hz/A)

CODE	PRICE
153-207	£536.68

AMBIENT **+5-99C**

STABILITY **0.1C**

UNIFORMITY **0.2C**

WATERBATH, DIGITAL, 20 LITRE - ISG®

The premium ISG® digital unstirred waterbath is for laboratories that need high accuracy, excellent durability and great design. The waterbaths come with a gabled lid as standard, a large backlit LCD display and are available in a range of sizes to cover all needs. An integrated countdown timer and three user-configured pre-sets saves time and increases consistency in the laboratory.

NEW KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Temperature Range:	Ambient +5 to 99C
Temperature Stability:	0.1C
Temperature Uniformity:	0.2C
Working Access:	24.1 x 43.2 x 15.2cm (L x W x D)
Overall Dimensions:	57.2 x 44.5 x 30.5cm (L x W x D)
Electrical Requirements:	240/50/6 (V/Hz/A)

CODE	PRICE
153-208	£740.81

FUME CUPBOARD POLYPROPYLENE 900MM DUCTLESS

The ISG® ductless fume cupboard is a high quality, highly chemical resistant unit constructed fully from polypropylene. This unit is simple to use, requires no specialist fitting and is lightweight for easy manoeuvrability.

The fume cupboard can either be used as a bench top unit as seen in the image above or turned into a fully mobile unit by coupling it with the fume cupboard stand which gives increased versatility.

The unit has two power sockets, an integral LED light and fully adjustable fan. Filters should be changed every 600 hours or before if you feel it is necessary. Complies with all the relevant European standards

NEW KEY STAGE KS3-7

TECHNICAL SPECIFICATIONS	
Air Velocity:	0.5m/s
Noise Level:	<52dB
Dimensions W x H x D (mm):	900mm, 700mm, 1050mm
Workspace W x H x D (mm):	840 x 640 x 660
Power Supply:	220V
Production Standard:	ISO-9001:2008
Test Standard:	EN-14175, ASHRAE 110-1995

CODE	PRICE
153-900	£3,291.40

VELOCITY **0.5M/S**

NOISE LEVEL **<52DB**

POWER SUPPLY **220V**

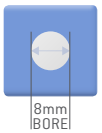
STAND FOR 900MM FUME HOOD

Stand designed to be used with 153-900. Powder coated aluminium and four breaked castors.

NEW KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Dimentions LxWxD (mm):	900 x 700 x 850

CODE	PRICE
153-901	£543.26



ENDURAFLEX LABORATORY TUBING, SQUARE, **8MM BORE, 10M ROLL**

STRENGTH	THICKNESS	DIAMETER
17KN/M	6MM	8MM

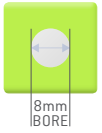
ENDURAFLEX™ TUBING, SQUARE, 8MM BORE 10M ROLL

A revolutionary new product from ISG®! Our new Endura-flex™ tubing is manufactured from a polymer blend which not only has higher resistance to chemicals and UV but will last a guaranteed 10 times longer than traditional rubber tubing!

NEW | KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Indentation Hardness:	60+/-5 Shore A
Tensile Strength:	7.5 Mpa
Elongation at Break:	300%
Specific Gravity:	1.16±0.05 g/cm3
Tear Strength:	17kN/m
Linear Shrinkage Rate:	3.2Ð3.6 %
Rebound Resilience	60%
Temperature Range	- 50-200°C

CODE	PRICE
153-512	£21.00



ENDURAFLEX VACUUM TUBING, SQUARE, **8MM BORE, 5M ROLL**

STRENGTH	THICKNESS	DIAMETER
17KN/M	6MM	8MM

ENDURAFLEX™ VACUUM TUBING 8MM BORE 5M ROLL

A revolutionary new product from ISG®! Our new Endura-flex™ tubing is manufactured from a polymer blend which not only has higher resistance to chemicals and UV but will last a guaranteed 10 times longer than traditional rubber tubing!

NEW | KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Indentation Hardness:	6± Shore A
Tensile Strength:	7.5 Mpa
Elongation at Break:	3
Specific Gravity:	1.16±0.05 g/cm3
Tear Strength:	17kN/m
Linear Shrinkage Rate:	3.2 - 200°C
Rebound Resilience	60%
Temperature Range	- 50-200°C

CODE	PRICE
153-513	£27.50

BALANCE, PRECISION 16KG X 0.1G

ISG® precision balance with a capacity of 16000g and Resolution of 0.1g This balance features an LCD screen with backlight. It has a double case structure and ergonomic keypad. This is the perfect balance for your day to day routine applications.

APPLICATIONS: PIECECOUNTING FUNCTION / CHECKWEIGHING /CERCENTUAL WEIGHING / ADD WEIGHING FUNCTION / ANIMAL WEIGHING /DENSITY FUNCTION / PEAK HOLD / UNDER HOOK.

NEW KEY STAGE KS3-6

PRICE FROM **£411.56**

TECHNICAL SPECIFICATIONS	
Capacity:	16000g
Resolution:	0.1g
Pan Size:	175 x 195mm
Selectable:	Filter Level
Selectable:	Measuring Units

CODE	PRICE
153-102	£411.56

CAPACITY **16000G** | RESOLUTION **0.01G** | PAN SIZE MM **175X195**

BALANCE, PRECISION 3100G X 0.01G

This ISG® balance have been designed to be robust with a solid structure and guaranteed reliability. The small footprint and the ability to use the integrated rechargeable battery allows these balances to be versatile and moved around the lab at will.

Operates with both mains power and rechargeable battery (included). LCD screen with backlight.

NEW KEY STAGE KS3-6

PRICE FROM **£384.13**

TECHNICAL SPECIFICATIONS	
Capacity:	3100g
Resolution:	0.01g
Repeatability:	Ø - 130 mm
Linearity:	Plus/minus 0.03
Pan Diameter:	160mm

CODE	PRICE
153-103	£384.13

CAPACITY **3100G** | RESOLUTION **0.01G** | DIAMETER **160MM**

CAPACITY **4200G** | RESOLUTION **0.01G** | DIAMETER **160MM**

BALANCE, PRECISION 4200G X 0.01G, INTERNAL CALIBRATION

This ISG® precision balance is a high performance unit which has been designed for efficiency, convenience and speed of use. This unit has double case structure for maximum reliability and stability. Internal calibration saves time and increases efficiency.

APPLICATIONS:
CAPACITY - 4200G
RESOLUTION - 0.01G
LCD WITH BACKLIGHT
INTERNAL CALIBRATION

NEW | KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Capacity:	4200g
Resolution:	0.01g
Repeatability:	0.003g
Linearity:	Plus/minus 0.03
Pan Diameter:	160mm

CODE	PRICE
153-107	£631.06

CAPACITY **420G** | RESOLUTION **0.001G** | DIAMETER **110MM**

BALANCE, PRECISION 420G X 0.001G, INTERNAL CALIBRATION

This ISG® balance has been designed for performance and convenience. This unit has a double casing structure for stability and reliability. The internal calibration increases ease of use and speeds up processing. This balance includes a 3 door draught shield to increase accuracy and repeatability.

NEW | KEY STAGE KS5-6

TECHNICAL SPECIFICATIONS	
Capacity;	420g
Resolution:	0.001g
Repeatability:	0.0003g
Linearity:	Plus/minus 0.003
Pan Diameter:	110mm

CODE	PRICE
153-104	£587.16

BALANCE, ANALYTICAL 200G X 0.0001G, INTERNAL CALIBRATION

The ISG® Analytical precision balance with a capacity of 220g and Resolution of 0.0001g This balance features Internal calibration and a LCD screen with backlight. It also combines elegance with highly reliable measuring performance, has a double case structure and ergonomic keypad. Many integrated advanced features make this balance perfect for use in laboratory, research departments, formulation and quality control applications.

NEW KEY STAGE KS5-6

PRICE FROM **£900.00**

TECHNICAL SPECIFICATIONS	
Capacity;	220g
Resolution:	0.0001g
Internal Calibration:	Yes
Pan Diameter:	Ø 80 mm

CODE	PRICE
153-105	£900.00

CAPACITY **220G** | RESOLUTION **0.0001G** | DIAMETER **80MM**

MOISTURE ANALYSER 160G X 0.001G, 160°C

The ISG® moisture analyser is a sturdy instrument for the determining of moisture in raw materials in finished samples of food, cosmetics and ceramics it would often be used also in the agriculture and construction industries.

APPLICATIONS:
TEMPERATURE RANGE: 35-160°C/1°C
CAPACITY - 160G
RESOLUTION - 0.001G (0,01%)
LCD WITH BACKLIGHT
HALOGEN-INFRARED LAMP

NEW KEY STAGE KS3-6

PRICE FROM **£982.26**

TECHNICAL SPECIFICATIONS	
Capacity:	160g
Resolution:	0.001g
Repeatability:	0.002
Linearity:	Plus/minus 0.003g
Temperature Range:	– 5°C - 35°C

CODE	PRICE
153-106	£982.26

CAPACITY **160G** | RESOLUTION **0.001G** | REPEATABILTY **0.002**

PRICE FROM **£657.40**

RESOLUTION **0.1°C**

DISPLAY **LED**

NET WEIGHT **1.8KG**

DIGITAL MELTING POINT APPARATUS - ISG®

The ISG® Melting Point Apparatus is economic and easy-use. It uses a precise thermistor control system giving a resolution on the display of 0.1°C. The device is designed to simultaneously measure two samples. The internal LED light source, together with the magnified lens and tilt rear feet enables a broader and clearer view of samples. The measurement ranges from ambient to 300°C. The device unit has two heating speeds to make measurement much quicker and convenient.

NEW KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Temperature accuracy (°C):	± 1.0 at 20°C, ± 2.5 at 300°C
Display resolution (°C):	0.1
Readout Hold:	Yes
Number of Samples:	2
Fast Stage Ramp rate:	20 Fixed (°C/min)
Electrical Supply:	230V, 50Hz, 75W

CODE	PRICE
153-819	£657.40

PRICE FROM **£103.33**

OSMOSIS & DIFFUSION LAB

This lab allows you to learn about two forms of passive transport: diffusion and osmosis. You will compare and contrast similarities and differences in the processes of diffusion and osmosis. Use a colorimetric test to demonstrate the movement of a solute across a semi-permeable membrane. Set up an environment likely to facilitate osmosis and gather data to determine whether or not osmosis may have occurred. Kit contains enough materials for 15 groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:
30 PC. DIALYSIS TUBING
1 CPSL STARCH (TO MAKE 100ML OF 1.0% SOLUTION)
1 BTL. SUCROSE (TO MAKE 100ML OF 0.5M SOLUTION)
1 BTL. IODINE/POTASSIUM IODIDE SOLUTION, 15ML
30 PLASTIC CUPS

NEW KEY STAGE **KS3-6**

CODE	PRICE
200-001	£103.33

KIDNEYS & BLOOD FILTRATION

Learn the role of the kidney in blood filtration and waste removal along with the many functional tasks performed by nephrons, as well as nephron structure. Students will create an artificial kidney model to filter simulated blood. This will allow them to visually determine if filtration of the simulated blood may or may not have occurred. Chemically test the resulting filtrate to detect any possible waste material that may have been removed by the kidney. Kit contains enough materials for 15 groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:
1 BTL. SIMULATED UNFILTERED BLOOD, 100ML
15 PC. DIALYSIS TUBING
15 PLASTIC CUPS
15 PIPETTES, 1ML
30 SALT TEST STRIPS
30 UREA TEST STRIPS

NEW KEY STAGE KS3-6

CODE	PRICE
200-002	£79.90

ELECTROPHORESIS: AGAROSE GEL SEPARATION OF DYES

Introduce your students to this valuable separation science in a safe and colorful manner. Unlike DNA and other molecules which cannot be seen during electrophoresis, this activity uses dyes that can be observed during the actual procedure, providing visual reinforcement of the forces driving molecular movement and separation in the electrophoresis process. Kit contains enough materials to run ten 20ml agarose gels (actual number of runs may vary based on your equipment).

KIT INCLUDES:
1 BTL IODINE/POTASSIUM IODIDE SOLUTION, 25ML
1 BTL BIURET REAGENT, 25ML
1 BTL BENEDICT'S SOLUTION, 25ML
1 BTL 1.0% SUDAN III STAIN, 25ML
1 BTL VEGETABLE OIL, 25ML
10G SOLUBLE STARCH
10G ALBUMIN
10G GLUCOSE

NEW KEY STAGE KS3-6

CODE	PRICE
200-003	£97.02

PRICE FROM **£70.77**

SIMULATED ABO/RH BLOOD TYPING

This activity provides the most procedurally accurate simulation of the blood typing technique available. Students test and determine the ABO/Rh blood types of four different simulated blood samples. Using Innovating Science's new simulated blood, the students combine blood samples and antisera, gently agitate the blood typing tray, and observe the results. No toothpicks, no stirring, and no waiting for results required. Kit contains enough materials for 10 groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:
4 SIMULATED BLOOD SAMPLES
DONOR #1
DONOR #2
DONOR #3
DONOR #4
1 BTL SIMULATED ANTI-A SERUM
1 BTL SIMULATED ANTI-B SERUM
1 BTL SIMULATED ANTI-RH SERUM
40 BLOOD TYPING TRAYS

NEW KEY STAGE **KS5-6**

CODE		PRICE
200-004		£70.77
200-005	Refill Kit	£51.36

PRICE FROM **£78.10**

GENETICS OF BLOOD TYPES (SIMULATED)

Blood type, an inherited characteristic, has use in everything from forensic investigations to medical procedures. In this activity, students will learn about the genetics that determine blood type and the possible inheritance patterns and how they express themselves. Students will use Innovating Science's new simulated blood to determine the blood type of four unknown samples and use their results to assist in the resolution of a fictional paternity dispute.

Kit contains enough materials for 10 groups. Teacher's Manual and Student Study Guide copymasters are included.

NEW KEY STAGE **KS5-6**

CODE	PRICE
200-006	£78.10

UNDERSTANDING BLOOD TYPE INTERACTIONS THROUGH SIMULATED BLOOD TYPING

The earliest historical attempts at blood transfusions often had lethal results. These results led to the investigation and discovery of blood types, as well as a deeper understanding of the importance of antigen/antibody interactions. In this investigation, students will utilize Innovating Sciences new simulated blood to determine the ABO/Rh blood type of four individuals, one in need of a transfusion.

KIT INCLUDES:
40 BLOOD TYPING TRAYS
4 SIMULATED BLOOD SAMPLES
DONOR #1
DONOR #2
DONOR #3
PATIENT
1 BTL SIMULATED ANTI-A SERUM
1 BTL SIMULATED ANTI-B SERUM
1 BTL SIMULATED ANTI-RH SERUM

NEW KEY STAGE KS5-6

PRICE FROM **£77.62**

CODE		PRICE
200-007		£77.62
200-008	Refill Kit	£51.36

FORENSICS USING SIMULATED BLOOD

Though the use of blood type in a forensic investigation is not enough to prove guilt, it may aid in exonerating a potential suspect. In this activity, students act as lab technicians and assist investigators by examining evidence collected at a crime scene. Students first use a presumptive blood test to determine if a substance on a stained piece of cloth may be blood, and then determine the blood type of a sample collected at the scene. Students then compare their results to those of samples provided from two suspects. Kit contains enough materials for 10 groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:
40 BLOOD TYPING TRAYS
10 COTTON SWABS
1 PC CLOTH
1 BTL 70% ETHANOL
1 BTL BLOOD DETECTION REAGENT #1
1 BTL BLOOD DETECTION REAGENT #2
4 SIMULATED BLOOD SAMPLES

NEW KEY STAGE KS5-6

PRICE FROM **£74.19**

CODE	PRICE
200-009	£74.19

OSCILLATING REACTIONS - THE TRAFFIC LIGHT

A flask containing a yellow solution is gently swirled and the solution turns red. When the flask is shaken the solution turns green.

KIT INCLUDES:
1 X 10 G SODIUM HYDROXIDE, BEADS UN1823
1 X 0.5G INDIGO CARMINE, MAKES 50ML
5 X 5 G DEXTROSE (GLUCOSE)

CODE	PRICE
200-012	£44.46

FORENSIC CHEMISTRY OF DUSTING FOR FINGERPRINTS

Learn to identify and classify different types of fingerprints. Students will learn how to identify different types of fingerprints and distinguishing characteristics, as well as dusting for fingerprints, the oldest and most commonly used method of fingerprint detection. Kit contains enough material for 15 groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:
1 BOTTLE FINGERPRINTING POWDER
15 FINGERPRINTING BRUSHES
15 HAND MAGNIFIERS
ACETATE SHEETS
INK PAD

CODE	PRICE
200-013	£125.55

PROPERTIES OF ANTACIDS

With the global population spending over a half a billion dollars a year on commercial antacids, several companies are out there competing for a part of the business. In this activity, students will learn about some of the more common active components in over-the-counter antacids as well as investigate the rate of acid neutralization of five different antacids. Students will also compare the buffering ability of three different calcium carbonate based antacids. All antacid samples are included and the kit contains enough materials for fifteen groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:
5 X 30 ML HYDROCHLORIC ACID, 1M SOLUTION UN1789
2 X 30 ML UNIVERSAL INDICATOR UN1170
2 X 30 ML BROMOTHYMOL BLUE, 0.5% AQUEOUS SOLUTION
1 PKG/15 GRADUATED PLASTIC PIPETTES
2 PKG/50 UNIVERSAL INDICATOR STRIPS
1 X 60 ML ANTACID #5, LIQUID
1 PKG/7 ANTACID #1, TABLET
1 PKG/7 ANTACID #2, EXTRA STRENGTH
1 PKG/7 ANTACID #3, TABLET
2 PKG/2 ANTACID #4, TABLETS
90 DISPOSABLE MEDICINE CUPS

NEW KEY STAGE KS5-6

CODE	PRICE
200-014	£78.10

PROPERTIES OF SHAMPOO

Different shampoos are manufactured from a variety of ingredients to perform a variety of tasks. In this investigation, students will not only learn about the role of several shampoo ingredients, but also test several properties of different shampoos which are included in the kit. Students will determine the relative viscosity, pH, flash-foam formation and retention, oil emulsification, and contaminant-dispersion abilities of different shampoos. Kit contains enough materials for fifteen groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:

30 ML SHAMPOO #1
1 X 30 ML SHAMPOO #2
1 X 30 ML SHAMPOO #3
1 X 30 ML INK, BLACK, 10%
1 X 30 ML VEGETABLE OIL
1 PKG/50 UNIVERSAL INDICATOR STRIPS
1 PKG/45 GRADUATED PLASTIC PIPETTES
1 PKG/25 COPPER BALLS
45 DISPOSABLE MEDICINE CUPS
45 POLYSTYRENE TEST TUBES
3 PLASTIC CENTRIFUGE TUBE

NEW KEY STAGE KS5-6

CODE	PRICE
200-015	£86.69

PROPERTIES OF ASPIRIN

Aspirin is to this day the most widely used painkiller and largest selling non-prescription medicine in the world. Learn about the history of the development acetylsalicylic acid (aspirin) and test the performance of several different types of aspirin. Students will examine the solubility of aspirin in varying gastrointestinal environments, a comparison of active ingredients in regular and extra-strength aspirin, and the differences between regular and buffered aspirin. All aspirin samples are included and the kit contains enough materials for fifteen groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:

5 X 30 ML HYDROCHLORIC ACID, 1M SOLUTION UN1789
8 X 30 ML SODIUM HYDROXIDE, 1M SOLUTION UN1824
1 X 30 ML PHENOLPHTHALEIN, 1% IN ETHANOL UN1170
1 PKG/50 UNIVERSAL INDICATOR STRIPS
1 PKG/15 GRADUATED PLASTIC PIPETTES
45 DISPOSABLE MEDICINE CUPS
1 PKG/45 ASPIRIN, ENTERIC COATED
1 PKG/15 ASPIRIN, EXTRA STRENGTH
1 PKG/75 ASPIRIN, REGULAR
1 PKG/60 ASPIRIN, BUFFERED

NEW KEY STAGE KS5-6

CODE	PRICE
200-016	£77.62

DNA FINGERPRINTING ELECTROPHORESIS LAB ACTIVITY

DNA fingerprinting is one of the strongest forms of evidence in forensic investigations. In this activity students will perform agarose gel electrophoresis on four DNA samples to determine if DNA from suspects matches that of DNA found at a crime scene. Students will also learn about restriction enzymes and the importance of these enzymes in the DNA fingerprinting process. The kit contains enough materials for 8 groups and includes a Teacher's Guide and Student Study copymasters.

KIT INCLUDES:
200 ML PREPARED AGAROSE 0.8% SOLUTION
500 ML TRIS-BORATE-EDTA BUFFER 5X
60 ML DNA STAIN
10 ĐG CRIME SCENE DNA
10 ĐG VICTIM DNA
10 ĐG SUSPECT #1 DNA
10 ĐG SUSPECT #2 DNA

NEW KEY STAGE KS5-6

CODE	PRICE
200-017	£148.38

DNA PATERNITY TESTING ELECTROPHORESIS LAB ACTIVITY

While over 99% of DNA is the same among all humans, the remaining part is unique to every individual (with the exception of identical twins). These differences are hereditary, with parts of the unique sequence coming from each parent. By using DNA fingerprinting, or DNA profiling, a child's paternal relationship can be tested by comparing the child's DNA profile to the profile of the mother and possible father to determine if an individual is the father or not.

KIT INCLUDES:
200 ML PREPARED AGAROSE 0.8% SOLUTION
500 ML TRIS BORATE EDTA BUFFER 5X
60 ML DNA STAIN
10 ĐG MOTHER'S DNA SAMPLE
10 ĐG CHILD'S DNA SAMPLE
10 ĐG POSSIBLE FATHER #1 DNA SAMPLE
10 ĐG POSSIBLE FATHER #2 DNA SAMPLE

NEW KEY STAGE KS5-6

CODE	PRICE
200-018	£136.97

PANDA EDU-LOGGER

Panda is a multi-sensor module that includes 9 built in sensors: room temperature, light, sound, barometer, altitude, humidity, dew-point, acceleration, magnetic field.

It includes a rechargeable battery, 3.2" (320X240 pixels) color display, touch screen and USB connector.

Panda is used for environmental data collection and experiments in Natural Science, Biology, Physics and Chemistry. Edu-Logger sensors can be connected in a chain.

Panda can be connected by wire to a PC or MAC through a USB connection.

Panda works with a Wi-Fi module for wireless (900-268) communication with PCs, MACs, iPads, Android tablets and smart-phones.

PRICE FROM **£383.03**

NEW | KEY STAGE KS5-6

PIXELS **320X240** | CONNECTION **USB** | WORKS WITH **WIFI**

CODE	PRICE
900-275	£383.03

AMMETER DIGITAL

PRICE FROM **£38.41**

NEW | KEY STAGE KS5-6

CODE	PRICE
614-016	£38.41

VOLTMETER DIGITAL

PRICE FROM **£38.41**

NEW | KEY STAGE KS5-6

CODE	PRICE
614-017	£38.41

WORCESTER CIRCUIT BOARD KIT

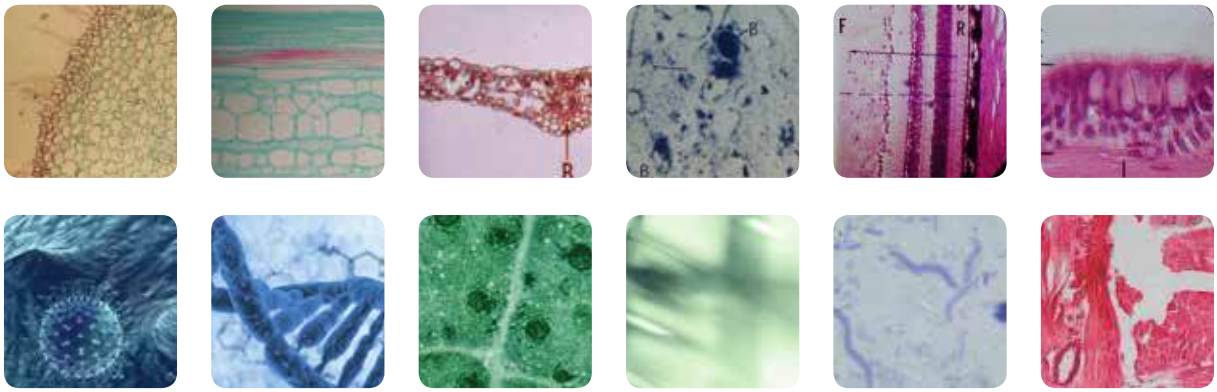
PRICE FROM **£82.31**

NEW | KEY STAGE KS5-6

CODE	PRICE
231-151	£82.31

EDULAB MICROSCOPE SLIDE SETS

Full slide sets available featuring sets featuring glass slides and presentation box.



NEW KEY STAGE KS5-6

CODE	DESCRIPTION	PRICE
450-015	Prepared Microscope Slide Set - Health And Disease	£82.31
450-016	Prepared Microscope Slide Set - Exchange surfaces and epithelia	£82.31
450-017	Prepared Microscope Slide Set - Circulatory System	£82.31
450-018	Prepared Microscope Slide Set - Transport In Plants	£71.34
450-019	Prepared Microscope Slide Set - Connective Tissues	£71.34
450-020	Prepared Microscope Slide Set - Skin And Excretion	£82.31
450-021	Prepared Microscope Slide Set - Photosynthesis And Adaptations	£71.34
450-022	Prepared Microscope Slide Set - Meiosis And Mitosis	£82.31
450-023	Prepared Microscope Slide Set - Digestion (Stomach, Small Intestine And Large Intestine)	£82.31
450-024	Prepared Microscope Slide Set - Digestion (Liver, Pancreas And Tongue)	£82.31
450-025	Prepared Microscope Slide Set - Key Stage 4 Biology	£82.31

025

EARTH SCIENCE RANGE

IN SCIENCE TOGETHER

ILLUMINATED ORBITER

The Edulab, Orbiter demonstrates how the Sun, Earth and Moon manually revolve around one another on this gear-driven model. The Orbiter effectively demonstrates daylight, night, seasons, and phases of the Moon. The Orbiter, Edulab, Illuminated model is provided with a study guide which includes 10 basic investigations linked to the curriculum. Includes a 3 prong, round pin, flat parallel blades and flat angled blades adapter plugs.

AVAILABLE IN EUROPEAN & US VERSIONS

KEY STAGE **KS2-4**

Sun, Earth and Moon manually revolve around one another on this gear-driven model. Effectively demonstrates daylight, night, seasons, and phases of the Moon. Arm is 381mm long, Sun is 152mm in diameter. Includes study guide. Available in 230V (European) version and 110V (US) version.

CODE		PRICE
152	Illuminated Orbiter 230V (EU)	£245.40
151	Illuminated Orbiter 110V (US)	£245.40

SOLAR SYSTEM MODEL

The Edulab solar system model, gives your students the chance to see the solar system in action. The calendar at the base allows the positioning of planets according to date and shows the relative position between individual planets and the sun. Lesson plan facilitates explanation of orbit and speed.

KEY STAGE **KS2-4**

CODE	PRICE
200	£97.02

SOLAR SYSTEM MODEL

Simulation of the solar system giving insight to the size and relationship of the planets.

KEY STAGE **KS2-4**

CODE	PRICE
540-010	£48.29

CELESTIAL STAR GLOBE, TRANSPARENT (BASIC)

This Basic Transparent Celestial Globe can be a low-cost alternative to our Transparent Celestial Globe (code: 300) measures approximately 20cm in diameter and illustrates many of the same astronomical concepts as the larger versions.

KEY STAGE **KS2-4**

CODE	PRICE
310	£125.55

CELESTIAL STAR GLOBE, TRANSPARENT

Study the stars with your own planetarium! This unique 300mm diameter globe clearly and simply demonstrates the apparent relationship between Earth and the stars, planets, galaxies and other celestial objects in the universe. The globe can be set to reflect constellation position according to time and place to show the actual positions of the stars and has been printed on the inside so that a crayon may be used to mark positions of the planets or the moon. Includes a detailed Study Guide.

KEY STAGE **KS2-4**

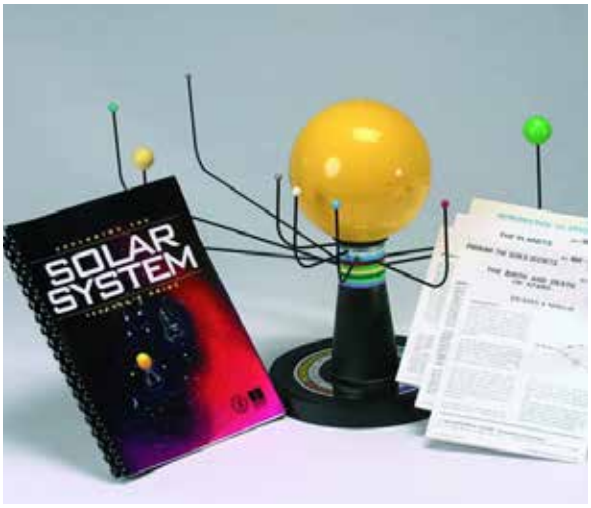
CODE	PRICE
300	£219.15

EXPLORING THE SOLAR SYSTEM LAB

Twenty complete lessons include hands-on activities that combine our best selling products, the Solar System Simulator and the Microslide® Viewer and lesson sets, to further investigate our solar system.

KEY STAGE **KS2-4**

CODE	PRICE
203	£190.61



COMPASS, PLOTTING (ONE GLASS FACE) (PK10)

Dial marked with the cardinal and ordinal points of the compass. Glass faced on one side in aluminium case. 16mm diameter.

KEY STAGE KS2-4

CODE	PRICE
PH0820A	£2.18

COMPASS, ORIENTEERING

Graduated 0-360°. Liquid filled capsule. Declination metric scale within base plate. Magnifier 25mm diameter. Comes with lanyard.

- Size: 108 x 60mm.

KEY STAGE KS2-4

CODE	PRICE
560-001	£8.73

COMPASS, PLOTTING (TWO GLASS FACE) (PK10)

Glass faced on both sides, mounted in aluminium ring of 20mm diameter. Provided with a durable plastic case for storage.

KEY STAGE KS2-4

CODE	PRICE
PH0822	£4.94

COMPASS, POCKET 45MM DIAMETER

A small compass in aluminium case. 45mm diameter. Marked in degrees with N & S indications.

KEY STAGE KS2-4

CODE	PRICE
PH0823A	£3.29

COMPASS, POCKET WITH COVER 45MM DIAMETER

45mm diameter compass. Graduated in degrees with compass points marked. During transportation the compass is protected by a locking mechanism for the needle and a hinged cover.

KEY STAGE KS2-4

CODE	PRICE
PH0824	£3.35

GEOPOLITICAL 24 INCH GLOBE INFLATABLE

This inflatable World Globe is an inexpensive way to get a globe into the hands of each student. Countries, capitals, important cities, time zones and geographic features are just a few of the attributes of this 600mm, easy-to-inflate World Globe. Great for school or home use.

KEY STAGE KS2-4

CODE	PRICE
617	£22.82

WORLD GEOPHYSICAL MAP

A 3-D raised relief map highlighting physical features and showing countries, cities and oceans.

3D RAISED RELIEF MAP

CODE	PRICE
434	£39.95

KEY STAGE KS2-4

MODEL: VOLCANO

Colourful, hand painted model offers an enlightening, cutaway view of a volcano and its associated processes.

- Size: 390(L) x 200(W) x 170mm(H).

KEY STAGE **KS2-4**

CODE	PRICE
BD0082	£163.53

TOPOGRAPHIC MODELLING & MAPPING ACTIVITY MODEL

Learn the basics of mapping by developing contour models. Additionally learn about map reading, map symbols, scale, latitude, longitude and direction.

Includes an illustrated teacher's and student's guide with easy-to-follow instructions.

KEY STAGE **KS2-4**

CODE	PRICE
24-30-1325	£27.64

VOLCANO ACTIVITY MODEL

Safely and easily demonstrate the principles of volcanism with this realistic model which erupts internally - just like a real volcano! The model is accompanied by comprehensive, fully illustrated teacher and student literature, detailed reference information and step-by-step instructions.

- Size: 295mm (D) x 100mm (H).

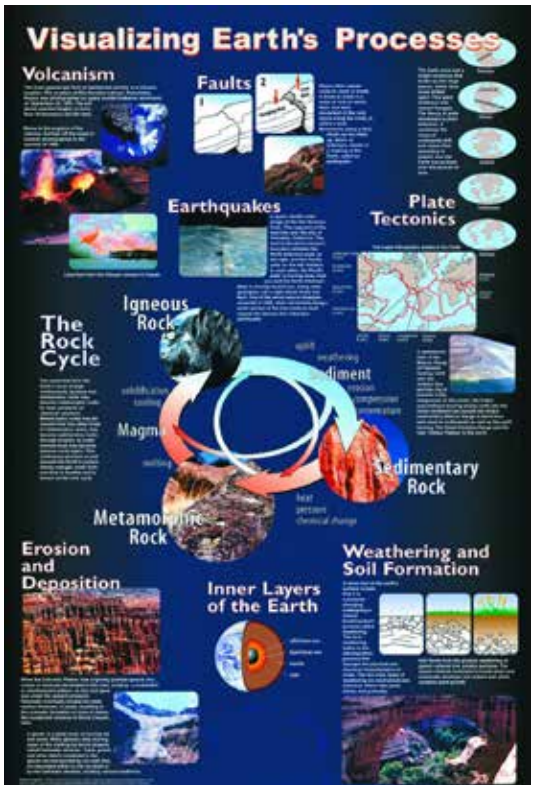
KEY STAGE **KS2-4**

CODE	PRICE
23-30-1160	£42.18

POSTER: VISUALISING EARTH'S PROCESSES (LAMINATED)

Vivid resource on key geologic processes.

Features detailed overview of the rock cycle,as well as such key earth processes as faulting and folding, earthquakes, volcanism, weathering, erosion, and more!



KEY STAGE **KS2-4**

CODE	PRICE
23-35-1036	£35.38

OCEAN FLOOR RAISED RELIEF MAP (UNFRAMED)

This map of the World captures the geography of the land and ocean floor. Ridges, trenches, mountains, continental shelves, continental slopes and islands are depicted.

- Size: 660 x 990mm. Framing options available.

KEY STAGE **KS2-4**

CODE	PRICE
436	£48.06

EARTH SHAKES LAB

Simulate and demonstrate the power of an earthquake. It will be easy for your students to understand the forces that cause earthquakes to occur after they complete the activities in Earth Shakes.

Using an interactive approach, students will model a strike-slip fault and see its possible destruction as the plate slips to relieve pressure!

They will demonstrate S waves and P waves and will then assume the role of a wave in an earth shake! It will be easy to find the perimeter of an earthquake using new understandings to solve the puzzle.

SIMULATE THE POWER OF AN EARTHQUAKE

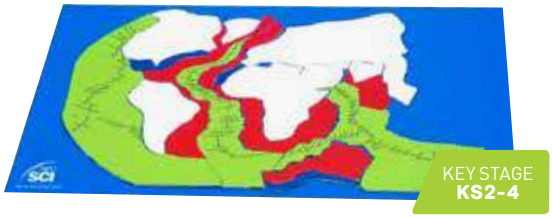
KEY STAGE **KS2-4**

CODE	PRICE
26-20-4573	£128.56

SEA FLOOR SPREADING ACTIVITY MODEL

Recreate the oceanic expansion of the past 150 million years. When Alfred Wegener was astute enough to propose continental drift in the early 1900s, he was unable to explain what natural force could move entire continents.
That explanation would not come until years later as scientists began to understand the concept of sea floor spreading.
Now you can demonstrate to your class the forces behind continental drift: the creation of new lithosphere at mid-ocean ridges which serves to push the tectonic plates apart. You'll be able to retrace the process over the past 150 million years, providing visual 'snapshots' as the earth evolved through the Jurassic and Cretaceous Periods and into the Cenozoic Era. Includes comprehensive teacher's guide.

- Size 600mm (L) x 350mm (W).



KEY STAGE **KS2-4**

CODE	PRICE
30-1150	£ 236.69

ROCK SET BASIC; 12 SAMPLES

12 samples supplied in a Gratnell tray.

COMPRIMING OF:

1. Oolitic Limestone
2. Chalk
3. Marble
4. Gneiss
5. Andesite
6. Basalt
7. Pumice
8. Coal
9. Sandstone
10. Slate
11. Granite
12. Garnet gneiss

KEY STAGE **KS2-4**

CODE	PRICE
510-014	£26.57

ROCKS AND ROCK FORMING MINERAL COLLECTION

24 specimens including 6 each of the following: rock-forming minerals; igneous rocks; sedimentary rocks; metamorphic rocks. Also includes a Study Guide.

CODE	PRICE
2124	£31.96

ORES OF COMMON METALS COLLECTION

The term 'ore' is used in connection with a rock or mineral mass when it contains enough of an element or compound to make it economically feasible to mine. 15 specimens of the more important ones are included.

CODE	PRICE
2251	£27.64

ROCK COLLECTIONS

Contains 15 representative specimens of rocks, each approx. 37 x 37mm.

CODE		PRICE
2221	Igneous Rock Collection	£28.54
2226	Metamorphic Rock Collection	£28.54
2231	Sedimentary Rock Collection	£28.54

ROCK KIT BASIC

Contains 15 representative specimens of rocks, each approx. 37 x 37mm.

CODE	PRICE
2215	£27.39

EXPANDED ROCK COLLECTION

45 specimens, approximately 38 x 38mm, includes 15 each of igneous, sedimentary and metamorphic rocks.

Each category of rock is well represented and forms an integrated classroom study unit.

KEY STAGE **KS2-4**

CODE	PRICE
2220	£81.70

CLEVER CATCH - ROCKS

24 inches (600mm) inflatable ball tests your students' knowledge on rock specimens. A creative way for children to learn!

KEY STAGE **KS2-4**

CODE	PRICE
SR-1429	£11.41

ROCK STUDY KIT

A great introduction to studying the basic rock types. Includes five each of igneous, sedimentary, and metamorphic rocks, activity guide and magnifying glass.

KEY STAGE **KS2-4**

CODE	PRICE
2217	£27.39

MINERAL STUDY KIT, GEOLOGY

The Edulab mineral collection includes examples of silicates, oxides, sulfates, phosphates, and other major mineral groups as classified in Dana's Textbook of Mineralogy. 15 specimens measuring approximately 25 x 25mm. Each specimen is labelled for identification.

KEY STAGE **KS2-4**

CODE	PRICE
2343	£27.39

CLASS ROCK PACK - 55 SAMPLES

Igneous, sedimentary and metamorphic rocks. 55 samples. Identification is based around a supplied laminated flow chart.

CODE	PRICE
510-015	£40.60

STREAK PLATES (PK10)

These 6mm thick plates are excellent for testing minerals. After scratching the plates, students separate hard and soft minerals.

Package of 10.

AVAILABLE IN: Glass, White, Black.

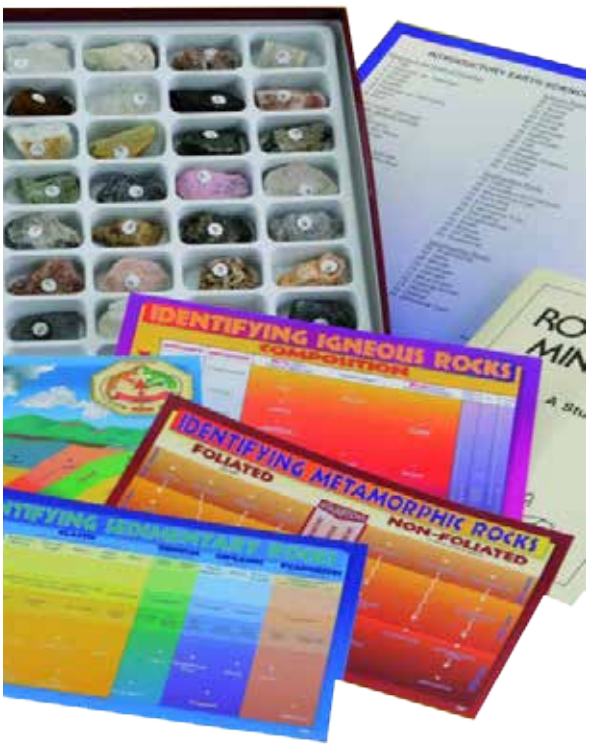
CODE		PRICE
9212-S	Streak Plates - Glass	£19.22
9211-S	Streak Plates - White	£11.41
9215	Streak Plates - Black	£1.93

INTRODUCTORY EARTH SCIENCE COLLECTION

Basic unit of 75 rocks and minerals demonstrates the major rock-forming minerals; the scale of hardness; and recognized physical properties.

Unit includes 75 number coded specimens, each size 32 x 20mm, a streak plate, magnet, magnifier and compartmented container.

CODE	PRICE
2175	£92.45



MOH'S HARDNESS TESTING PENCIL 3-9

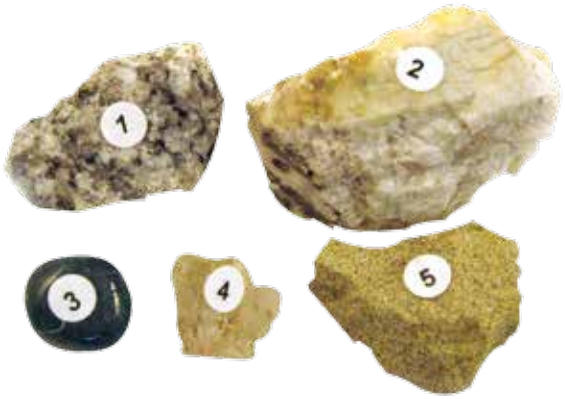
Set of hardness testing pencils: 3-9. Mineral embedded in a brass holder with wooden handle. Supplied in a boxed set with notes.

KEY STAGE **KS2-4**

CODE	PRICE
510-021	£25.42

SLIGHTLY RADIOACTIVE MINERALS & SUBSTANCES

Slightly radioactive mineral and substance samples of granite, mica, apatite, zircon.



KEY STAGE **KS2-4**

CODE	PRICE
510-019	£25.42

MINERAL TEST KIT

This kit supplies students with the tools necessary for rock, mineral, and fossil identification.

Comes in a zip-lock pouch for easy storage.

THE TEST KIT INCLUDES:
STREAK PLATE
GLASS PLATE
HAND LENS
DROPPER BOTTLE
MAGNET
NAIL
PENNY
HARDNESS SCALE

ZIP-LOCK POUCH FOR EASY STORAGE

KEY STAGE **KS2-4**

CODE	PRICE
6450	£14.84

HYDROCARBONS SET

12 samples in a Gratnell tray with lid.

KIT CONTENTS:
Oil tar sand/CRUDE OIL; Source Rock (oil shale Kimmeridge) + Crude oil in same compartment; Reservoir rock (sandstone); Reservoir rock (limestone): oolitic; Reservoir rock (limestone): chalk; Cap rock A: shale; Cap rock B: gypsum; Cap rock C: clay/marl; Peat sample; Lignite sample; Bituminous coal; Anthracite coal.

CODE	PRICE
510-012	£26.57

MINERALOGY & PETROLOGY SET

30 samples in a Gratnell tray with lid.

KIT CONTENTS:
Marble; Oolitic Limestone; Slate; Garnet Mica Schist; Sandstone; Quartzite; Gneiss with garnet; Andesite; Orthoclase Feldspar; Coal; Unakite; Pumice; Talc; Chalk; Labradorite Feldspar; Sphalerite; Biotite Mica; Muscovite Mica; Rose Quartz; Basalt; Larvikite; Talc Schist; Fluorite; Calcite; Carboniferous Limestone; Bubble Basalt; Barite; Rhyolite; Sulphur; Gypsum (anhydrite).

CODE	PRICE
510-020	£21.62

SIEVES (SET 6)

Six screen mesh sizes (see below for further details) will let students separate and grade soil and rock samples in order to determine the make-up of soil strata. Set includes bottom pan and lid.

SCREEN MESH SIZES:
1 x 4mm, 1 x 2mm, 2 x 0.5mm , 1 x 0.25mm, 1 x 0.1mm

CODE	PRICE
3070-6	£60.36

SOIL KIT

6 bagged samples of the main UK soil types:
Clay Soil, Calcareous Soil, Loam Soil, Gravel Soil, Peat-loam Soil, Sandy Soil, 0.5 kg labelled bagged samples of each soil type. Supplied with teaching notes.

SOIL KIT STANDARD:
Pack of 4 soils: peat-loam, sandy, clay, calcareous.

CODE		PRICE
510-023	Soil Kit Advanced	£12.42
510-022	Soil Kit Standard	£10.39

HANNA BACKPACK TEST KIT SOIL QUALITY

HANNA®™ Backpack Lab™ Soil Quality Educational Test Kit. A new portable test kit specifically designed for teachers and students to get the most out of field trip testing. This kit is designed to look at the main parameters for agriculture, containing all the important tests for evaluating soil quality and fertility, and relates these measurements to the principles of plant metabolism.

INCLUDED IN EACH PACK:

- 50 tests for: Nitrogen; Phosphorous; Potassium; pH
- Waterproof pH/C tester
- Waterproof Conductivity/TDS/C tester
- HI-145 digital thermometer
- Backpack style carrying case to hold all components
- Extensive teacher™ manual with a curriculum that meets the National Science Teachers Association Standard
- Overhead transparencies with summaries for each parameter
- Laminated instruction cards with step by step procedures
- Lab activity worksheets with instructions.

KEY STAGE **KS2-4**

Supplied in a tough rucksack, the kit contains lesson plans and activities tied together by a comprehensive teacher's manual that includes information about each parameter. Including detailed testing procedures, along with all the sample cups and chemicals to complete each task.

CODE	PRICE
510-007	£356.69

WORLD SOIL TYPES

19 groups from the UN world soil classification system. 100 ml of each air-dried and sieved.

INCLUDED IN EACH PACK:

15ML OF EACH AIR-DRIED & SIEVED SOIL TYPES:

ACRISOLS
ANDOSOLS
ARENOSOL
CAMBISOL
CALCISOLS
CRYOSOLS
FERRALSOL
GLEYSOL
GYPSISOLS
HISTOSOL
LEPTOSOLS
LITHOSOL
PHAEOZEM
PLINTHOSOLS

KEY STAGE **KS2-4**

CODE	PRICE
510-025	£72.44

SOIL TYPES OF THE U.K.

12 samples of UK soil types.

INCLUDED IN EACH PACK:

15ML OF EACH AIR-DRIED & SIEVED SOIL TYPES:

CHALK
CHALK-PARENT MATERIAL (C-HORIZON)
SILT SOIL 1
SILT SOIL 2
RENDZINA
CLAY
KAOLINITE
ORGANIC
CLAY SOIL 1
CLAY SOIL 2
SANDY SOIL 1
SANDY SOIL 2

KEY STAGE **KS2-4**

CODE	PRICE
510-024	£45.63

21 FOSSIL REPRODUCTIONS EARTH HISTORY MODEL 5 SETS

5 Sets of 21 Fossil Reproductions, ideal for use in conjunction with Life on Earth - A Fossil History (code: 567).

KEY STAGE **KS2-4**

CODE	PRICE
571	£47.94

BASIC FOSSIL SET 12 SAMPLES

A set of 12 samples of early life fossils supplied in a Gratnell Tray. Each specimen is numbered and the contents are listed inside the lid. Complete with notes.

FOSSIL SET INCLUDES:
Brachiopod; Shark Tooth; Ammonite; Fossil wood (silica); Echinoid; Bone bed; Fossil wood (carbonised); Gastropod; Crinoid; Sponge; Nummulite; Bivalve.

KEY STAGE **KS2-4**

CODE	PRICE
520-010	£26.57

WATER CYCLE ACTIVITY MODEL

Make it rain in your classroom! Students can duplicate the individual processes of the water cycle (evaporation, condensation and precipitation) with this ingenious Edulab model. Accompanying set of ten 220 x 280mm full colour study prints and transparencies will aid students' understanding of the water cycle and enhance awareness of the various states of water.

KEY STAGE **KS2-4**

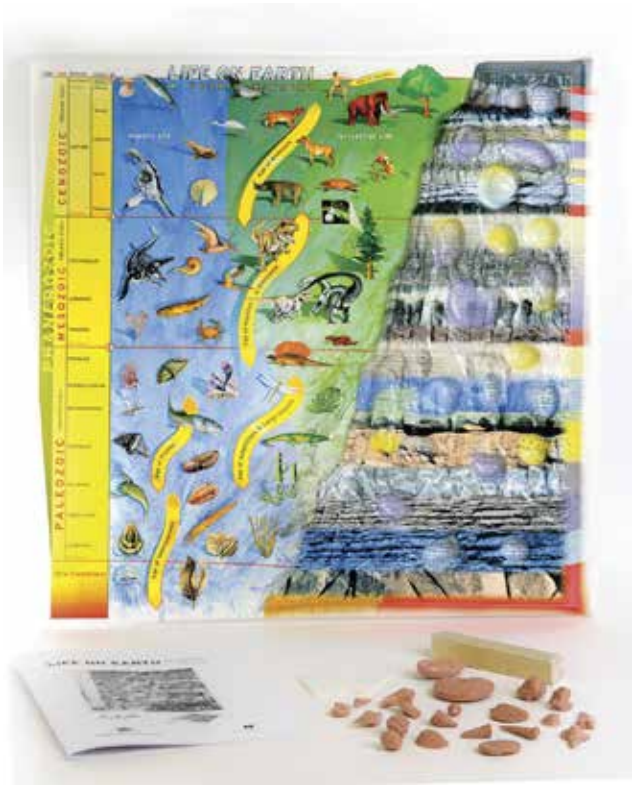
CODE	PRICE
8882	£74.19

WATER CYCLE MODEL

Make it rain in your classroom! Students can duplicate the individual processes of the water cycle (evaporation, condensation and precipitation) with this ingenious model.

KEY STAGE **KS2-4**

CODE	PRICE
8884	£62.78



LIFE ON EARTH - A FOSSIL HISTORY

This fossil history model is an exciting product designed to help students understand how life has changed over vast periods of geologic time. Constructed of durable vinyl, the 60 x 65cm colourful 3-D model allows students to correlate 21 replica fossils to realistic looking rock layers.

Illustrations and 'fossils' include both marine and terrestrial life forms from the Pre-Cambrian through to the present. Eons, eras, periods, epochs and years are clearly shown on the chart. The TeacherÐ™s Guide includes: classroom activities, pre/post tests, reference materials and glossary.

KEY STAGE **KS2-4**

CODE	PRICE
567	£90.12

POSTER: EXPLORING GEOLOGIC TIME

Take a trip back in time and see the plants and animals that lived then! Get budding palaeontologists excited about geologic time with this history poster. Students discover the plants and animals that lived during the major divisions of geologic time - Era, Periods, and Epochs.

They'll also visualise the milestones of geologic history in the order they occurred and learn how they are related to continental drift. Includes a detailed Teacher's Guide.

KEY STAGE **KS2-4**

CODE	PRICE
25-35-1146	£34.24

ADVANCED FOSSIL COLLECTION

This comprehensive collection of 30 fossils contains demonstration specimens of animal phyla and plants from the Paleozoic, Mesozoic and Cenozoic periods. Collection is complete with an identification key sheet and geological time chart.

KEY STAGE **KS2-4**

CODE	PRICE
3015-S	£57.07

STREAM TABLE KIT

This kit includes a plastic tray, drain trough, tray support and siphon tube.

This economical stream table will give your students the chance to create their own landforms and follow the changes in the stream as it ages. Includes Teacher's Guide. Great for use in the classroom or as an outdoor activity.

KEY STAGE **KS2-4**

CODE	PRICE
3071	£85.61

WATER CYCLE STUDY CARDS (SET 10)

Water is not only the most significant liquid on Earth, it is also one of the most unusual.

Help your students understand the properties of water with this set of ten 22 x 27mm study cards.

KEY STAGE **KS2-4**

CODE	PRICE
8883	£28.54

POSTER: PREDICTING THE WEATHER

Teach students how to predict tomorrow's weather! Weather is an important part of everybody's life. It determines how we dress and what we do on a daily basis. Using this poster your students will learn how to read a weather map, recognise weather symbols, decode different types of weather maps, and describe the characteristics of a weather system using the hurricane as a model. Then you can challenge your students to predict your local weather!

KEY STAGE **KS2-4**

CODE	PRICE
26-35-1346	£31.20

POSTER: WEATHER & CLIMATE (LAMINATED)

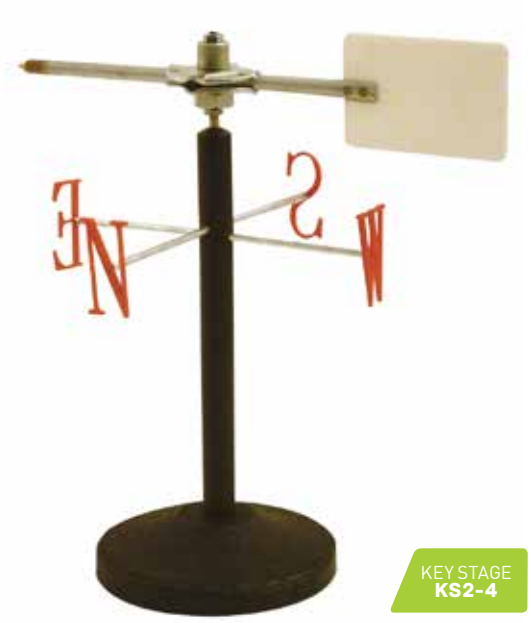
Beautiful graphics and photos show how climate and weather are related! Observe how cloud vapour masses help drive the water cycle. Trace ocean currents and observe their influence on local weather conditions.

KEY STAGE KS2-4

CODE	PRICE
15-35-1151	£35.38

WEATHER VANE

Wind vane on metal stand.



KEY STAGE KS2-4

CODE	PRICE
530-002	£16.46

WEATHER STATION (THERMOMETER/ HYGROMETER)

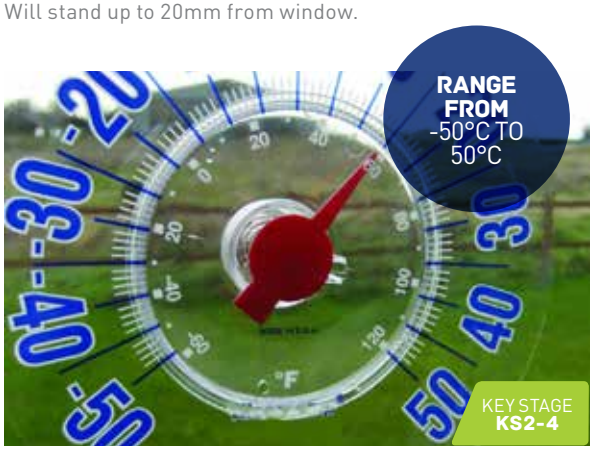
Innovative clear, flexible and virtually transparent thermometer with hygrometer, for easy measurement of outside temperature (Celsius) and relative humidity (%) from the comfort of the classroom. Large, bold figures enable easy reading from across the classroom.

KEY STAGE KS2-4

CODE	PRICE
EDU1200	£20.85

WINDOW THERMOMETER, LARGE

This innovative clear, flexible and virtually transparent window thermometer with a centre suction attachment adheres firmly to windows or glass doors using electro-static technology. It has been designed to allow air to circulate around the thermometer to stop exaggerated readings caused by heat radiation through the glass. Range: -50°C to 50°C Diameter 80mm. Will stand up to 20mm from window.

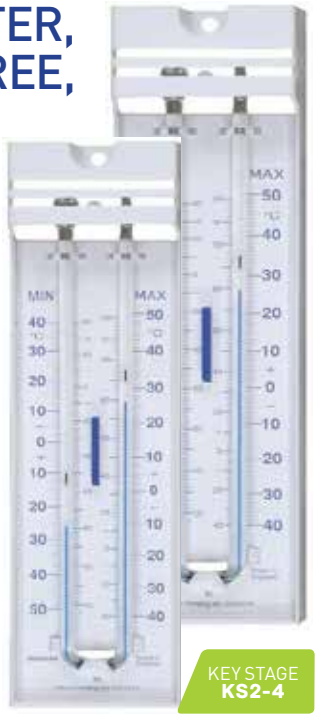


KEY STAGE KS2-4

CODE	PRICE
EDU1051	£13.17

THERMOMETER, MERCURY FREE, MAX/MIN

Mercury free, maximum/minimum thermometer. Environmentally friendly, reliable and accurate.



KEY STAGE **KS2-4**

CODE	PRICE
EDU1019	£8.73

WEATHER STATION

Wooden weather station for 'Globe' project work. Louvered, front hinged door. Sloped roof with ventilation holes in side and rear. Nuts and bolts provided for mounting on post.

KEY STAGE **KS2-4**

CODE	PRICE
530-001	£53.78

RAIN GAUGE

A simple rain gauge in translucent material calibrated in mms and inches. Supplied complete with rainfall chart.

- Dimensions: 210 x 100mm (dia.)

COMES COMPLETE WITH RAINFALL CHART!

KEY STAGE **KS2-4**

CODE	PRICE
180-009	£5.48

THERMOMETER, CLOCK, INDOOR/OUTDOOR

Dual scale indoor/outdoor thermometer with clock, for a wide range of applications. Temperature range: -50° to 70°C. °C and °F switchable, 0.1°C resolution LCD display. Sampling cycle: 10 seconds. AAA battery included.

- Size: 82 x 74 x 21mm.

KEY STAGE **KS2-4**

CODE	PRICE
EDU1021	£16.22

RAIN GAUGE COPPER

127mm funnel, an inner receiving vessel and outer body all of copper and a glass measuring cylinder graduated 0 to 10mm x 0.1mm (100 divisions).

KEY STAGE **KS2-4**

CODE	PRICE
PH0241A	£64.75

BAROMETER, ANEROID, DEMONSTRATION MODEL

Enclosed in a transparent plastic case for demonstration purposes. A pressure bulb is provided to force the movements for educative demonstration.

KEY STAGE **KS2-4**

CODE	PRICE
PH0248	£17.51

ANEMOMETER

An easy to use, hand held, electronic instrument giving an accurate wind speed measurement and ambient temperature.

PLEASE CALL FOR MORE INFORMATION

KEY STAGE **KS2-4**

TECHNICAL SPECIFICATIONS	
Air Temp Range Accuracy:	°C&F -10 to 45 0.2° 2°
Bearing:	Sapphire bearing
Operating Temperature:	-10 to 45°C (-14 to 113°F)
Operating Humidity:	← 90%RH
CE & ROHS/WEEE:	Approved
LCD Dimensions:	23 x 32mm
Weight:	52g (incl. battery & langyard)
Dimensions:	105 x 40 x 15mm

CODE	PRICE
614-015	£59.27

BAROMETER, ANEROID

Dial instrument with gilt bezel, black pointer and printed scale.

KEY STAGE **KS2-4**

TECHNICAL SPECIFICATIONS	
Range:	720 to 800mm mercury and 960 to 1070 millibar
Accuracy	+/- 2 MB of Barometric pressure at sea level
Divisions:	10mm mercury and 1 millibar
Product Weight:	Packaged - 43g* / Unpackaged - 31g
Product Dimensions:	Packaged - 82mm x 82mm x 45mm Unpackaged - 68mm diameter x 35mm
Display Box Weight:	11g
Display Box Dimensions:	82mm x 82mm x 45mm

CODE	PRICE
PH0246	£19.03

QUADRAT FRAME, FOLDING

Set of 4 wires, screws and nuts which assemble into a square. Manufactured in nylon-coated mild steel with screws in zinc plated mild steel.

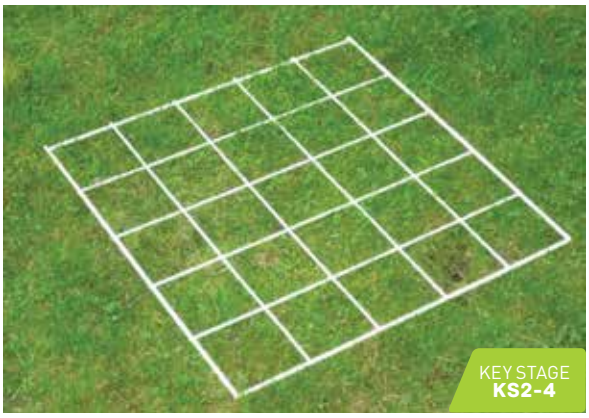
- Dimensions: 500 x 500mm.

CODE	PRICE
QUAD	£13.16

GRID QUADRAT 25 SQUARES

Subdivided into 25 squares and constructed from heavy gauge steel wire, plastic-coated at high temperature to strengthen the welds. Ideal for dense vegetation or sites with lower numbers of species.

- Dimensions: 500 x 500mm.

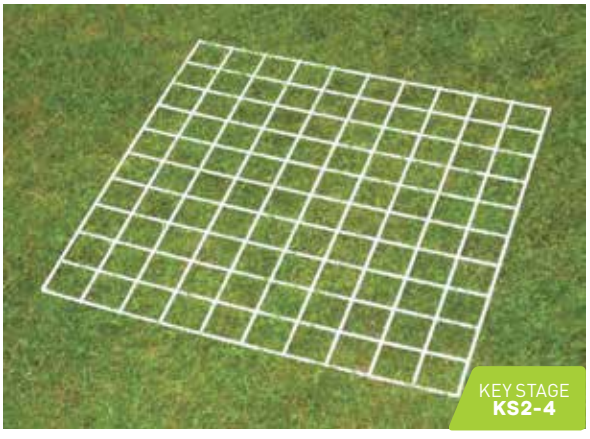


CODE	PRICE
QUAD25	£16.47

GRID QUADRAT 100 SQUARES

Subdivided into 100 squares for easy percentage cover, calculations or presence and absence and constructed from heavy gauge steel wire, plastic-coated at high temperature to strengthen the welds. Ideal for dense vegetation or sites with lower numbers of species.

- Dimensions: 500 x 500mm.



CODE	PRICE
QUAD100	£21.90

WATER FIELD KIT, MICROSCIENCE

The Kit is designed for use in the lab or in the field. It allows users to study: Biological Oxygen, Dissolved Oxygen, Orthophosphates, Turbidity, E.Coli, Nitrate, pH, Conductivity, Nitrite, Temperature.

User-friendly worksheets and other resource materials are included. This kit is designed for educational use. Results require confirmation with suitable reference methods.

CODE	PRICE
310-016	£76.77

WATER MONITORING KIT, MICROSCIENCE

The kit is designed to provide a simple, affordable and safe method of performing basic water quality tests. The written material applies to the testing of surface water from rivers and dams. However some of the tests can be done on ground water too. The test for residual chlorine applies to treated water only.

The kit contains enough equipment to enable most of the chemical tests to be conducted on ten different water samples. Armed with the results of the various tests you complete, you should be able to safely conclude whether the water you are testing is in a good, fair or bad condition. You should then be able to make some recommendation or determine appropriate actions to improve not only the quality of the water, but also the lives and living conditions of the people who depend on this natural resource. Your samples will require confirmatory testing at a recognised reference centre. Results generated with this kit are to be used as a rough qualitative guide only and are for educational purposes only.

KEY STAGE **KS2-4**

CODE	PRICE
310-017	£68.05

EXPLORING GROUNDWATER CONTAMINATION LAB INVESTIGATION

Visualise the potential contamination of groundwater. Construct mini-groundwater models showing the movement of a simulated, coloured pollutant.

Determine under what conditions contamination occurs from a variety of sources such as spills, farms, and buried tanks and how polluted groundwater eventually reaches the drinking water supply.

KEY STAGE **KS2-4**

CODE	PRICE
33-20-1213	£128.56

TESTING DRINKING WATER KIT

A complete water science lesson in each kit! An excellent introduction to the sources of drinking water, how our bodies use water and how water reaches our homes. Includes fifty test strips each for pH, alkalinity, hardness, fluoride and chlorine.

CLASS OF **40 STUDENTS** KEY STAGE **KS2-4**

CODE	PRICE
34-20-3503	£74.19

TESTING PONDS & STREAMS KIT

A complete water science lesson in each kit! Learn about the water cycle, watersheds, acid rain and the sources of non-point-specific pollution. Includes fifty test strips each for alkalinity, phosphates, pH and nitrates/nitrite.

- Class size - 40 students.

CLASS OF **40 STUDENTS** KEY STAGE **KS2-4**

CODE	PRICE
34-20-3513	£58.87

TESTING FOR DISSOLVED OXYGEN KIT

A complete water science lesson in each kit!
Test for this critical indicator of water quality. Includes fifty tablets to conduct simple colour reaction tests.

- Class size - 40 students.

PRICE FROM **£58.87**

CLASS OF **40 STUDENTS** KEY STAGE **KS2-4**

CODE	PRICE
34-20-3543	£58.87

SUNPOWER HOUSE

Expand students' understanding of energy costs with this working model of a passive solar house.

The 275 x 275 x 200mm model comes complete with a detailed Teacher's Guide containing activities in basic science, solar energy and energy conservation.

KEY STAGE **KS2-4**

CODE	PRICE
4706	£44.98

WATER SAMPLER

Our unbreakable plastic water sampler is the right choice for schools. Impact resistant gray PVC body with soft rubber seals holds 1.75 litres.

Our exclusive custom closing needs no messenger - just jerk the line sharply to close. Includes: 20m line on styrofoam winding float. Do not use in salt water.

KEY STAGE **KS2-4**

CODE	PRICE
550-002	£38.41

WATER POLLUTANTS AND PURIFICATION LAB INVESTIGATION

Demonstrate the key concepts of water treatment.
What is the source of our drinking water? How are its impurities removed? What route does it take on the way to our taps? What is the difference between hard and soft water? These are just a few of the questions your students will answer as they perform a series of hands-on activities investigating the water we use in our everyday lives. They'll also explore the primary sources of water pollution and the most effective means to prevent it and to re-purify water.

- Class size - 40 students.

KEY STAGE **KS2-4**

CODE	PRICE
20-1513	£116.54

NATURAL ENERGY KIT

This kit has 19 hands-on activities which explore electric, wind, solar, geothermal, biomass and nuclear energy.

KIT INCLUDES:
A Teacher's Guide and lab materials for five students.

KEY STAGE **KS2-4**

CODE	PRICE
3980	£113.00

WINDMILL

This exciting kit allows students to build and test a fully-functional wind turbine.
The comprehensive guide contains in-depth information about history, turbine design, and wind energy.
Students use a multimeter (included) to monitor how much power their wind turbine produces.

KEY STAGE **KS2-4**

CODE	PRICE
7-1874	£52.87

CLEVER CATCH - RECYCLING

Play involves two or more players who toss the ball to each other and answer the question found on the ball under their left thumb. Directions and answers are included. This 600mm vinyl ball comes with 95 true or false, multiple choice or fill in the blank questions.

SAMPLE QUESTIONS INCLUDE:
Which of the following contributes to groundwater pollution? A) Smoke stack B) Sunlight C) Leaky Landfills.

CODE	PRICE
SR-1459	£11.41

CLEVER CATCH - ALTERNATIVE ENERGY

When you catch the ball it's your turn to read and answer; true or false, multiple choice or fill-in-the-blank question. Students can play by themselves or they can play in small groups. Comes with an answer key and a repair patch (just in case!). Includes questions such as: Another term for solar cell is _____?; In modern hybrid vehicles, fuel is a combination of: A) diesel & gasoline B) ethanol and gasoline C) gasoline and battery-power D) solar and diesel.

CODE	PRICE
SR-1460	£11.41

AIR QUALITY LAB INVESTIGATION

Air pollution causes a wide variety of health concerns and comes from many different sources. These include man-made origins such as factories and vehicles as well as natural sources such as wildfires; microorganisms; windblown dust and pollen; and volcanic eruptions. Your students will perform various hands-on activities to identify air pollution sources and the types of pollutants they emit. Then they apply their knowledge to develop ways to reduce this contamination. Your class will also conduct microscopic examinations of bacteria, fungi and other microorganisms found in the air.

CODE	PRICE
20-3563	£91.31

U.V. DETECTING BEADS PACK OF 100

These UV sensitive beads turn from white to varying bright colours when exposed to sunlight or other UV sources. The beads can be used, for example, to test the effectiveness of UV protection in sunglasses or to create a simple bracelet which can function as a UV detector.

CODE	PRICE
EDU1249	£16.46

FULL SPEC
ON PAGE 08

CHECK OUT OUR STEPPA-STOPPA'S

The ISG® Steppa-Stoppa is a simple yet innovative product designed to replace the standard rubber stoppers. The stopper is made from blended polymer and features an incremental taper to suit most applications and eliminating the need for multiple sized rubber stoppers.

STEPPA-STOPPA SMALL (BOX 10)

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

NEW KEY STAGE KS3-6

STEPPA-STOPPA LARGE (BOX 10)

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

NEW KEY STAGE KS3-6

051

BIOLOGY RANGE

IN SCIENCE TOGETHER

MICROSLIDE - MONARCH BUTTERFLY (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Eggs on Milkweed, Larvae, Close-up of Larvae, Moulting Caterpillar, Monarch Pupa, Monarch Emerging from Pupa, adult Monarch Butterfly, Eggs on Milkweed.

KEY STAGE **KS3-4**

CODE	PRICE
T256	£98.11

POSTER: MONARCH BUTTERFLY LIFE CYCLE (LAMINATED)

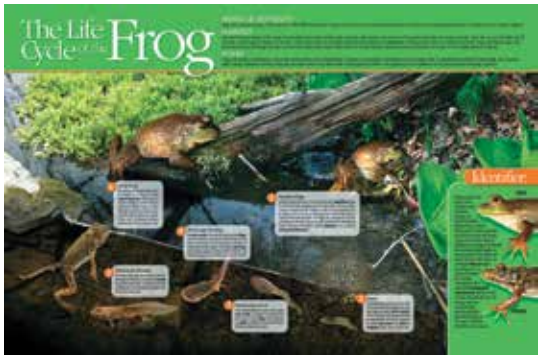
Exquisite photos display the four stages of metamorphosis! Each stage of the butterfly life cycle is beautifully depicted on this colourful, informative poster. Photographs of the egg, larva, pupa and adult stages are complemented by detailed explanations.

KEY STAGE **KS3-4**

CODE	PRICE
15-35-1166	£35.38

POSTER: LIFECYCLE OF A FROG (LAMINATED)

Stunning photographs bring the life cycle of a frog into the classroom.



KEY STAGE **KS2-3**

CODE	PRICE
16-35-1341	£35.38

RESPIRATION APPARATUS

Apparatus for testing inhaled and exhaled air in small organisms.

CODE	PRICE
401-001	£13.16

RESPIROMETER

A compact unit for comparing rates of absorption or evolution of gases by small organisms during respiration. The apparatus consists of two stoppered boiling tubes connected by three way taps to either limb of a graduated manometer. One tube holds the organisms and has a syringe for altering the level of liquid in the manometer during set up. The other tube acts as a control thermo-barometer. C02 given off by the respiring organism is absorbed by potassium hydroxide in the experimental chamber resulting in a change in the level of liquid in the manometer tube.

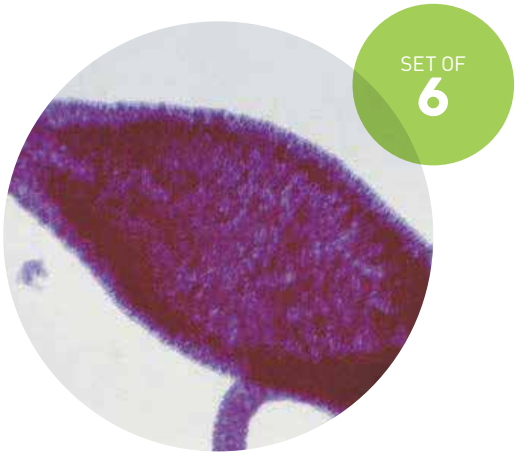
CODE	PRICE
B218	£31.83

MICROSLIDE LIFE IN A RAIN FOREST (PK10)

CODE	PRICE
T260	£89.39

MICROSLIDE AMPHIBIANS (PK10)

CODE	PRICE
T264	£98.11



HYDRA SLIDE SET OF 6

SET OF 6 GLASS MICROSCOPE SLIDES:

With ingested animal LS
With extended E
With TS and LS
With testis TS
With ovary TS
With bud LS

KEY STAGE **KS2-3**

CODE	PRICE
ZCO-001	£27.44

MICROSLIDE LESSON SET - LOCOMOTION (PK10)

KEY STAGE **KS2-3**

CODE	PRICE
T228	£98.11

MICROSLIDE LESSON SET - ECHINODERMS (PK10)

KEY STAGE **KS2-3**

CODE	PRICE
T242	£89.39

MICROSLIDE LESSON SET - PORIFERA (SPONGES)

KEY STAGE **KS2-3**

CODE	PRICE
T233	£89.39

MICROSLIDE LIFE ON A CORAL REEF (PK10)

KEY STAGE **KS2-3**

CODE	PRICE
T255	£98.11

SLIDE CASE, WOODEN (FOR 100 SLIDES)

This wooden slide case safely holds 100 (75 x 25mm) glass microscope slides with good shock resistance characteristics.

The fully lined case is fitted with brass clips and an aluminium index cardholder.

KEY STAGE **KS2-3**

CODE	PRICE
B116	£9.88

MICROSLIDE LESSON SET - COMPARATIVE CIRCULATORY SYSTEM

KEY STAGE **KS5**

CODE	PRICE
T226	£89.39

MICROSLIDE LESSON SET - COMPARATIVE NERVOUS SYSTEM

KEY STAGE **KS5**

CODE	PRICE
T234	£89.39

MICROSLIDE LESSON SET - COMPARATIVE DIGESTIVE SYSTEM

KEY STAGE **KS5**

CODE	PRICE
T227	£89.39

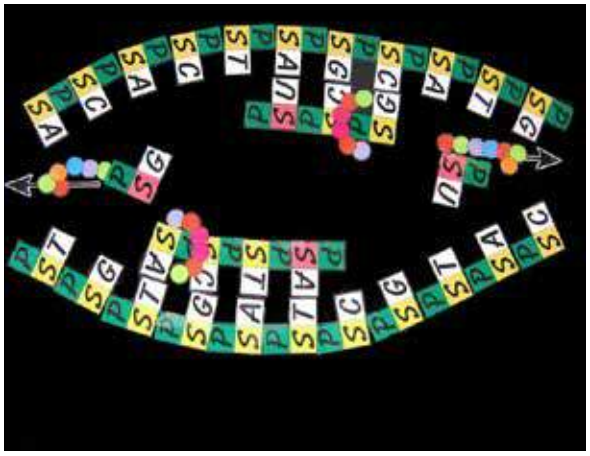
MICROSLIDE LESSON SET - HONEY BEE (PK10)

KEY STAGE **KS2-3**

CODE	PRICE
T235	£98.11

MAGNETIC TEACHING AID - DNA/RNA PROTEIN

The virtmac system represents a whole new approach to teaching some of the trickier aspects of cell biology, using magnetic pieces to represent atoms, molecules and ions. Between the three kits, up to 30 different topics can be covered, so the cumulative familiarity with this symbolic representation of cell processes leads to a much more unified and coherent understanding of the subject than traditional teaching methods.



Also, with their low price and wide subject coverage these kits deliver excellent value for money. But as we all know - the real reward is watching students really grasping difficult concepts.

Realistically illustrate protein synthesis, DNA replication, Lac Operon, mitosis, meiosis, and more with this innovative set of magnetic model pieces.

To see a short video of these teaching tools in action, please visit www.virtmac.com

The design of the kit's contents allows you to show students how the same molecules are used repeatedly in different biological structures. Highlight the relationship between DNA, RNA, and proteins by arranging the magnets to show proteins exchanging DNA nucleotides between chromosomes during meiosis. You can also help students visualize RNA nucleotides in introns, exons, mRNA, tRNA, primers, and as a structural component of ribosomes. Partial assembly required. Includes a DVD with easy to follow instructions and video lessons.

KEY STAGE **KS4-5**

CODE	PRICE
404-005	£21.49

MAGNETIC TEACHING AID - MEMBRANE/PROTEIN

The Virtmac system represents a whole new approach to teaching some of the trickier aspects of cell biology, using magnetic pieces to represent atoms, molecules and ions. Between the three kits, up to 30 different topics can be covered, so the cumulative familiarity with this symbolic representation of cell processes leads to a much more unified and coherent understanding of the subject than traditional teaching methods.

Also, with their low price and wide subject coverage these kits deliver excellent value for money. But as we all know - the real reward is watching students really grasping difficult concepts.

Add creativity and flexibility to your demonstrations of protein processes with this set of magnetic model pieces. Using the included magnets, you can model basic cell structure, cell size, ETC cellular respiration, ETC photosynthesis, nerve impulse, membrane transport, diffusion, endocytosis, exocytosis, and more.

To see a short video of these teaching tools in action, please visit www.virtmac.com

Begin by building a simple cell membrane using only phospholipids. From that point, proteins and sugars are added, increasing the complexity of the membrane. You can continue to increase the complexity by building organelles using the same pieces. This unique kit, developed by John MacLellan allows you to illustrate how the same molecules are used repeatedly in different biological processes. Partial assembly required. Includes a DVD with easy to follow instructions and video lessons.

KEY STAGE **KS4-5**

CODE	PRICE
404-004	£108.65

MODEL: TYPICAL PLANT CELL ON PLASTIC BASE

Typical Plant Cell on Plastic Base.
An electron microscopic structure, showing a portion of wall removed to show ectoplast, endoplast, tonoplast, vacuoles nuclear structure, plastids, mitochondria etc.

KEY STAGE **KS4-5**

CODE	PRICE
BM8	£42.80

INFLATABLE PLANT CELL MODEL

This inflatable plant cell provides classrooms with a stimulating visual aid and effective teaching tool.
Great for reviewing cell parts and building vocabulary.
300 x 200 x 400mm.

KEY STAGE **KS3-4**

CODE	PRICE
2058	£21.95

MODEL: ANIMAL CELL (500X370X240)

Animal Cell Model.
Detailed Animal cell model, enlarged 20,000 times.
Featuring nucleus, endoplasmatic reticulum, mitochondria, ribosomes, Golgi apparatus, centrioles, lysosomes and fat vacuoles.

KEY STAGE **KS4-5**

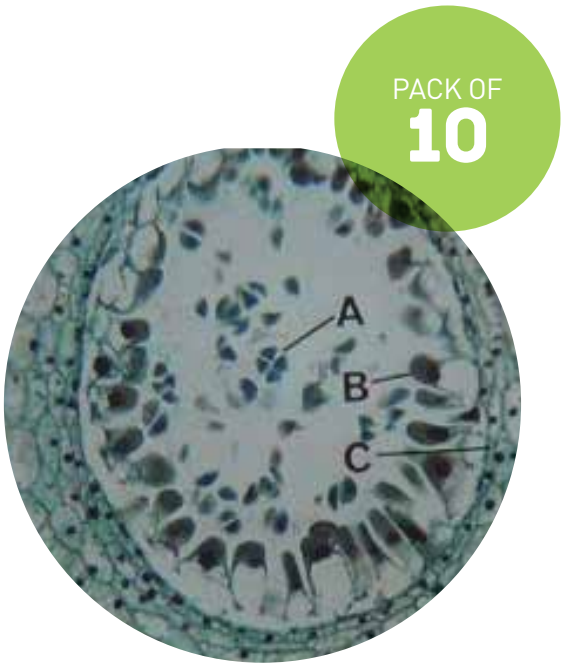
CODE	PRICE
ZM2	£108.65

INFLATABLE ANIMAL CELL MODEL

This inflatable animal cell provides classrooms with a stimulating visual aid and effective teaching tool.
Great for reviewing cell parts and building vocabulary.
600mm diameter.

KEY STAGE **KS3-4**

CODE	PRICE
2059	£21.95



MICROSLIDE CELLS OF PLANTS (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Onion skin cells, Green cells of a leaf, Cells of a woody stem (100x), Cells of a woody stem (40x), Cells of the anther, Cells of the lily ovary, Spirogyra cell, Bacteria.

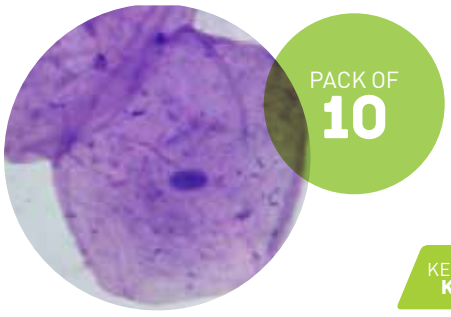
KEY STAGE **KS4-5**

CODE	PRICE
T11	£98.11

MICROSLIDE CELLS OF YOUR BODY (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Cheek, Blood, Lymph Gland, Bone, Voluntary muscle, Involuntary muscle, Nerve, Gland Cells.



KEY STAGE **KS4-5**

CODE	PRICE
T10	£98.11

MICROSLIDE-THE CELL STRUCTURE (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Cork (300x), Onion Skin (200x), Green Leaf (300x), Cheek Cells (900x), Blood Cells (900x), Nerve Cells (300x), Bacteria (1500x), Virus (50,000x).

KEY STAGE **KS4-5**

CODE	PRICE
T58	£98.11

MICROSLIDE BASIC HUMAN HISTOLOGY (PACK 10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Bone XS - Stained, Cartilage, Fat Cells, Epithelial Tissue / Ciliated Epithelial Cell, Nerve Cells - Stained, Striated Muscle Cells, Red Blood Cells, White Blood Cells.

KEY STAGE **KS5**

CODE	PRICE
T249	£98.11

MICROSLIDE ULTRA STRUCTURE OF ANIMAL CELLS (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Gland cells, Plasma cell, Nerve cell membrane, Golgi body and vacuole, Mitochondrion, Centriole, Lamp-brush chromosomes, Muscle cell fibrils.

KEY STAGE **KS3-4**

CODE	PRICE
T66	£98.11

MICROSLIDE THE CELL NUCLEUS (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Animal Cell Nucleus, Plant Cell Nucleus, Nuclear Reproduction, Human Blood Cells, Voluntary Muscle Cells, The Nuclear Membrane, Nuclear Membrane Surface, Endoplasmic Reticulum

KEY STAGE **KS4-5**

CODE	PRICE
T248	£98.11

BASIC HISTOLOGY SLIDE SET OF 25

Set of 25 glass microscope slides to be used as an introduction to histology. Illustrating major tissue types.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5**

CODE	PRICE
BBS-210	£86.70

COMPREHENSIVE HISTOLOGY SLIDE SET OF 50

Set of 50 glass microscope slides covering major animal histology topics. Consists of 25 slides from Basic Histology Set (product code: BBS-210) .

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

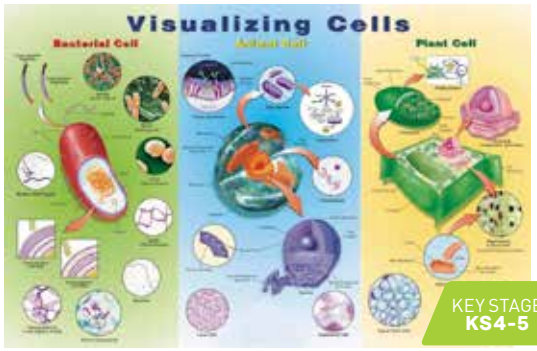
KEY STAGE **KS5**

CODE	PRICE
BBS-210C	£108.65

POSTER: VISUALISING CELLS (LAMINATED)

This laminated poster graphically depicts the complex architecture of a cell membrane, golgi apparatus, nucleus and nuclear pores, endoplasmic reticulum, chloroplasts and mitochondria in an easy-to-see, easy-to-understand format. Detailed illustrations and photography are perfect for instructing your class about the differences and similarities of bacterial, animal and plant cells.

- Dimensions: Size 890mm W x 585mm H.



KEY STAGE **KS4-5**

CODE	PRICE
13-35-1011	£35.38

HUMAN HISTOLOGY SLIDE SET OF 25

Set of 25 glass microscope slides showing a varied cross-section of human histology.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5**

CODE	PRICE
BBS-211	£97.68

MICROSLIDE CELL MEMBRANE (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Epithelial Cells, Cell Membrane, Paramecium (dying) Cilia, Blood Cells (Structures), Blood Cells (Functions), White Blood Cells (Recognition), Onion Skin Cells.

KEY STAGE **KS5**

CODE	PRICE
T230	£98.11

MEIOSIS MODEL - EDULAB

The Meiosis Model -EduLab helps to explain individual human characteristics and genetic differences. Visualization and understanding of meiotic cell division are promoted through enlarged views of chromosomes, cytoplasm and chromatic and polar bodies.

KEY STAGE **KS5**

CODE	PRICE
2668	£141.58

MITOSIS MODEL - EDULAB

Illustrate somatic cell division with this informative model. Enlarged views detail five phases of mitosis. Includes: cytoplasm nucleus, nucleolus, chromatic threads, centrioles, aster, spindle, chromosomes and centromere.

KEY STAGE **KS4-5**

CODE	PRICE
2667	£141.58

MICROSLIDE MEIOSIS (PK10)

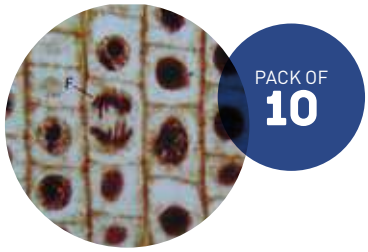
Primary Oocyte - Tetrads Formed, Primary Oocyte - Dyads separated, Primary Oocyte - Tetrads on Spindle, Primary Oocyte - First Polar Body Forming (750x), Secondary Oocyte - Chromosomes Formed (750x), Mature Egg (750x), Pronucleus Stage (750x), Zygote Ready for First Cleavage (750x).

KEY STAGE **KS5**

CODE	PRICE
T92	£98.11

MICROSLIDE PLANT MITOSIS (PK10)

Early prophase, Prophase, Metaphase, Early anaphase, Anaphase, Late Anaphase, Telophase, Late telophase.



KEY STAGE **KS5**

CODE	PRICE
T55	£98.11

MICROSLIDE ANIMAL MITOSIS (PK10)

The zygote, pro-metaphase, metaphase, metaphase - polar view, early anaphase, Anaphase, Telophase, Late Telophase.

KEY STAGE **KS4-5**

CODE	PRICE
T53	£98.11

MITOSIS SIMULATION LAB INVESTIGATION

An easy, graphic way to visualize the process of mitosis. Learn about chromosome function and structure by constructing models using coloured pop beads. Students will then use these "chromosomes" to model each stage of mitosis. In the process they'll gain a better understanding of what happens during cell division. Additionally, they'll learn to distinguish between plant and animal mitosis.

CODE	PRICE
13-20-2183	£182.62

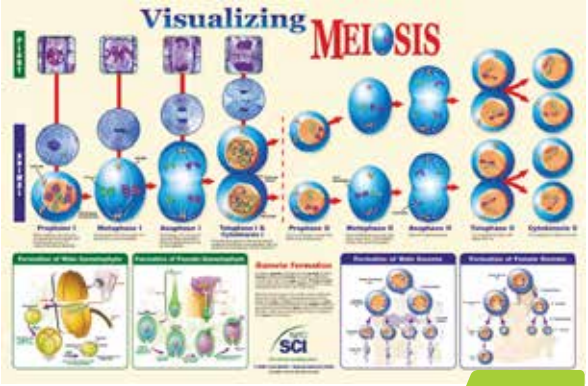
MITOSIS & MEIOSIS SET, MICROSCOPE SLIDES

Astacus testis VS; Locust testis VS; Locust testis squash; Locust embryo squash; Allium root tip LS; Lillium anthers TS early prophase; Lillium anthers TS late prophase; Lillium anthers TS metaphase; Lillium anthers TS late first division; Lillium anthers TS second division.

CODE	PRICE
401-083	£72.44

POSTER: VISUALISING MEIOSIS (LAMINATED)

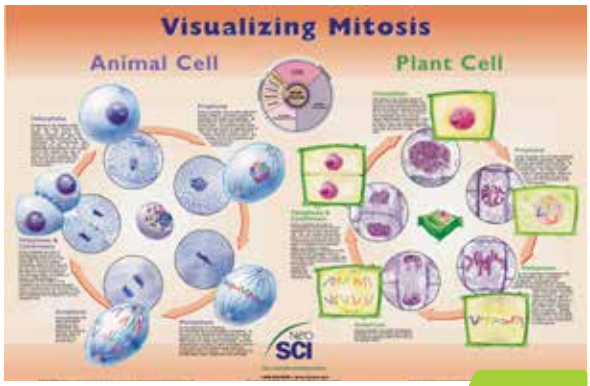
Compare and contrast meiosis in plants and animals Unique presentation allows students to review and compare the steps involved in both plant and animal meiosis. Features detailed illustrations of each meiotic stage.



CODE	PRICE
13-35-1141	£35.38

POSTER: VISUALIZING MITOSIS (LAMINATED)

Unique presentation allows students to review and compare the steps involved in both plant and animal mitosis. Features detailed illustrations of each mitotic stage, along with corresponding close-up photomicrographs of anonion root tip and whitefish blastula undergoing mitosis.



CODE	PRICE
13-35-1026	£35.38

POSTER: CLASSIFICATION OF LIVING THINGS

A close-up view of Kingdoms of Life! Stunning photographs and detailed illustrations provide your students with a stimulating view of similarities and differences of life on Earth.

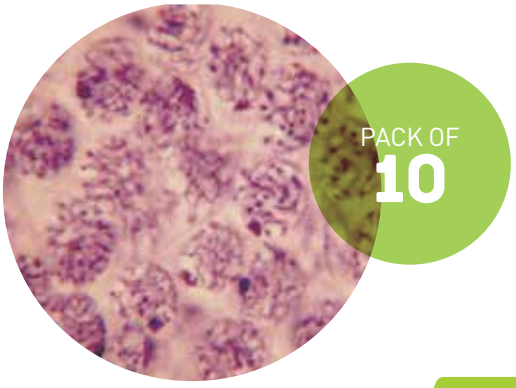
Includes representative organisms from the Archaebacteria, Eubacteria, Protista, Fungi, Plantae and Animalia Kingdoms.

KEY STAGE **KS4-5**

CODE	PRICE
13-35-1066	£35.38

MICROSLIDE CHROMOSOMES & GENES IN ACTION (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505).

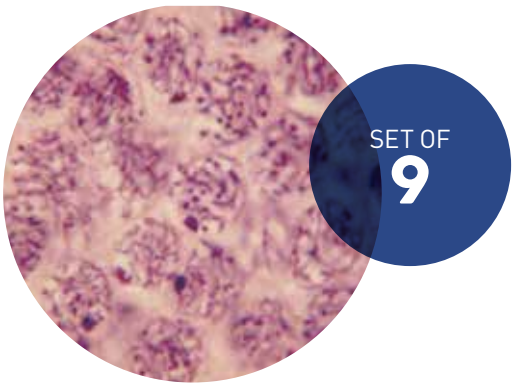


KEY STAGE **KS5**

CODE	PRICE
T81	£98.11

CELL DIVISION SLIDE SET OF 9

Set of 9 glass microscope slides illustrating chromosome division in animal and plant cells.



KEY STAGE **KS4-5**

CODE	PRICE
ZCO-002	£71.34

MICROSLIDE THE KINGDOM MONERA (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505).

Staphylococcus Aureus (1000x), Bacillus Subtilus (1000x), Sirillium Volutans (1000x), Mycoplasma Pneumonia (60,000x), Rickettsia Rickettsi (45,000x), Gloeocapsa (1000x), Oscillatoria (400x), Nostoc - W.M. (100x) X.S. (400x).

KEY STAGE **KS4-5**

CODE	PRICE
T213	£98.11

MICROSLIDE LESSON SET - THE KINGDOM OF FUNGI

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505).

Achlya, Rhizopus, Saccharomyces, Peziza, Mushroom (2x) Mushroom (400x), Epidermophyton Floccosum, Lichen.

KEY STAGE **KS4-5**

CODE	PRICE
T214	£98.11

MICROSLIDE THE KINGDOM PROTISTA (PK10)

Amoeba / Actinophrys (200x) - Phylum Sarcodina, Paramecium (100x) - Phylum Ciliophora, Plasmodium Vivax (100x) - Phylum Sporozoa, Trypanasoma Gambiense Smear - Stained (800x) - Phylum Zoomastigina or Mastigophora, Euglena (400x) - Phylum Euglenapyta, Spirogyra Stained (175x) - Phylum Gamophyta, Noctiluca SP (63x) - Phylum Chrysophyta.

KEY STAGE **KS5**

CODE	PRICE
T222	£98.11

MICROSLIDE MARINE PLANKTON (PK10)

Diatoms (200x), Asterionella (200x), Gymnodinum (200x), Ceratium (30x), Foraminifera (20x), Radiolarians (30x), Zooplankton (50x), Zoea (25x).

KEY STAGE **KS4-5**

CODE	PRICE
T216	£98.11

MICROSLIDE LESSON SET THE PLANT KINGDOM (PK10)

Onion Skin, Bean Seeding, Moss Plant, Fern, Female Pine Cone, Tulip Flower, Pistil, Monocot Seed.

KEY STAGE **KS4-5**

CODE	PRICE
T239	£98.11

MICROSLIDE ANIMAL KINGDOM (PK10)

Amphiuma Liver Cells ST, Sponge, Hydra, Planaria, Soil Nematode, Ascarid Roundworm, Earthworm, Starfish, Ammocoetes Larva.

KEY STAGE **KS4-5**

CODE	PRICE
T238	£98.11

CLASSIFICATION OF LIVING THINGS LAB INVESTIGATION

A fun way to learn about biodiversity. Introduce your students to the Five Kingdoms through the process of classification. Students view illustrations of various life forms and use a simple, dichotomous key to determine the appropriate kingdom and phylum of each. In the process, they'll gather valuable summary information regarding what each life form "does for a living!" Class size -40 students.

KEY STAGE **KS5**

CODE	PRICE
13-20-2203	£67.29

PROTOZOA AND ALGAE SET OF 20

Set of 20 microscope slides showing all the most commonly studied protozoa and freshwater algae:

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5**

CODE	PRICE
BBS-440	£97.68

MICROSLIDE HELPFUL BACTERIA (PK10)

Bacteria of Decay (2000x), Bacteria of Fermentation (2000x), Nitrogen-Fixing Bacteria (in soil), Nitrogen-fixing Bacteria (in Nodule), Nitrogen-fixing Bacteria (in Roots), Vinegar Bacteria, Cheese Bacteria, Sour Milk Bacteria

KEY STAGE **KS4-5**

CODE	PRICE
T19	£98.11

MICROSLIDE THE VIRUS (PK10)

Lambda Phage on E Coli (45,000x), Disrupted Phage (280,000x), Human Viruses -Influenza Virus/Polio Virus (290,000x), Measles Virus Attach (400x), Animal Viruses - Newcastle Disease/Vaccinia Virus (120,000x), Viruses Emerging From Cell (90,000x), Tobacco Mosaic Virus (TMV) -Virus Particles (30,000) / Virus Crystal (1,500x), Cancer Viruses - Papilloma Virus (7000x) / Rauscher Leukemia Virus (90,000x)

KEY STAGE **KS5**

CODE	PRICE
T97	£98.11

MICROSLIDE HARMFUL BACTERIA (PK10)

Diphtheria (2000x), Typhoid Fever Bacteria (2000x), Pneumonia Bacteria (2000x), Bacteria of Tuberculosis (2000x), Bacteria of Food Poisoning (2000x), Bacteria of Potato Ring-Rot, Bacteria of Apple Fire-Blight (2000x).

KEY STAGE **KS4-5**

CODE	PRICE
T20	£98.11

POSTER: VIRUSES & BACTERIA (LAMINATED)

Take a closer look at the most prevalent viruses and bacteria known to man! Learn how to identify these agents and how they cause harm to humans. Includes detailed illustrations and photographs.

KEY STAGE **KS4-5**

CODE	PRICE
13-35-1051	£35.38

BACTERIA THROUGH INFUSION

A totally safe means to explore the microscopic world of bacteria. Recreate the classic experiments of Anton van Leeuwenhoek, the famed Dutch discoverer of bacteria! Challenge your class to prepare various infusions, using peppercorns, hay and beans, to culture diverse microbiological communities. The students then study and identify various bacteria types by producing smears, staining them and observing the results under the microscope in order to calculate the diversity index for each micro-community.

CODE	PRICE
16-20-1333	£78.10

MICROBE SCAVENGER HUNT

Hunt for various kinds of micro organisms - including bacteria, fungi and protists - in water, air, soil and even food, employing a ready-to-use growth media. The specially formulated gel, which requires no autoclaving or special equipment, makes it easy for students to design experiments that explore the subvisible world around them, collecting and identifying a wide variety of microbes. The investigation also includes a dichotomous key to moulds, bacteria, and protists; a specially formulated dried Microlife Mix that allows you to explore the diversity of pond organisms; and a guide to appropriate viewing techniques.

CODE	PRICE
15-20-1073	£97.02

GRAM STAINING OF BACTERIA

Engage your students with a hands-on lesson in bacteria morphology! Revolutionary 'snap & stain' ampoules provide the safest and easiest way to stain bacteria smears. Completely safe design minimizes student contact and eliminates storage and disposal issues. Contains five ampoule sets, each including crystal violet, Gram's iodine, safranin and a decolourizing solution. Contains enough stain for forty slides. Also includes three MicroLIVE® cultures for student identification. Comes complete with detailed Teacher's and student's guides as well as a prepared reference slide featuring bacterial smears of cocci, bacilli and spirilla.

CODE	PRICE
13-20-2233	£108.65

BATTLING GERMS WITH DISINFECTANTS

Safely learn how to stop the spread of bacteria! What effects do alcohol, soap and bleach have on the growth of microorganisms? Provide your class with a firsthand look at how various disinfectants affect the growth of bacteria.

Then use this knowledge to examine the most efficient ways to prevent the spread of these organisms and the relationship between handwashing techniques and bactericidal effectiveness. Class size - 40 students.

CODE	PRICE
13-20-1323	£94.39

INTRODUCTORY MICROBIOLOGY KIT

This kit is designed to give an introduction to Microbiology studies. A workbook is included. The kit allows for 10 groups of students working individually or in groups. Activities included are: Making broth cultures, effects of temperature, Making plate cultures, Antibiotics and their effects on cultures, Staining, Pasteurisation, Living bacteria study, Study of fungi, Life cycle of Mucor and many other activities and applications. The kit has been developed to give a thorough understanding of all the practical activities that would be conducted in a 'real life' microbiology laboratory thus introducing students to the importance of this critical field of study.

CODE	PRICE
440-003	£290.42

INVESTIGATING SPONTANEOUS GENERATION

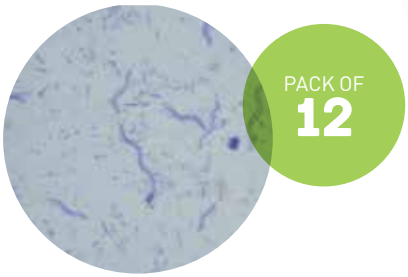
Recreate Pasteur's classic experiment. Can life arise from nonlife? In 1864, noted French scientist Louis Pasteur dispelled this concept, termed "spontaneous generation", through one of science's most famous experiments. Pasteur showed that microorganisms in a sterilized nutrient broth did not develop spontaneously. Now your students can recreate Pasteur's findings. They'll grow organisms in flasks exposed to particles in the atmosphere. Then they'll compare them to those grown in flasks with special s-shaped necks, exposed to air but not particulate matter. In the process they gain firsthand insight into the fundamentals of evolution.

CODE	PRICE
13-20-1313	£124.95

BACTERIA SLIDE SET OF 12

Set of 12 glass microscopeslides:

Mixed bacteria - bacilli, cocci and spirillum
Cocci, Gram positive and negative
Bacilli, Gram positive and negative
Myobacterium tuberculosis in tissue
Escherichia coli
Bacillus subtilis
Bacillus megaterium
Rhizobium in root nodule
Vibrio Spirillum
Streptococcus lactis
Staphylococcus epidermis



SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5**

CODE	PRICE
BBS-612	£86.70

FORCEPS, STAINLESS STEEL BLUNT TIP, 125MM LONG (PK10)

KEY STAGE **KS5**

CODE		PRICE
B170A	125mm Long (PK10)	£10.92
B168A	110/115mmFine Point (PK10)	£10.92

MICROSLIDE MEASUREMENT UNDER THE MICROSCOPE (PK10)

Calibrating - Planaria, Average - Onion Root Tip, Volume - Starfish Egg, Volume - Spirogyra, Counting - Trypanosoma Gambiense Smear, Thickness - Taste Buds, Growth - 48-Hour Chick Embryo, Growth - 96-Hour Chick Embryo.

KEY STAGE **KS5**

CODE	PRICE
T91	£98.11

SCISSORS, DISSECTING 125MM S/S - BLUNT CLOSED SHANK

KEY STAGE **KS5**

CODE		PRICE
B160	Dissecting 125mm s/s - Curved	£2.32
B158	Scissors, Dissecting 145mm s/s - blunt ends, closed shank	£2.30
B156	Scissors, Dissecting 110mm s/s - point ends, open shank	£2.30

SCALPEL HANDLE

Strong, slotted, alloy handles to accept blade (Size 3) 10-15 and (Size 4) 20-24.

KEY STAGE **KS5**

CODE		PRICE
B182A	Size 3 A	£2.32
B182B	Size 4 B	£2.36

SEEKERS

Plain stainless steel 35mm seekers with blunt end needle. 70mm length including handle.

KEY STAGE **KS5**

CODE	PRICE
B179	£1.09

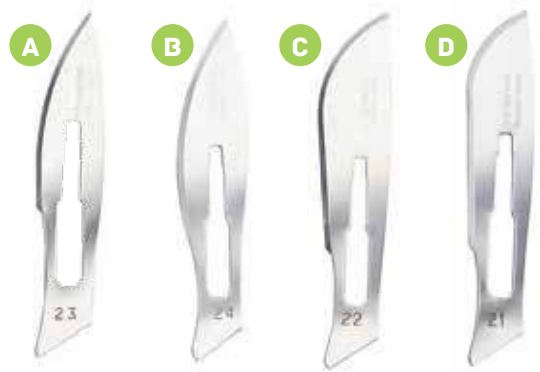
SCALPEL WITH HANDLE LENGTH 130MM, BLADE 45MM

High quality steel scalpels with handle length 130mm and blade length 45mm.

KEY STAGE **KS5**

CODE	PRICE
B180	£2.25

SCALPEL BLADES



KEY STAGE **KS5**

CODE		PRICE
B184B4	Scalpel Blade No. 4 Size 23 (Pk10) A	£4.66
B184B5	Scalpel Blade No. 4 Size 24 (Pk10) B	£4.66
B184B3	Scalpel Blade No. 4 Size 22 (Pk10) C	£4.66
B184B2	Scalpel Blade No. 4 Size 21 (Pk10) D	£4.66

SCALPEL BLADES

Quality sterile, disposable carbon steel blades, individually packed in quick peel aluminium foil.

KEY STAGE **KS5**

CODE		PRICE
B184A1	Scalpel Blade No.3 Size 10 (Pk10) A	£4.66
B184A4	Scalpel Blade No.3 Size 15 (Pk10) B	£4.66
B184B1	Scalpel Blade No.4 Size 20 (Pk10) C	£4.66
B184A2	Scalpel Blade No.3 Size 11 (Pk10) D	£4.66
B184A3	Scalpel Blade No.3 Size 12 (Pk10) E	£4.39

DISSECTING SET, BASIC INSTRUMENTS

Set of 14 stainless steel dissecting instruments in a canvas case.

KEY STAGE KS5

CODE	PRICE
430-004	£19.21

DISSECTING TRAY WITH WAX

Aluminium tray supplied with wax.

- Size: 300 x 200 x 45mm.

KEY STAGE KS5

CODE	PRICE
430-001	£16.41

DISSECTION STUDENT KIT ECONOMY

A beginner's dissection kit for the student learning the basics of dissection! Watch the excitement when the student uncovers for the first time the dissection of an earthworm, frog or grasshopper. Specimens sold separately from your preserved specimen supplier.

KEY STAGE KS5

CODE	PRICE
9432	£22.83

NEEDLE WITH WOODEN HANDLE 100MM LENGTH (PK5)

KEY STAGE KS5

CODE	PRICE
BI0164	£3.29

NEEDLE STAINLESS STEEL (PK5)

Dissecting needle, straight, stainless steel. Total length 95mm.

KEY STAGE KS5

CODE	PRICE
BI0166A	£5.49

DISSECTION PAN-ECON. PAN, PAD & COVER SET/15

Available in 3 sizes. Pans won't rust. The pads are reusable and no need to melt sticky wax. The covers close up for the day. Perfect for the beginner's dissection project, earthworms, small frog, clam or grasshopper.

- Size: Small - 10" x 7"
- Size: Standard - 11.5" x 7.5"
- Size: Large - 12.75" x 9"

CODE	PRICE
9432	£154.09

DISSECTION PAN.PAN, PAD & LID DELUXE

Available in 3 sizes. Pans won't rust. The pads are reusable and no need to melt sticky wax. The covers close up for the day. Perfect for the beginner's dissection project, earthworms, small frog, clam or grasshopper.

- Size: Small - 10" x 7"
- Size: Standard - 11.5" x 7.5"
- Size: Large - 12.75" x 9"

CODE	PRICE
9422	£22.83

DISSECTION PAN - ECONOMY PAN, PAD & COVER

Available in 3 sizes. Pans won't rust. The pads are reusable and no need to melt sticky wax. The covers close up for the day. Perfect for the beginner's dissection project, earthworms, small frog, clam or grasshopper.

- Size: Small - 10" x 7"
- Size: Standard - 11.5" x 7.5"
- Size: Large - 12.75" x 9"

CODE	PRICE
9420	£14.78

DISSECTION PAN,PAD & COVER DELUXE SET OF 15

Available in 3 sizes. Pans won't rust. The pads are reusable and no need to melt sticky wax. The covers close up for the day. Perfect for the beginner's dissection project, earthworms, small frog, clam or grasshopper.

- Size: Small - 10" x 7"
- Size: Standard - 11.5" x 7.5"
- Size: Large - 12.75" x 9"

CODE	PRICE
9423	£154.09

DISSECTION PAD - ECONOMY

Reusable dissecting pads. Made from 'high grip' materials which eliminates need for use of wax!

Also serves as replacement pad for Small Dissection Pan, product code: 9420.

KEY STAGE **KS5**

CODE	PRICE
9426	£6.79

FORCEPS GLASS FILLED NYLON STRBLUNT 125MM (PK20)

KEY STAGE **KS5**

CODE	PRICE
13097A	£10.92

DISSECTION REPLACEMENT PAD DELUXE

Reusable dissecting pads. Made from 'high grip' materials which eliminates need for use of wax!

Also serves as replacement pad for Large Dissection Pan, product code: 9422.

KEY STAGE **KS5**

CODE	PRICE
9428	£10.84

MICROSLIDE LESSON SET - THE EARTHWORM

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Mouth (1x Clitellum); Ovary, Sperm - in seminal vesicle; Male Gonopore; Setea; Digestion; Ventral Blood Vessel; Heart; Nephridipore & Epidermis; Nervous System.

KEY STAGE **KS5**

CODE	PRICE
T232	£98.11

ELECTROPHORESIS LAB STATION I

A complete system for introductory agarose gel electrophoresis studies. Now you can economically outfit your classroom with the latest in electrophoresis technology.

THE ELECTROPHORESIS LAB STATION 1 INCLUDES:

- 1 Double-Gel Electrophoresis Chamber
- 1 Variable Voltage Power Supply
- 1 Agarose Gel Electrophoresis Lab Investigation
- 1 Fixed Volume Micropipet, 10 microlitres
- 1 DNA Technology & Biotechnology CD-ROM

(Accommodates 2 groups of 4 students. 230V PSU (code: 605-004) will be substituted when dispatchinging orders to countries with 230V mains)

CODE	PRICE
13-55-1110	£547.65

ELECTROPHORESIS LAB STATION II

Run up to four gels simultaneously! Affordably expand your classroom's electrophoresis capacity with twice the hardware and accessories included in Lab Station I.

THE ELECTROPHORESIS LAB STATION 2 INCLUDES:

- 2 Double-Gel Electrophoresis Chambers
- 1 Variable Voltage Power Supply
- 1 Agarose Gel Electrophoresis Lab Investigation
- 2 Fixed Volume Micropipets, 10 microlitres
- 1 DNA Technology & Biotechnology CD-ROM

(Accommodates 4 groups of 4 students. 230V PSU (code: 605-004) will be substituted when dispatchinging orders to countries with 230V mains.)

CODE	PRICE
13-55-1120	£657.40

ELECTROPHORESIS LAB STATION III

Economically outfit your lab with additional capacity - all at a low, bundled price. Accommodates 6 groups of 4 students each.

THE ELECTROPHORESIS LAB STATION 3 INCLUDES:

- 3 Double-Gel Tanks
- 1 Variable Voltage Power Supply
- 1 Agarose Gel Electrophoresis Lab Investigation
- 3 Fixed Volume Micropipets, 10 microlitres
- 1 DNA Technology & Biotechnology CD-ROM

(230V PSU (code: 605-004) will be substituted when dispatching orders to countries with 230V mains.)

CODE	PRICE
13-55-1130	£876.90

DOUBLE GEL ELECTROPHORESIS APPARATUS

Run two gels simultaneously! The leak-free, one-piece moulded chamber is constructed from durable, clear acrylic and has pure platinum electrodes for superior conductivity and longevity. The system includes two casting gel trays and six 12-well forming combs and patch cords. Specially designed casting trays hold melted agarose without the use of tape or snap-on ends. Wells can be formed at the end or the centre of the gel. Built-in safety features prevent the student from using the chamber unless the lid is locked in place.

CODE	PRICE
13-55-1094	£251.11

ELECTROPHORESIS POWER SUPPLY

Three sets of output connectors, allowing the user to run up to three chambers simultaneously. LED screen, illuminated power switch, CE certification, overcurrent protected.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS5

TECHNICAL SPECIFICATIONS	
Variable Voltage:	25V, 75V, 110V
Power Input:	230V, AC 50/60Hz

CODE	PRICE
605-004	£131.70

ELECTROPHORESIS POWER SUPPLY

The Edu-Lab electrophoresis power supply provides 3 groups of output of 60V to150V in 1V steps or 10 to 150mA constant current in 5mA steps. Voltage Display is by 3-digit, 7-segment green LED. The transformers are protected by thermal fuses and the primary is protected by a 1A slow blow fuse. Output current is limited to maximum of 150mA. All three groups of outputs are monitored and controlled by micro-processor.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS5

TECHNICAL SPECIFICATIONS	
Input:	230V ±10%, 50Hz
Output:	3 groups of outputs (same output of 60V)
Output voltage accuracy:	±2V
Output current:	±3.5% of full scale (i.e. ±5mA)
Replacement fuse:	1A (T)
Dimensions:	200 x 150 x 70mm

CODE	PRICE
605-005	£328.15

ELECTROPHORESIS: AGAROSE GEL SEPARATION OF DYES

Introduce your students to this valuable separation science in a safe and colorful manner. Unlike DNA and other molecules which cannot be seen during electrophoresis, this activity uses dyes that can be observed during the actual procedure, providing visual reinforcement of the forces driving molecular movement and separation in the electrophoresis process. Kit contains enough materials to run ten 20ml agarose gels (actual number of runs may vary based on your equipment).

KEY STAGE KS3-6

CODE	PRICE
200-003	£97.02

DNA FINGERPRINTING ELECTROPHORESIS LAB ACTIVITY

DNA fingerprinting is one of the strongest forms of evidence in forensic investigations. In this activity students will perform agarose gel electrophoresis on four DNA samples to determine if DNA from suspects matches that of DNA found at a crime scene. Students will also learn about restriction enzymes and the importance of these enzymes in the DNA fingerprinting process. The kit contains enough materials for 8 groups and includes a Teacher's Guide and Student Study copymasters.

CODE	PRICE
200-017	£44.75

DIAGNOSING GENE DEFECTS

Examine the genetic mutation responsible for sickle-cell anaemia. Your students will use agarose gel electrophoresis to study sickle cell anaemia - a painful and ultimately fatal condition resulting from a genetic mutation which alters the body's haemoglobin.

They'll search for changes in a non-human DNA sample to diagnose this hereditary blood disease. In the process, They'll learn about genes and how genetic mutations can cause disease.

CODE	PRICE
14-20-3363	£154.09

DNA /CHROMOSOME STAINING LAB ACTIVITY

Students prepare their own microscope slides, using the plant tissue, to view actual cells in different stages of mitosis. Specially grown and preserved plant root tips are included in the kit. Students first prepare and stain their samples, then perform a cell squash for microscopic observation. The material is grown and harvested under specific conditions to ensure maximum mitotic activity is occurring at the time of preservation, allowing for multiple examples of every stage of mitosis on each microscope slide prepared. Students will learn about cell division and gain valuable experience in techniques such as tissue staining and microscopic observation.

CODE	PRICE
404-002	£80.52

TURNING GENES ON AND OFF LAB INVESTIGATION

Explore how genes respond to their environment Use a safe, commonly found microbe to investigate and predict the effect of temperature on gene regulation and expression. Expression of this particular gene is easily recognized by the production of a pigment which turns the bacteria colonies red for a striking visual demonstration of gene manipulation.

Further investigations allow students to design their own experiments to identify other variables which may affect gene expression.

CODE	PRICE
13-20-1093	£78.100

GENES & PROBABILITY LAB

Discover the fundamental principles of genetics.

Study the patterns of inheritance and the genetic probability of easily observed and tested traits.

Students use game-like exercises to explore gametogenesis and fertilization; monohybrid and dihybrid crosses; laws of dominance, segregation, and recombination; independent assortment and other key elements of this important and relevant topic.

CODE	PRICE
13-20-1163	£74.19

POSTER: HUMAN GENETIC DISORDERS (LAMINATED)

A visual guide to the human genome Detailed view of all 23 human chromosome pairs and the location of the genes which cause some of the most common genetic disorders discovered, to date, as part of the Human Genome Project. Some genetic disorders shown include breast cancer, melanoma, deafness, muscular dystrophy, Parkinson's disease, Tay-Sachs disease, cystic fibrosis, colour blindness and many others. Also shown is a detailed 3-D view of a cell, chromosome, double-helix DNA as well as the karyotypes representing Down's Syndrome and Turner's Syndrome.

CODE	PRICE
13-35-1016	£35.38

POPPIT BEADS (PK200)

Poppit beads are a useful laboratory modelling unit. They can represent disaccharide and polysaccharide molecules in demonstrating carbohydrate metabolism and can also be used to represent genetic code as well as whole chromosomes, or as amino acids, dipeptides, monosaccharide, polypeptides and proteins in protein metabolism.

KEY STAGE **KS4-5**

CODE		PRICE
EDU1251	Red	£12.07
EDU1252	Yellow	£12.07
EDU1250	Green	£12.07

SIMULATING NATURAL SELECTION LAB

Game-like format simulates the natural selection that occurred in peppered moths! Your class will learn the key steps of natural selection as they simulate what occurred in the peppered moth population as the selection pressures in the environment changed in England during the Industrial Revolution.

The students are provided with backgrounds that simulate the colour of various tree trunks along with peppered moth cutouts. They'll find that as the tree trunks darkened, the darker peppered moths were more likely to survive and reproduce.

KEY STAGE **KS5**

CODE	PRICE
14-20-2903	£86.69

FRUIT FLY GENETICS KIT

This unique kit contains simple activities designed to teach basic fruit fly genetics without using live flies. Drosophila Melanogaster is used without the inconvenience of maintaining live fruit fly cultures. Students can perform crosses using plastic pieces printed with features allowing them to observe and simulate sex determination, single factor inheritance, double factor inheritance, sex linkage, dominance and recessiveness. Includes 15 sheets each, with snap apart features showing male and female and 4 types of fruit flies. Teacher's Guide and Student instruction sheet included.

KEY STAGE **KS5**

CODE	PRICE
R-100872	£74.19

DNA ACTIVITY MODEL

Affordable, easy-to-understand, realistic replica of the 'molecule of life'. Your students will construct their own double helix model complete with cytosine, adenine, guanine and thymine nucleic acid bases; connecting phosphate strands; and a centre rod representing hydrogen bonds. Easy-to-assemble, three-dimensional model is made of durable plastic components for years of classroom use. Colour-coded parts feature specially shaped ends to ensure proper base pair alignment and can be unzipped to demonstrate DNA replication.

Features sturdy, metal base for easy rotation and classroom display.

KEY STAGE **KS5**

CODE	PRICE
13-20-1093	£78.10

MICROSLIDE MUTATION (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

The Fruit Fly -Eye Colour Mutation, Sickle-cell Anaemia, An Albino, Colour Blindness, Polydactylism, Tongue Rolling, Earlobe Attachment, Ornamental Corn.

KEY STAGE **KS4-5**

CODE	PRICE
13-20-1163	£74.19

HEREDITY OF HUMAN TRAITS

Challenge your students to determine the phenotype, genotype and frequency of easily observed human traits and identify the dominant and recessive genes for each trait. With the class as a sample population, students use a variety of taste test papers to determine the percentage of individuals who can detect a unique taste. They then apply the Hardy-Weinberg Principle to predict the allele frequency of this trait's gene and compare the estimate with their sample results. Additionally, students can construct and analyze a family pedigree for a selected trait, learning how it may be passed from one generation to the next. They also learn to use Punnet squares to predict ways genes can combine during fertilization.

KEY STAGE **KS5**

CODE	PRICE
13-35-1016	£35.38

CLASS SIZE **40** **STUDENTS**

UNDERSTANDING BIOTECHNOLOGY TECHNIQUES

Fun and engaging simulated activities to learn about biotechnology. Study the process of electrophoresis, simulating every step without the need for equipment or even any prior knowledge!

With this completely reusable kit, students use pop-beads to assemble DNA strands, digest them with restriction enzymes and electrophorese them on a paper gel. In doing so, they'll learn the scientific principles behind electrophoresis, the action of restriction enzymes, the creation of recombinant organisms and the countless applications of this process in biology and medicine.

KEY STAGE **KS5**

CODE	PRICE
13-20-2103	£118.95

POSTER: HUMAN INHERITANCE (LAMINATED)

Review the basics of Human Inheritance including Chromosomes, Karyotypes, Pedigrees, Sex-Linked Traits, Crossing Over, Mutations, and Genetic Diseases. See at a glance how chromosomes, karyotypes and pedigrees are related to each other.

CALL TODAY FOR MORE **INFORMATION**

KEY STAGE **KS4-5**

CODE	PRICE
13-35-1356	£35.38

ENZYME BIOTECHNOLOGY KIT

The development and application of new industrial enzymes is a major growth area in biotechnology. The use of micro-organisms which secrete large quantities of enzymes has in most cases replaced the more expensive traditional sources. The kit gives students an insight into the use of enzymes by industry.

EXPERIMENTS INCLUDE:
Rennet in cheese production; Protease in meat tenderisers; Enzymes in washing powders; Demonstration of pectinase in fruit juice production.

KEY STAGE **KS5**

CODE	PRICE
410-011	£42.23

IMMOBILISED ENZYMES KIT

This kit is designed for 10 groups of students to use. It is geared for A Level and has application in Biology and Chemistry learning. The kits comes complete with teachers guides and worksheets.

INCLUDES THE FOLLOWING ACTIVITIES:
Yeast cells and their use in fermentation processes; Application and use of the immobilised glucose isomerase and the preparation of immobilised invertase.

CODE	PRICE
410-013	£86.70

BIOTECH CHEESEMAKING LAB

Put one of biotechnology's oldest applications to use in your own classroom. The ancient art of cheesemaking provides a perfect example of how biotechnology can be used to improve a process and its end-product. Your class will get the opportunity to actually make cheese using enzymes produced through the advances of biotechnology. In the process, they'll explore the science behind cheesemaking and observe the accompanying chemical and microbiological changes and the resulting physical changes.

CODE	PRICE
14-20-1453	£60.44

MAGNETIC TEACHING AID - PROTEIN FOLDING/ ENZYME STRUCTURE

The virtmac system represents a whole new approach to teaching some of the trickier aspects of cell biology, using magnetic pieces to represent atoms, molecules and ions. Between the three kits, up to 30 different topics can be covered, so the cumulative familiarity with this symbolic representation of cell processes leads to a much more unified and coherent understanding of the subject than traditional teaching methods. Also, with their low price and wide subject coverage these kits deliver excellent value for money. But as we all know - the real reward is watching students really grasping difficult concepts.

The versatility of this magnetic manipulative set enables you to demonstrate the four levels of protein folding in three-dimensions. Build an alpha helix on your chalkboard or whiteboard with the layers built in 3-D.

To see a short video of these teaching tools in action, please visit **www.virtmac.com**

This realistic representation clarifies any student misconceptions of protein folding. Using the same polypeptide chains produced in the protein folding, you can then demonstrate the induced fit model, enzyme substrate complex, denatured proteins, active sites, allosteric sites, as well as competitive and non competitive inhibitors. The kit contents reveal how the same molecules are used repeatedly to build simple to complex structures in different biological processes. Partial assembly required. Includes a DVD with easy to follow instructions and video lessons.

CODE	PRICE
404-006	£27.81

CONCENTRATED ENZYME BUFFER

Enzyme buffer solutions are presented as 50ml concentrates in handy storage bottles. These buffers are meticulously prepared by experienced technicians working in clean laboratory production facilities.

KEY STAGE **KS5**

CODE	PRICE
401-077	£5.49
401-079	£6.28
401-080	£5.49
401-076	£6.28

ENZYMES

Enzymes should be stored in a refrigerator at 4°C to ensure a shelf life of up to 12 months.

KEY STAGE **KS5**

CODE		PRICE
401-057	Pectinase 100ml	£34.43
401-061	Fungal Amylase 50g	£11.74
401-073	Trypsin Powder 25g	£23.84
401-051	Catalase 50ml	£7.81
401-069	Pepsin Powder 50g	£11.74

BASIC ENZYMOLOGY KIT

This kit is designed for 10 groups of students to use. It is geared for A Level and has application in Biology and Chemistry learning. The kits comes complete with guides and worksheets.

INCLUDES THE FOLLOWING ACTIVITIES:
Invertase activity; Enzyme activity relative to time, temperature, substrate concentration, enzyme concentration, pH; Substrate specificity of invertase; Inhibition of invertase activity; Denaturation of invertase by heat.

KEY STAGE **KS4-5**

CODE	PRICE
401-081	£87.75

TRYPSIN PROJECT PACK

This kit contains the enzyme, exposed film and buffers necessary to carry out experiments into the effect of pH and temperature on Trypsin.

KEY STAGE **KS5**

CODE	PRICE
401-043	£34.43

The NanoHeat® Waterbath's compact design enables it to be easily moved and transported. The electronic control ensures reliable bath temperature with +/- 1°C ariance. The temperature adjusts at 1°C intervals.
It is easy to set up and carry out multiple experiments simultaneously at different temperatures with several water baths.

Its flexible usage allows it to be used separately from the bath container for heating purposes. Operation is from an LED display touch screen allowing easy temperature selection.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-5

TECHNICAL SPECIFICATIONS	
Electrical rating:	220-240V AC, 50/60Hz
Output rating:	1200W
Dimensions:	200 x 230 x 156mm (W x L x H)
Weight:	2.2kg

CODE	PRICE
603-065	£493.88

NANOHEAT HOTPLATE WITH WATERBATH

- An excellent way of setting up for experiments involving enzymes and other temperature-dependent phenomena. Each hot plate gets to the required temperature in a few minutes and remains constant for as long as required. Space-saving, time-saving and reliable. Can be stacked away easily as well.

INTRODUCTION TO ENZYMES KIT

Demonstrates the effects of pH and temperature and the specificity of enzymes. Emphasis is placed on good experimental technique and appropriate deductions from the results obtained. Includes guide notes.

EXPERIMENTS INCLUDED:
Demonstrating enzyme activity; Enzyme specificity; The effect of pH; The effect of temperature.

CODE	PRICE
401-037	£64.15

ENZYMES SET

EIGHT TUBES OF 10G EACH:

- Amylase
- Diastase
- Invertase
- Lipase
- Pancreatin
- Pepsin
- Trypsin
- Urease

CODE	PRICE
401-082	£60.36

BACTERIAL AMYLASE PACK

The kit contains the enzyme, starch, iodine and all buffers necessary to carry out experiments into the effect of pH and temperature on Bacterial Amylase.

CODE	PRICE
401-041	£34.43

EFFECTS OF PH ON ENZYMES

Enzymes are affected by pH in two ways. Firstly, electrostatic charges on groups at the enzyme's active site(s) are modified, and secondly, those charges responsible for holding the molecular shape and active configuration may be disrupted.

CODE	PRICE
401-038	£40.36

EFFECTS OF TEMPERATURE ON ENZYMES

This kit allows for an excellent set of activities studying the effect of temperature on enzyme activity. As we know, enzymes are complex proteins and with this kit we study heat denaturation of invertase and amylase. The kit is designed for use by 10 groups or individual students.

CODE	PRICE
401-039	£36.33

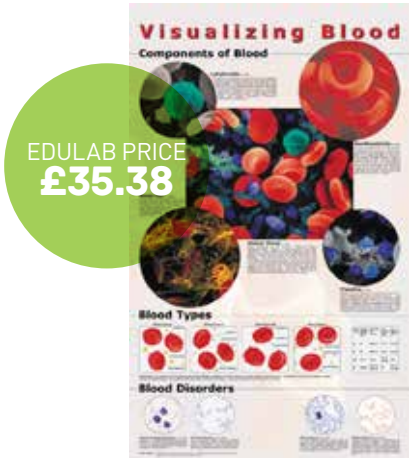
AMINO ACIDS SET

The kit contains worksheets and guides and is based on the determination of amino acid structures by their hydrolysis and subsequent chromatographic separation. 17 tubes are included in the kit, each containing 1g of the amino acids and proteins being studied

CODE	PRICE
401-049	£68.84

POSTER: VISUALIZING BLOOD (LAMINATED)

Extraordinary electron micrograph images provide a stunning close-up look at human blood cells. Vivid illustrations detail blood types, agglutination and clotting. Also common blood disorders, leukemia, sickle cell and others.



KEY STAGE KS4-5

CODE	PRICE
13-35-1021	£35.38

HAEMOCYTOMETER

Haemocytometer, Improved Neubauer Pattern for estimating particles in suspension.

Cell with two counting grids, separated by a central trough, divided into 400 squares 0.05 x 0.05mm. 22x22 cover slips not included.

KEY STAGE KS5

CODE	PRICE
406-001	£53.78

BLOOD TYPING KIT, SIMULATED - EDULAB

THIS ABO-RH BLOOD TYPING KIT ALLOWS YOUR STUDENTS TO:

- Experiment using blood (Real blood is not used)
- Uses artificial blood and sera
- Simulates actual blood typing
- Rh factor determination
- A,B,O and AB types are included
- Genetic considerations to settle paternity question
- Determines possible blood donors

KEY STAGE KS5

CODE	PRICE
310-014	£49.39

MICROSLIDE HUMAN BLOOD (PK10)

Human blood smear, Red corpuscles, White corpuscles (leucocytes), Phagocytosis, Blood type B, Fibrin, Sickle cells, Infected blood.

KEY STAGE KS4-5

CODE	PRICE
T95	£98.11

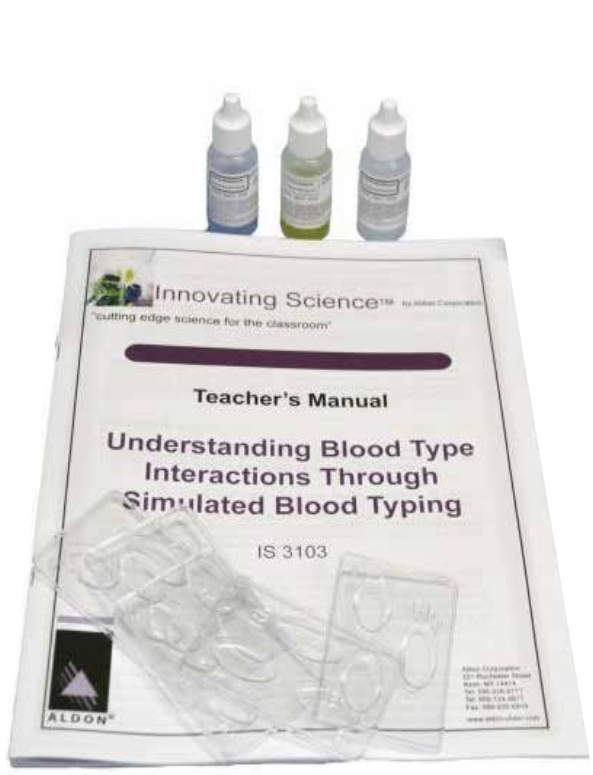
SIMULATED ABO/RH BLOOD TYPING

This activity provides the most procedurally accurate simulation of the blood typing technique available. Students test and determine the ABO/Rh blood types of four different simulated blood samples. Using Innovating Science's new simulated blood, the students combine blood samples and antisera, gently agitate the blood typing tray, and observe the results. No toothpicks, no stirring, and no waiting for results required. Kit contains enough materials for 10 groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:
4 SIMULATED BLOOD SAMPLES
DONOR #1
DONOR #2
DONOR #3
DONOR #4
1 BTL SIMULATED ANTI-A SERUM
1 BTL SIMULATED ANTI-B SERUM
1 BTL SIMULATED ANTI-RH SERUM
40 BLOOD TYPING TRAYS

NEW KEY STAGE KS5-6

CODE		PRICE
200-004		£64.48
200-005	Refill Kit	£46.80



UNDERSTANDING BLOOD TYPE INTERACTIONS THROUGH SIMULATED BLOOD TYPING

The earliest historical attempts at blood transfusions often had lethal results. These results led to the investigation and discovery of blood types, as well as a deeper understanding of the importance of antigen/antibody interactions. In this investigation, students will utilize Innovating Sciences new simulated blood to determine the ABO/Rh blood type of four individuals, one in need of a transfusion.

KIT INCLUDES:
40 BLOOD TYPING TRAYS
4 SIMULATED BLOOD SAMPLES
DONOR #1
DONOR #2
DONOR #3
PATIENT
1 BTL SIMULATED ANTI-A SERUM
1 BTL SIMULATED ANTI-B SERUM
1 BTL SIMULATED ANTI-RH SERUM

NEW KEY STAGE KS5-6

CODE		PRICE
200-007		£70.72
200-008	Refill Kit	£46.80

FREQUENCY OF BLOOD TYPES USING NEO/BLOOD® LAB INVESTIGATION

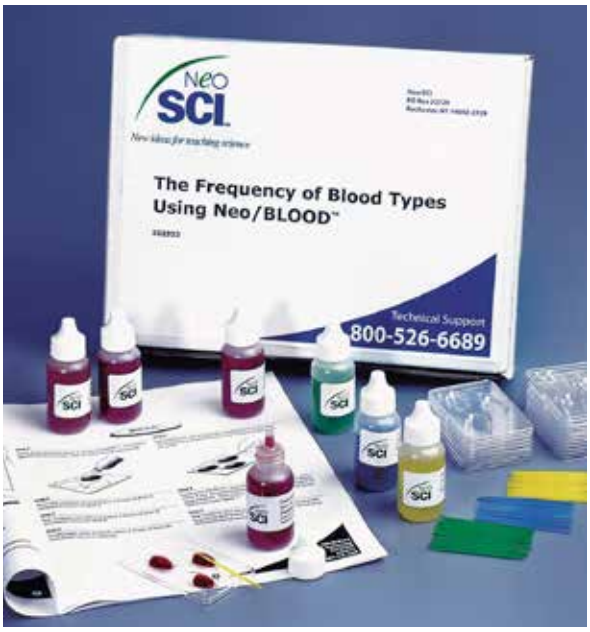
Students determine the ABO blood types of unknown simulated blood samples and pool their class data to calculate the frequency of each blood group in a given population. Various scenarios can be set up to simulate the blood group distribution in over a dozen populations. Additionally, students can study the composition of blood by preparing a simulated blood smear. The smear is examined under the microscope to locate and identify simulated red blood cells and white blood cells, as well as estimate the number of simulated blood cells in a given sample. Class size - 40 students.

ABOUT NEO/BLOOD® SIMULATED BLOOD TYPING LAB INVESTIGATIONS: Conduct realistic blood typing activities without exposure to the hazards of real blood!

KEY STAGE **KS5**

CODE	PRICE
13-20-2953	£78.10
13-20-2955	£40.85

Neo/BLOOD® looks and behaves like real blood, provides quick, easy and completely safe results and realistically simulates agglutination. Contains simulated, microscopic blood cells which can be viewed and counted under a microscope or used with a haemacytometer.



GENETICS OF BLOOD TYPES (SIMULATED)

Blood type, an inherited characteristic, has use in everything from forensic investigations to medical procedures. In this activity, students will learn about the genetics that determine blood type and the possible inheritance patterns and how they express themselves. Students will use Innovating Science's new simulated blood to determine the blood type of four unknown samples and use their results to assist in the resolution of a fictional paternity dispute.

Kit contains enough materials for 10 groups. Teacher's Manual and Student Study Guide copymasters are included.

NEW KEY STAGE **KS5-6**

CODE	PRICE
200-006	£71.16

MOLECULAR MODEL KIT, TEN LAYER DNA

Excellent quality models produced from precision engineered moulds and materials. Each kit comes in a durable storage case with compartments for segregation of parts. The range of models included in the Edulab offering is designed to enhance teaching of the UK and US curricula. These 'original' models have been used by thousands of students worldwide and are renowned for their ease of use.

The joining pieces are carefully designed to ensure models are firmly constructed so they can be passed around during the lesson without fear of falling apart.

KEY STAGE **KS4-5**

CODE		PRICE
404-014	10 Layer	£203.04
404-010	22 Layer	£38.41

MOLECULAR MODEL, RNA 12 BASE

KEY STAGE **KS5**

CODE		PRICE
404-011	RNA 12 Base	£13.86
404-012	RNA 24 Base	£32.93

MOLECULAR MODEL KITS

Excellent quality models produced from precision engineered moulds and materials. Each kit comes in a durable storage case with compartments for segregation of parts.

The range of models included in the Edulab offering is designed to enhance teaching of the UK and US curricula. These 'original' models have been used by thousands of students worldwide and are renowned for their ease of use.

The joining pieces are carefully designed to ensure models are firmly constructed so they can be passed around during the lesson without fear of falling apart.

KEY STAGE **KS4-5**

CODE		PRICE
404-013	Alpha-Helix	£27.44
401-095	Polypeptide	£10.69
401-094	Protein, Beta Pleated Sheet	£27.44
401-087	20 Amino Acid Collection	£92.14
401-085	7 Amino Acid Collection	£30.91
401-091	Saturated Fat - Stearic Acid	£10.98
401-092	Unsaturated Fat - Oleic Acid	£10.69
401-088	Fat (Glyceryl Tristearate)	£32.06
401-089	Glucose	£12.65
401-090	Sucrose	£11.84
401-093	Starch or Cellulose	£16.18
401-096	Biochemistry 257 Atom-parts	£73.94
401-097	Unsaturated Fat - Oleic Acid	£32.87

MODELLING PROTEINS, FATS & CARBOHYDRATES

A 3-D study of some of life's most important molecules. Colour-coded, plastic model allows your class to simulate the structure of proteins, fats and carbohydrates. Students will construct three-dimensional subunits of amino acids, fatty acids and monosaccharides. They'll then link the amino acids to form protein molecules and illustrate their primary, secondary and tertiary structure. Similarly, they'll link fatty acids to represent fats and monosaccharides to model carbohydrates.

CODE	PRICE
13-20-2173	£116.54

HIV/AIDS TESTING KIT, SIMULATED - EDULAB

This is an exciting, real life science lesson activity which uses real laboaratory techniques for demonstrating the HIV test for AIDS. The test uses simulated blood and reagents which are completely safe in the hands of students and teachers. This kit has been used extensivelyby United Nations in its UNESCO outreach work worldwide.

Teachers guide & students notes, chemicals and equipment are included with this kit.

CODE	PRICE
310-013	£71.34

CHEMICAL IDENTIFICATION OF BIOMOLECULES

Understand the importance of proteins, carbohydrates, and lipids in living organisms. Students will learn to identify a positive test result for proteins using biuret reagent, examine the reaction between Benedict's reagent and a simple sugar, use iodine/potassium iodide to test for the presence of starch, and test for the presence of lipids using a fat-soluble dye. There are enough materials for 15 groups. Teacher's manual and student copy masters are included.

CODE	PRICE
360-002	£69.97

MICROSLIDE AIDS (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Simian Virus - E.M. (87,500x), Macrophage at work (1,000x), Healthy T-Cell - S.E.M. (3,500x), HIV on T-Cell - S.E.M. (6,000x), HIV Budding from T-Cell - S.E.M. (50,000x), Pneumonocystis Carinii S.E.M (710x), Candida Albicans - S.E.M. (3,000x), Karposi's Sarcoma (1x).

CODE	PRICE
T246	£98.11

MICROSLIDE BODY DEFENCES AGAINST INFECTION (PK10)

Simian Virus - E.M. (87,500x), Macrophage at work (1,000x), Healthy T-Cell - S.E.M. (3,500x), HIV on T-Cell - S.E.M. (6,000x), HIV Budding from T-Cell - S.E.M. (50,000x), Pneumonocystis Carinii S.E.M (710x), Candida Albicans - S.E.M. (3,000x), Karposi's Sarcoma (1x).

KEY STAGE **KS4-5**

CODE	PRICE
T204	£98.11

MICROSLIDE LESSON SET - IMMUNITY (PK10)

Blood Phagocyte, Phagocytosis, Monocyte, Macrophage, Bone Marrow, Lymph Gland, Thymus Gland, Normal T-cells, HIV Budding from T-cell, Plasma Cell, Normal Red Blood Cells, Agglutinated Cells, Eosinophil, Basophil.

KEY STAGE **KS4-5**

CODE	PRICE
T229	£98.11

MICROSLIDE HUMAN DISEASES (PK10)

Viral Deseases - Influenza Virus (320,000x), Bacterial Diseases - Tuberculosis (100x & 1000x), Protist Diseases - Amoebic Dysentery (100x), Fungal Diseases - Trichina Worm (65x), Genetic Diseases - Sickle Cell Anaemia (400x), Environmental illnesses - Normal Lung (150x) / Blackened Lung (65x), Multifactorial Diseases - Atherosclerosis (3x & 15x).

KEY STAGE **KS5**

CODE		PRICE
T240		£98.11
T224	Malaria (Pk10)	£98.11

TEACHING ABOUT IMMUNITY KIT

This kit clearly displays the interrelated workings of the Immunity System. Attack an invading anigen with a phagocyte or monbyte. Produce macrophages. T-Cells, B-Cells, Plasma Cells, and antibodies. Clote T and B cells to produce Helper, Killer, Memory and Suppression cells. Demonstrate the operation of AIDS, Cancer, Vaccines, Allergies, Autoimmune reactions and more right on the board. Students can readily participate in the hands-on activities. The Plastick pieces will not break, chip, tear, peel or wear out!

Comes complete with a 30 X 40" Demonstration Board, mounting legs and Teacher's Guide with detailed lesson plans plus reproducible student worksheets.

KEY STAGE **KS5**

CODE	PRICE
T-600	£296.76

MICROSLIDE ANIMAL PARASITES OF MAN (PK10)

Trichina worms, Adult hookworm, Hookworm larva, Trypanosoma gambiense, Malarial parasite, Tapeworm scolex, Tapeworm cyst, Tick larvae.

KEY STAGE **KS4-5**

CODE	PRICE
T75	£98.11

EFFECTS OF SMOKING

Kit includes: 25 filters, filter holder with durable plexiglas base, aspirator bulb, colour chart for quantitative determination of tar content and instructions for 5 complete activities.

KEY STAGE KS3-4

CODE	PRICE
R-100590B	£62.78

EFFECTS OF SMOKING MODEL

Graphically demonstrate the impact of smoking on the lungs! Simply place a cigarette that you provide in the mouth of the 'Smoking Man' and draw smoke into his 'lungs' using the syringe pump included. The results will amaze you as you watch his lungs start to darken after only a few short puffs! Includes detailed teacher and student guides that provide extensive background information on the dangers of smoking as well as scenarios to test various cigarette brands for tar content under various conditions.

KEY STAGE KS3-4

CODE		PRICE
14-30-1235		£108.65
R-100611B	Refill Pack	£13.14

MICROSLIDE SMOKING & HEALTH (PK10)

Normal Bronchial Epithelium (175x), Thickened Bronchial Epithelium (175x), Loss of Cilia - Bronchial Epithelium, Early Cancerous Invasion - Bronchial Epithelium, Normal Lung Tissue, Blackened Lung Tissue (65x), Fibrosis and Emphysema - lung tissue, Alpha Virus on E. Coli (60,000x).

KEY STAGE KS3-4

CODE	PRICE
T73	£98.11

MICROSLIDE DRUG ABUSE UNDER MICROSCOPE (PK10)

Normal Bronchial Epithelium (175x), Thickened Bronchial Epithelium (175x), Loss of Cilia - Bronchial Epithelium, Early Cancerous Invasion - Bronchial Epithelium, Normal Lung Tissue, Blackened Lung Tissue (65x), Fibrosis and Emphysema - lung tissue, Alpha Virus on E. Coli (60,000x).

KEY STAGE KS4-5

CODE	PRICE
T208	£98.11

MICROSLIDE NUTRITION (PK10)

Vitamin A Deficiency- Cornea (200x), Vitamin B2 Deficiency - Skin (40x & 100x), Vitamin B3 Deficiency- Skin (50x), Vitamin D Deficiency - Bone (40x & 100x), Iodine Deficiency - Thyroid (400x), Potassium Deficiency - Heart Muscle (100x), Iron Deficiency - Blood (300x), Vitamin B1 Deficiency - Heart Muscle (250x).

KEY STAGE KS4

CODE	PRICE
T209	£98.11

ACTION/REACTION HEALTH LAB

Investigate functions of the nervous system with this interactive laboratory activity. Using a reaction timer, students measure response time to various stimuli including light, sound and touch. Materials are included allowing students to develop their own personal training programs and to chart the results. Ultimately, students relate reaction time to general health and mental alertness.

KIT INCLUDES:
Reaction timer, game board and pieces, chart, pack of activities and Teacher's Guide. Reaction Timer available separately (code: 6027).

KEY STAGE **KS3-4**

CODE	PRICE
6215	£199.75

CLEVER CATCH - DRUGS & ALCOHOL VOL.1

Start learning about the effects that drugs and alcohol have on our bodies, relationships and lifestyles.

The Clever Catch® ball provides an easy way to introduce an often difficult topic.

KEY STAGE **KS3-4**

CODE	PRICE
SR-1465	£11.41

TUMBLE & TEACH - EXERCISE

Doesn't sound like too much fun, but turning exercise into a game can be fun with the new Tumble 'n Teach® Exercise Cube. From stretching and running to good old 'jumping jacks', this Tumble 'n Teach® has a variety of basic exercises to get your students' blood flowing. Ideal for classroom, gym or even outdoors.

KEY STAGE **KS3-4**

CODE	PRICE
SR-1479	£14.78

HAND DYNAMOMETER LOGGER SENSOR - EDU-LOGGER

This Edu-Logger sensor comes with a hand held unit with a built in strain gauge. The sensor measures the pressing force on the hand held unit.As with all Edu-Logger Sensors this must be used with the Edulogger USB module or the Wi-Fi module.

CODE	PRICE
900-267	£159.14

REACTION TIMER

Using a reaction timer, students can measure response time to various stimuli including light, sound and touch.

CODE	PRICE
6027	£176.92

BREATHING FITNESS HEALTH LAB

Investigate the pulmonary system by measuring breath rate, breath volume, breath recovery, breath control, lung volume and the amount of CO2 in exhaled air. Kit includes: breath control meter, lung volume bag, breath volume bag and valve, metre tape, mouth pieces, chemicals, 3 charts, plus a Teacher's Pack with activity plans. Additional or replacement supplies sold separately.

CODE	PRICE
6212	£218.40

GRIP TESTER

Measure physical grip strength with this pneumatic grip tester. May be adjusted for different strength levels.

CODE	PRICE
6043	£97.02

LUNG VOLUME BAGS SET OF 4

Pack of 4 Bags for the Lung Volume Kit, set of 4 - (code: 6050). Four durable plastic bags calibrated to 6 litres. Measurements are clearly displayed on the outside of the bags. These are best suited for use with the Edulab - Lung Volume Kit (6050).

CODE	PRICE
6034	£30.76

LUNG VOLUME KIT, SET OF 4

Lung Volume Kit, set of 4 is used to measure vital capacity, the volume of air a person can expel after taking the deepest possible breath.

Set of 8 Mouthpieces only, for Lung Volume Kit (code: 6050).

Pack of 4 Mouthpiece holders, for Lung Volume Kit (code: 6050).

CODE		PRICE
6050	Lung Volume Kit, Set of 4	£47.94
6035	Mouthpieces Only (Pk8)	£18.21
6033	Mouth Piece Holders Only (Pk4)	£11.36

BREATHING MONITOR

The Breathing Monitor can be used for investigating tidal volumes, reserve volumes and vital capacity.

Constructed with a one piece stainless steel tank housed in a durable painted outer case. The float is contructed from lightweight plastic and calibrated 0 to 7 x 0.5 litres with a metal counterpoise. When the tank is filled with water, the water in the float chamber is contained. In use the float will rise and fall, allowing readings to be taken directly off the float or it may be connected to a datalogger with a motion sensor.

Supplied with a mouth piece that fits into a corrugated breathing hose which snugly connects into Breathing Monitor.

CODE		PRICE
401-032	Disposable Nose Clip	£2.20
401-031	Disposable Mouth Piece (Pk100)	£38.41
401-034	Adaptor for Breathing Filter	£46.10
401-033	Disposable Breathing Filter	£3.84

A simple lever control enables the subject to be connected either to atmosphere or to the float for recording. A container for soda lime crystals is fitted which can be used to absorb carbon dioxide.

The spirometer is designed to offer minimum resistance to airflow. This means greater comfort for the subject and more realistic results. The tank is one-piece stainless steel pressing housed in a durable painted outer case. The float is constructed from lightweight plastic. The float is calibrated 0 to 7 x 0.5 litres and has a metal counterpoise.

The pen arm corresponds to approximately 0.5 litres. The two corrugated breathing hoses 0.8m long are provided with two mouthpieces and a nose clip. Soda lime crystals are not supplied. A Kymograph or Datalogger system is required to record results.

SPIROMETER

The Spirometer can be used for investigating tidal volumes, respiratory rate, pulmonary ventilation, reserve volumes and vital capacity. Oxygen consumption can also be measured which is useful in metabolic studies.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

CODE	PRICE
401-030	£949.34

The Spirometer enables measuring the volume of our lungs. The sensor includes a tube through which it measures the air flow that passes through it. The volume (in litres) is calculated by the software area calculation function.

The tube has a narrow part in its center and it measures the flow rate by measuring the pressure difference between the two parts of the tube.

PLEASE NOTE: Disposable laminated papers are included with the sensor. A paper must be rolled and put in the tube before using it and exhaling through it.

SPIROMETER LOGGER SENSOR - EDU-LOGGER

- Use as part of an exercise circus. All items on this page can be used together to monitor changes in the body during exercise.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	±10 L/s
ADC Resolution:	14 bit
Resolution:	0.2 L/s
Max Sample Rate (S/sec):	100

CODE	PRICE
900-226	£108.65

RESPIRATION LOGGER SENSOR - EDU-LOGGER

This sensor comes with a belt. It measures the air pressure in the belt which changes according to the breathing of the subject.

EDULAB PRICE **£137.19**

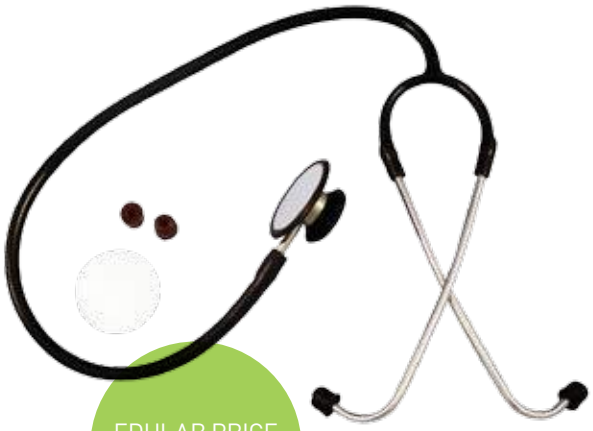
KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 6100 arb
ADC Resolution:	13 bit
Resolution:	1
Max Sample Rate (S/sec):	100

CODE	PRICE
900-255	£137.19

STETHOSCOPE

Basic medical stethoscope and single diaphragm head. For listening to pulse and breathing.



EDULAB PRICE **£5.36**

KEY STAGE **KS3-5**

CODE	PRICE
EDU1006	£5.36

HEART RATE AND PULSE LOGGER SENSOR - EDU-LOGGER

- Use as part of an exercise circus. All items on this page can be used together to monitor changes in the body during exercise.

This sensor can be used to monitor and compare pulse rates under various exercise and rest conditions and to compare the "normal' and "after exercise" pulse rates. Additionally, it can show how blood volume/flow rates in the finger or ear lobe vary with time.

EDULAB PRICE **£82.31**

The sensor has two modes of operation: measuring the BPM (Bits Per Minute) of the heart rate or displaying the analog arbitrary value of the measured signal.

The electrodes are both plethysmograph-based and so record changes in blood volume/flow. The sensor consists of an infrared LED transmitter and a matched infrared phototransistor receiver. For best results, the sensor should be kept away from direct sunlight and high intensity lights.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	30 to 240 BPM 0 to 1024 Analog Values
ADC Resolution:	10 bit
Accuracy:	1
Resolution:	2
Max Sample Rate (S/sec):	100

CODE	PRICE
900-208	£82.31

THE EDU-LOGGER SOFTWARE EXTRACTS THE FOLLOWING FROM THE BLOOD PRESSURE GRAPH:
a) The Systolic blood pressure
b) The Diastolic blood pressure
c) The MAP (Mean Arterial Pressure)
d) The heart rate

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 250 mm Hg 0 to 250 Arb 0 to 250 mm Hg + Arb
ADC Resolution:	13 bit
Resolution:	0.24 mm Hg 0.1 Arb 0.24 mm Hg
Max Sample Rate (S/sec):	100

CODE	PRICE
900-232	£115.24

BLOOD PRESSURE SENSOR EDU-LOGGER

- All items on this page can be used together to monitor changes in the body during exercise.

The sensor measures the air pressure in the pressure cuff wrapped around the tested person's arm. Heartbeats affect the blood pressure. That is the reason for the difference between the systolic and diastolic pressure of the tested person.

THE SENSOR HAS THREE RANGES:
1. The average pressure in the pressure cuff in mm Hg.
2. The pressure beats with no units.
3. The sum of the two above signals.

EDULAB PRICE **£105.00**

HEART FITNESS LAB

Involve the entire class in a variety of activities as they learn about the function of the heart and importance of physical fitness with this informative lab. By monitoring heart rates, recovery times and collecting data, students measure the effects of exercise and the impact of added weight to their heart rate. Kit contains a stethoscope, weight backpack and Teacher's Pack with 5 activity plans. Stethoscope available separately (Code: EDU1006).

KEY STAGE **KS4**

CODE	PRICE
6214	£125.55

SIGHT & SOUND HEALTH LAB

Specially designed equipment helps your students investigate the structure and function of two important senses: sight and sound. Topics include learning how a lens affects vision, measuring field of vision and capturing sound waves.

Kit contains: vision disk, pinhole viewer, lenses, eye chart, masks, flashlight, rubber balls, extensive pack of activities and Teacher's Guide.

KEY STAGE **KS3-4**

CODE	PRICE
6213	£106.93

MODEL, BRAIN, 4 PART LIFE SIZE ON BASE

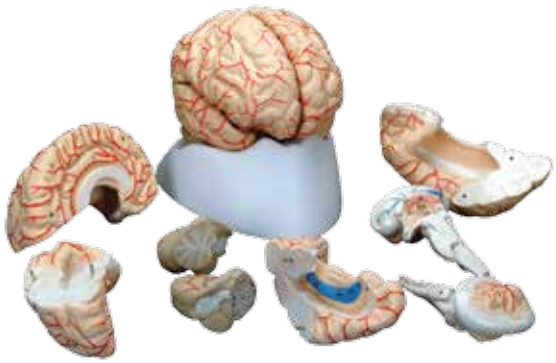
A life size 4 part model of the human brain. The model is a median section. The right hemisphere has the cerebellum and the stem with occipital lobe.

KEY STAGE **KS4-5**

CODE	PRICE
AM20	£64.75

MODEL, BRAIN WITH ARTERIES - 8 PARTS

Life-size model medially divided shows brain arteries as well as the removable basilar artery, both halves can be disassembled into: Temporal with Occipital Lobes, Half of the Brain Stern, Half of the Cerebellum. On removable base with key card.



KEY STAGE **KS4-5**

CODE	PRICE
AM19	£108.65

MODEL, BRAIN, 2 PART LIFE SIZE ON BASE

A life size 2 part model of the human brain. The model is a median section. The right hemisphere has the cerebellum and the stem with occipital lobe.

KEY STAGE **KS3-4**

CODE	PRICE
AM22	£53.78

MODEL, EAR (LEFT), 4 TIMES, 5 PARTS

This model is approximately four times full size.
The petros portion of the temporal bone section of the auditory canal are removable, with labyrinth which can be taken out and opened. The tympanic membrane with malleus and incus can be removed in 5 removable parts.

KEY STAGE **KS3-5**

CODE	PRICE
AM42	£42.80

MICROSLIDE THE SENSES (PK10)

Pacinian corpuscles (30x), Pacinian corpuscles (65x), Meissner's corpuscles, Free nerve ending, Cochlea of ear, Organ of orti, Taste buds, Nasal epithelium, Eye, Retina, Rods and cones

KEY STAGE **KS4-5**

CODE	PRICE
T99	£98.11

NERVOUS SYSTEM MODEL - EDULAB

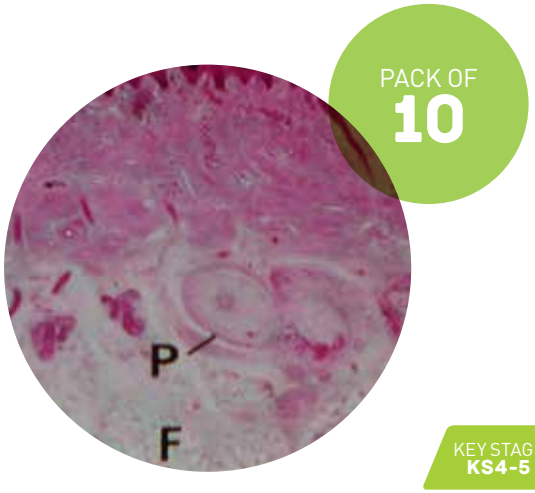
Nervous System Model - Edulab includes a full-colour 600 x 450mm markable model of durable vinyl and an activity guide with background information, basic understandings, teacher-developed activities, a glossary, a key to model structures, colour transparencies and a blackline master. The Edulab model illustrates the structure of the central and peripheral nervous systems. Includes a close examination of the human brain with a removable transparent overlay defining the brain lobes. Diagrams of the model illustrate locations of the brain, spinal cord and spinal nerves, dendrites, axons and synapses.

KEY STAGE **KS4-5**

CODE	PRICE
2674	£154.09

MICROSLIDE LESSON SET - THE REFLEX ARC (PK10)

Pacinian corpuscle (80x), Pacinian corpuscle (360x), Spinal ganglion & nerve, Spinal cord & nerve, Spinal cord, Grey matter, Motor neuron, Motor end plates.

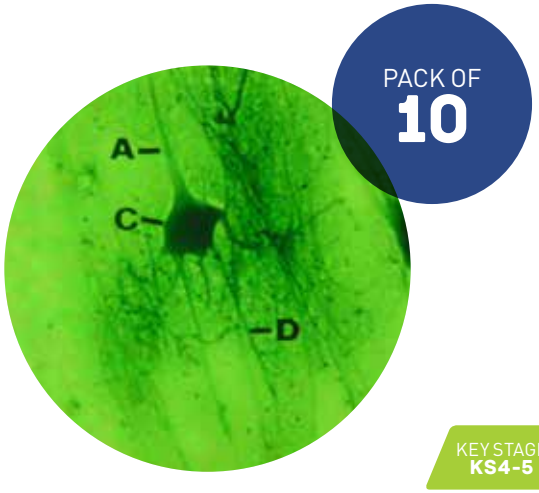


KEY STAGE **KS4-5**

CODE	PRICE
T70	£98.11

MICROSLIDE NERVE & MUSCLE ACTION (PK10)

Single Cell, Synapse, Axons, Myelinated Axons, Nerve- Muscle Junction, Synaptic Knobs, Striated Muscle Cell, Sarcomeres - relaxed & contracted.



KEY STAGE **KS4-5**

CODE	PRICE
T221	£98.11

MODEL, EAR (HUMAN) 2 TIMES, 3 PARTS

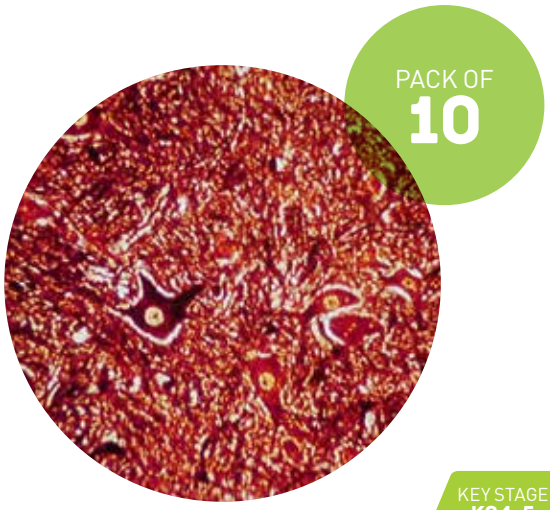
The model is 2 times full size and dissects into 3 parts, showing external, middle and internal portions. Ossicles and labyrinth can be removed.

KEY STAGE **KS3-5**

CODE	PRICE
AM38	£42.80

MICROSLIDE THE CENTRAL NERVOUS SYSTEM (PK10)

Monkey eye, retina, Mammal brain, Human spine, Grey matter of cord, Neuron, Nerve, Sweat gland.



KEY STAGE **KS4-5**

CODE	PRICE
T69	£98.11

MODEL, EAR

This model shows how the tympanic membrane, ossicles and the complex internal ear with the cochlea and the oscillations of the basilar hearing membrane operate and interact. The enclosed mirror enables operation of the model for the study of various ear-functions from different angles at the same time. Several students simultaneously in an action-orientated learning situation may study one model.

KEY STAGE **KS3-5**

CODE	PRICE
402-103	£515.83

MODEL, EYE (SMALL)

With this model the functions of the human eye can be taught very effectively. By moving the retina, the shape of the eye can be changed. The lens and ciliary body are made of silicone to allow the change of form and thickness of the lens.

PICTURES CAN BE PROJECTED ON THE RETINA THAT ALLOW YOU TO DEMONSTRATE:

- Accommodation of the lens
- Near point of vision
- Myopia (near sightedness)
- Hypermetropia
- Presbyopia
- How to correct these problems with glasses

KEY STAGE **KS5**

CODE	PRICE
402-101	£515.83

UNDERSTANDING HUMAN SENSES LAB INVESTIGATION

Explore the capabilities & limitations of the human sensory system. The human senses are continuously bombarded by an infinite array of stimuli. The information gathered by our senses tells us most of what we know about our surrounding environment. Relayed from the senses to the central nervous system, this information is processed and interpreted for the body's use. Students will investigate the effects of various stimuli on the sensory system and determine the capabilities and limitations of our sensory organs. Specifically, students will test the tongue's sensitivity to various solutions; map the skin's responsiveness to heat and cold; study the distribution and sensitivity of touch receptors; test the response to sound from different directions and distances; measure the sense of vision and its limitations; and test the human body's reflexes.

KEY STAGE **KS3-4**

CODE	PRICE
20-1443	£97.43

MODEL, SKIN SECTION

Model shows three layers of the skin from the head. Hair follicles with sebaceous glands, sweat glands, receptors, nerves and vessels.

KEY STAGE **KS4-5**

CODE	PRICE
AM88	£53.78

POSTER: SYSTEMS OF THE HUMAN BODY (LAMINATED)

Unique anatomical perspectives of major human body systems are presented in a clear, concise format for contrast and comparison. Features all major body systems, including skeletal, muscular and integumentary, circulatory and immune, respiratory, digestive and urinary, endocrine, nervous and reproductive.

EDULAB PRICE **£35.38**

KEY STAGE **KS3-5**

CODE	PRICE
13-35-1041	£35.38

HUMAN BODY SYSTEM MASTER SET OF 6

Human Body System Model Activity Sets (6 sets) illustrate the functions of the body's major systems. Each Model Activity Set includes a full-colour 24 x18Ð³ markable model of durable vinyl and an activity guide with background information, basic understandings, teacher-developed activities, a glossary, a key to model structures, colour transparencies and a blackline master.

KEY STAGE **KS4**

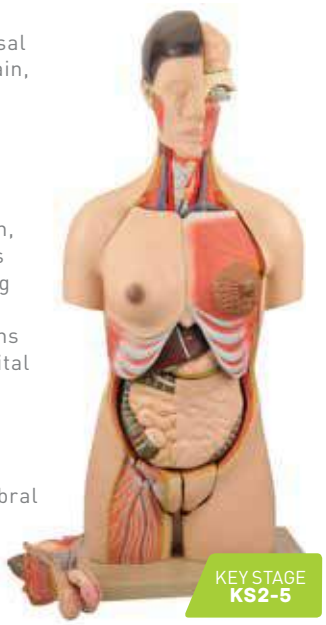
CODE	PRICE
2613	£594.97

MODEL, TORSO HUMAN, BISEXUAL 24 PART

Model has cutaway spine showing the head with nasal and buccal cavity, half brain, eye with optic nerve.

Removable female breast with rib insertions, 2 part heart, 2 lung halves, liver with gall bladder, stomach, large and small intestines with appendix flap opening and covered, half of the kidney, male genital organs in 4 parts and female genital organs in 2 parts with embryo in the 3rd month of pregnancy.

The back shows the vertebral column, spinal cord with nerve endings and the 7th dorsal vertebra is removable.



CODE	PRICE
AM0001	£437.90

MODEL, TORSO (LIFE SIZE) INTERCHANGEABLE SEX ORGANS 14 PARTS

Easily removable parts make them an excellent teaching aid. Natural size, 14 parts.

CODE	PRICE
AM8	£328.15

MODEL, TORSO HALF SIZE, 12 PARTS

Youth model. Dissectible into 12 parts with numbered key card supplied.

HEAD - 3 Parts
(HEAD,BRAIN,EYE)
TORSO
LUNGS - 2 Parts
HEART - 2 Parts
LIVER - 1 Part
STOMACH - 2 Parts
INTESTINE - 4 Parts
KIDNEY - 1
FEMALE-2 Parts
VERTEBRAE - 3 Parts

CODE	PRICE
AM13	£108.65

MODEL, TORSO (LIFESIZE) WITH HEAD 10 PARTS

Easily removable parts make them an excellent teaching aid Natural size, 10 parts, without sterno abdominal wall but with ribs, sternum clavicle with their attachments. Thoracic and abdominal organs detachable individually. Lungs, stomach, liver, intestine and heart sectioned in two parts for further detail.

Half of skull cap removed and brain can be taken out, exposing the interior of the skull. Sectioned head and neck depicts internal organs of the region. Sexless.

- Dimensions Overall: 435 x 270 x 900mm. approx.

CODE	PRICE
AM2	£283.16

MODEL, TORSO MINIATURE WITHOUT HEAD, 7 PARTS

Similar to AM12 but without head. Separates in 6 parts.

KEY STAGE **KS2-5**

CODE	PRICE
AM14	£104.26

MODEL, HEART (HUMAN) 2 PARTS

Natural Size, front of heart is removable to view the chambers.

EDULAB PRICE **£17.51**

KEY STAGE **KS3-4**

CODE	PRICE
AM80	£17.51

MODEL, HEART 3 TIMES NATURAL SIZE 2 PARTS

Enlarged 3 time actual size, dissectible into 2 parts, showing clearly the chief blood vessels. Structure of auricles and ventricles shown.

EDULAB PRICE **£39.00**

KEY STAGE **KS3-5**

CODE	PRICE
AM78	£42.80

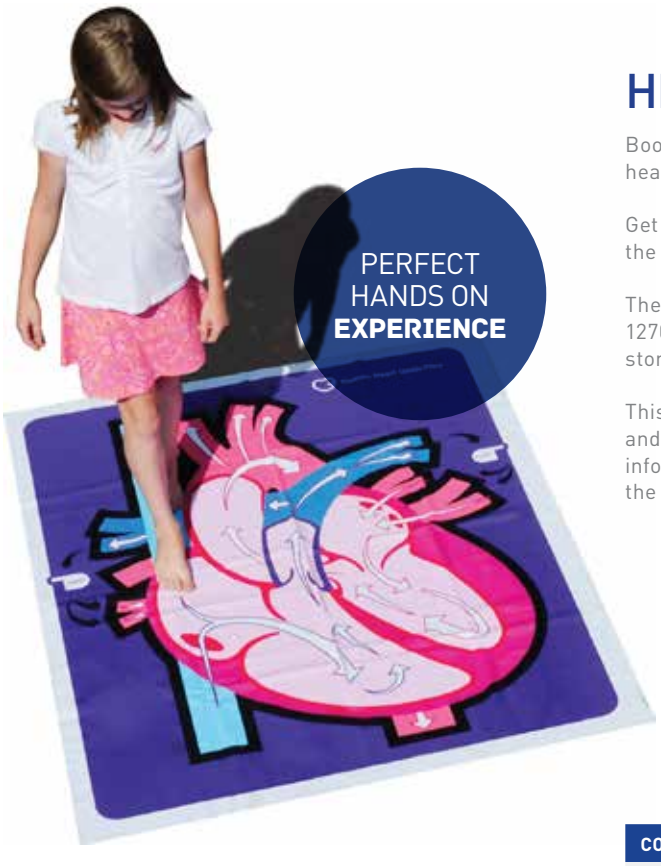
MODEL, HEART (EXTRA LARGE) ON BASE 2/4 PARTS

Extra large size showing finer details The heart is cut by a vertical line towards the level of the ventricular septum and separates into 2 parts, after the arch of aorta and superior venacava have been removed. Both auricles and ventricles with the bicuspid and tricuspid semilunar valves as well as the sigmoid valves can be seen. Separates into 4 parts.

EDULAB PRICE **£159.14**

KEY STAGE **KS3-5**

CODE	PRICE
AM72	£159.14



HEART WALK - THRU

Book illustrations and hand-out diagrams for the human heart are boring.

Get your students up out of their seats and literally walk the path of blood through the heart!

The Human Heart Walk-Through mat measures 1270 x 1524mm and comes with a convenient storage bag.

This is a perfect review and quiz product for your KS2 and KS3 students. A teacher's guide provides additional information, activities, and assessment sheets for the classroom.

KEY STAGE **KS2-5**

CODE	PRICE
403-002	£32.93

MODEL, HUMAN HEART MUSCLE

Shows ultrastructure of the human heart muscle. 220 x 220 x 370mm. On base, numbered with key card.

KEY STAGE **KS5**

CODE	PRICE
AM0082	£108.65

MODEL, LUNG (RIGHT)

Dissectible model showing all the important parts of the lung.

KEY STAGE **KS4-5**

CODE	PRICE
AM66	£42.80

MODEL, HEART WITH LUNGS & LARYNX

Showing the detailed structure enlarged.

- Dimensions overall: 450 x 450 x 175mm.

KEY STAGE KS3-5

CODE	PRICE
AM70	£218.40

MICROSLIDE THE RESPIRATORY SYSTEM (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Bronchial tree (human), Trachea and gullet, Chea cartilages, Epithelial lining of respiratory passages, Air sacs of lung, The capillary networks, Pigment.

KEY STAGE KS3-5

CODE	PRICE
T72	£98.11

LUNG DEMONSTRATION MODEL

A firsthand view of how the lungs work! This simple, yet effective apparatus consists of two sacs which represent the lungs, a rubber membrane which serves as the diaphragm and a clear plastic enclosure which models the chest cavity. By making the diaphragm relax and contract the students can see how the lungs are emptied and filled with air.

KEY STAGE KS3-5

CODE	PRICE
403-004	£83.36

RESPIRATORY SYSTEM MODEL ACTIVITY SET

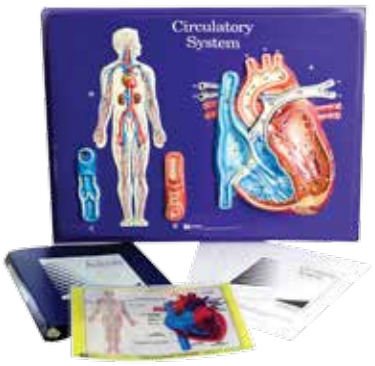
Aids in the study of breathing and the anatomical complexities of the human respiratory system. Illustrates a cutaway section of the upper human torso and head, enlarged image of a bronchial tree and a magnified alveolus partially sectioned.

KEY STAGE KS4-5

CODE	PRICE
2672	£154.09

CIRCULATORY SYSTEM MODEL ACTIVITY SET

Set includes a full-colour markable model of durable vinyl and an activity guide with background information, basic understandings, teacher-developed activities, a glossary, a key to model structures, colour transparencies and a blackline master. A cutaway view of the interior of the heart can be seen and studied. The circulation process is reinforced with a colourful three-overlay transparency of the heart. Trace vessels throughout the body while viewing an enlarged cutaway section of a vein and an artery.



KEY STAGE **KS4-5**

CODE	PRICE
2671	£154.09

FUNCTIONING HEART & CIRCULATION SYSTEM

This amazing working model will bring your lecture to life! A complete schematic model of the human circulatory system with 'blood' (coloured water) that flows through the transparent veins, arteries, capillaries and heart chamber. This model's special design portrays venous blood, a deep reddish purple and arterial blood, a bright red to give visual reinforcement to the oxygenation and deoxygenation of haemoglobin as it travels the body's vascular network. Shows the work of the valves, contractions of the ventricles and the atriums.

Made of plexiglass and silicon and mounted on a baseboard with support legs.

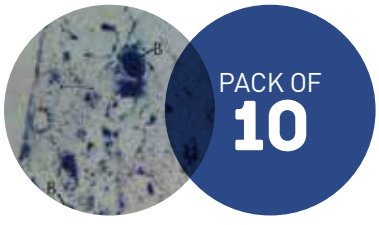
KEY STAGE **KS3-4**

CODE	PRICE
402-100	£482.90

MICROSLIDE THE CIRCULATORY SYSTEM (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Human Blood, Phagocyte, Artery & vein, Lung capillaries, Lymph vessel & valves, Rat Heart (4x), Rat heart (6x), Valve at aorta.



KEY STAGE **KS4-5**

CODE	PRICE
T68	£98.11

MODEL, LARYNX FULL SIZE 2 PARTS

Shows larynx, wind pipe, ligaments, muscles and thyroid gland. Model is equally divided - one half removable.

KEY STAGE **KS4-5**

CODE	PRICE
AM60	£37.32

DIGESTIVE SYSTEM WALK THRU

Get your students up out of their seats and literally walk the path of the human digestive system! Book illustrations and hand-out diagrams for the digestive system are boring. The Digestive Walk-Through mat measures 178 x 178cm and comes with a convenient storage bag. This is a perfect review and quiz product for your students. A teacher™s guide provides additional information, activities, and assessment sheets for the classroom.

KEY STAGE **KS2-3**

CODE	PRICE
403-003	£39.95

MODEL, STOMACH - 2 PARTS

Both longitudinal and circular muscle layers are shown on this life size model. Separates into two parts, cardiac and pylorus sections, showing mucous membrane, gastric canal, arteries, nerves, position of the peritoneum.

KEY STAGE **KS4-5**

CODE	PRICE
AM0085	£53.78

MODEL, DIGESTIVE CANAL

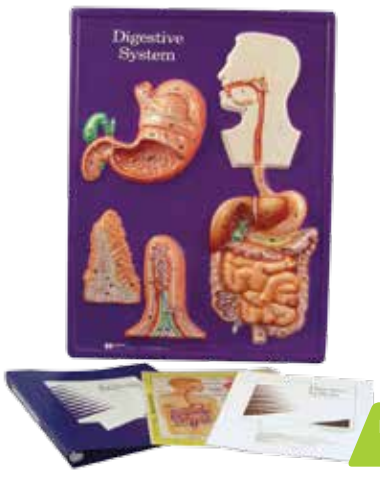
Shows the structure of the digestive canal. Supplied in three parts as illustrated.

KEY STAGE **KS4-5**

CODE	PRICE
AM0095	£148.16

DIGESTIVE SYSTEM MODEL - EDULAB

Digestive System Model - Edulab shows the details of the mouth, salivary glands, oesophagus, stomach, liver, pancreas and intestines. Also includes cutaway sections and enlargements of the stomach and intestine.



KEY STAGE **KS4-5**

CODE	PRICE
2673	£154.09

MODEL, HUMAN UPPER & LOWER JAW

This model is 3 times full size Showing the tooth roots, Spongiosa, vessels and nerves.

KEY STAGE **KS2-3**

CODE	PRICE
AM52	£49.39

MODEL, DENTITION DEVELOPMENT SET OF 4

Cast from natural specimens, 4 upper and lower jaw halves at 4 different stages of development: new born; approx. 5 year old child; approx. 9 year old child and young adult.

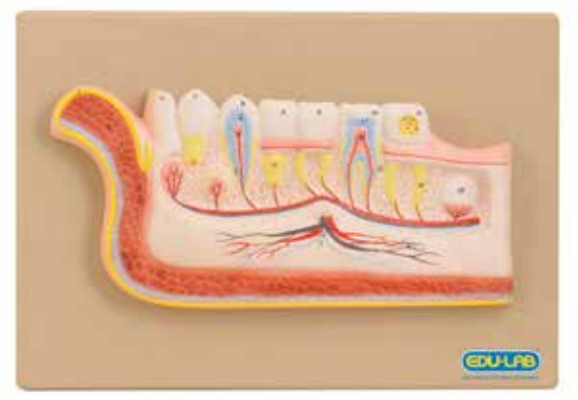
EDULAB PRICE **£108.65**

KEY STAGE **KS2-3**

CODE	PRICE
AM0053	£108.65

MODEL, JAW HUMAN LOWER WITH TEETH

Model: Jaw, lower with Teeth.



KEY STAGE **KS2-3**

CODE	PRICE
AM56	£41.71

TOOTH MODEL ACTIVITY SET - EDULAB

The composition of teeth is easily illustrated with this three-dimensional Edulab model. A side view of upper and lower teeth makes this a 'three models in one' teaching tool.

KEY STAGE **KS2-3**

CODE	PRICE
2676	£154.09

MICROSLIDE REPRODUCTION (HUMAN) (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

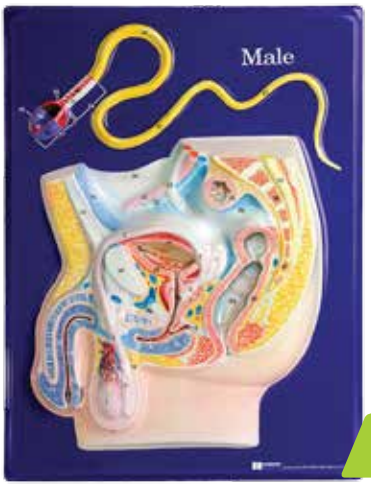
Sperm Cell (1800x), Ovum - Fertilization, Zygote (200x), Two-celled Embryo - First Cleavage, Chromosomes - Squash (400x), Balls of Cells (200x), Blastula - hollow ball of cells (200x), Embryo - Five Weeks (3x).

KEY STAGE KS3-5

CODE	PRICE
T62	£98.11

MALE REPRODUCTIVE MODEL - EDULAB

The Edulab Male Reproductive Model depicts all male reproductive organs in relationship to one another, as well as a magnified section of the sperm. Complete with activity guide and OHP transparencies.



KEY STAGE KS3-5

CODE	PRICE
2660	£141.58

MODEL, MALE PELVIS SECTION

Natural size model on base with numbered key card Shows the rectum, bladder with prostrate and testicular ducts and external genital organs.

KEY STAGE KS4-5

CODE	PRICE
AM118	£108.65

MODEL, FEMALE PELVIS SECTION - 2 PARTS

Median section of a female. One half of genital organs with bladder and removable rectum, the other half is shown at the normal position in the pelvis. Supplied with numbered key card.

KEY STAGE KS3-5

CODE	PRICE
AM01178	£97.68

MODEL, HUMAN EGG

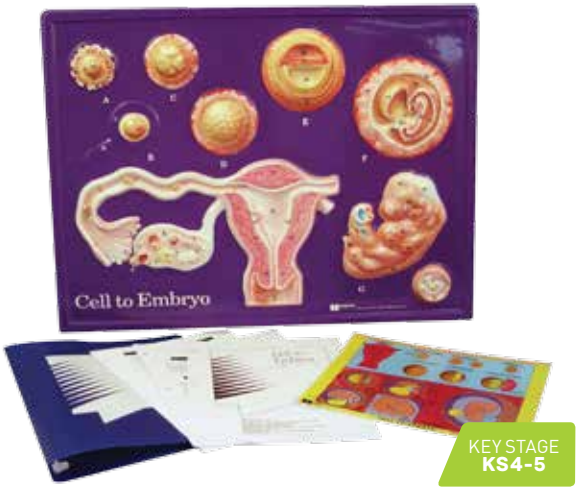
Human egg model, mounted on base.

KEY STAGE KS3-5

CODE	PRICE
AM0115B	£53.78

CELL TO EMBRYO MODEL ACTIVITY SET

Understanding the development from egg fertilization to a 35-day old embryo is easy with 3-D illustrations of the ovum, ovulation, fertilization, initial cell division and implantation.



KEY STAGE KS4-5

CODE	PRICE
2666	£154.09

MODEL, HUMAN SPERM

Human sperm model, mounted on base.

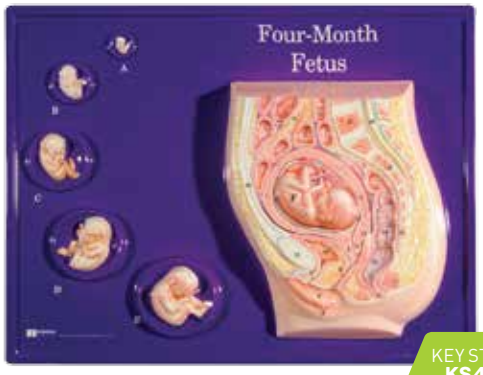
KEY STAGE KS3-5

CODE	PRICE
AM0115C	£42.80

FOETUS MODEL, FOUR MONTH - EDULAB

These realistic life-sized Edulab models of the embryo/ foetus at 6, 8, 10, 12, and 14 weeks are sequenced next to the 16 week foetus within a model of the womb.

The model illustrates the size, physical features and positioning of the embryo/foetus, so it is a great graphic instructional aid on reproduction topics.



KEY STAGE KS4-5

CODE	PRICE
2662	£154.09

MODEL, PERIOD OF GESTATION (SET OF 9)

Set of nine models, each mounted on a stand, showing various stages of embryonic and foetal development.

KEY STAGE **KS4-5**

CODE	PRICE
AM122	£218.4

MODEL, HUMAN FOETUS

Three part model of the human foetus showing the relationship between the foetus, foetus membrane and the uterus.

KEY STAGE **KS4-5**

CODE	PRICE
AM0121C	£75.73

MENSTRUAL CYCLE MODEL ACTIVITY SET

- Very useful in discussing role of hormones.

Illustrates the menstrual cycle, depicting the four stages of the average 28-day cycle. Two magnified ovaries show ovum development.

KEY STAGE **KS4-5**

CODE	PRICE
2665	£141.58

ENDOCRINE SYSTEM MODEL ACTIVITY SET

Seven endocrine glands are depicted in whole and a magnified section in detail, as well as closely related organs. Included: are the pituitary, thyroid, parathyroid and adrenal glands, as well as the pancreas, ovaries and testes.

EDULAB PRICE **£154.09**

KEY STAGE **KS5**

CODE	PRICE
2677	£154.09

MODEL, KIDNEY WITH ADRENAL GLAND 2 PARTS ON BASE

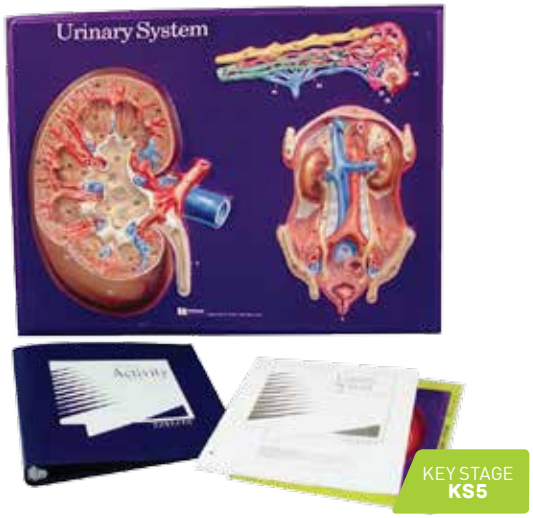
This model shows kidney with adrenal gland as well as renal and adrenal vessels and upper portion of urethra. Front half of kidney is removable to show cortex medulla and vessels as well as renal pelvis.

KEY STAGE KS5

CODE	PRICE
AM110	£31.83

URINARY SYSTEM MODEL ACTIVITY SET

Kidneys are shown in detail, including a magnified nephron. The dissected kidney is enlarged to illustrate the cortex, pyramid, calyx and papilla.

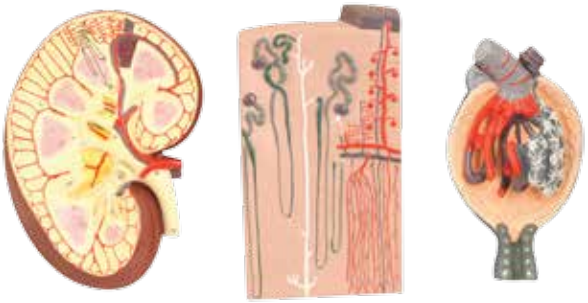


KEY STAGE KS5

CODE	PRICE
2675	£154.09

MODEL, KIDNEY SECTION WITH NEPHRONS AND BLOOD VESSELS

Kidney section, 3 times full size. Nephrons and Blood Vessels 120 times full size and Kidney Glomerulus opened, 700 times full size. Size approximately 290 x 520 x 90mm.

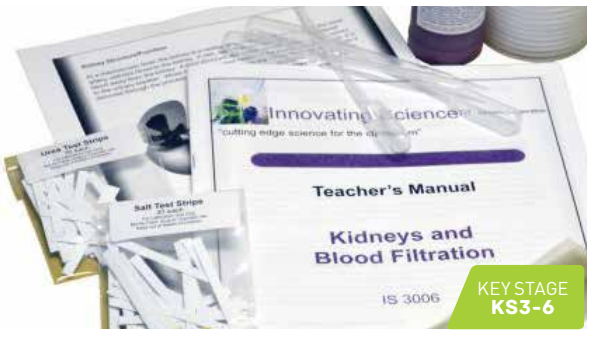


KEY STAGE KS5

CODE	PRICE
AM108	£152.55

KIDNEYS & BLOOD FILTRATION

Learn the role of the kidney in blood filtration and waste removal along with the many functional tasks performed by nephrons, as well as nephron structure. Students will create an artificial kidney model to filter simulated blood. This will allow them to visually determine if filtration of the simulated blood may or may not have occurred. Chemically test the resulting filtrate to detect any possible waste material that may have been removed by the kidney. Kit contains enough materials for 15 groups. Teacher's Manual and Student Study Guide copymasters are included.



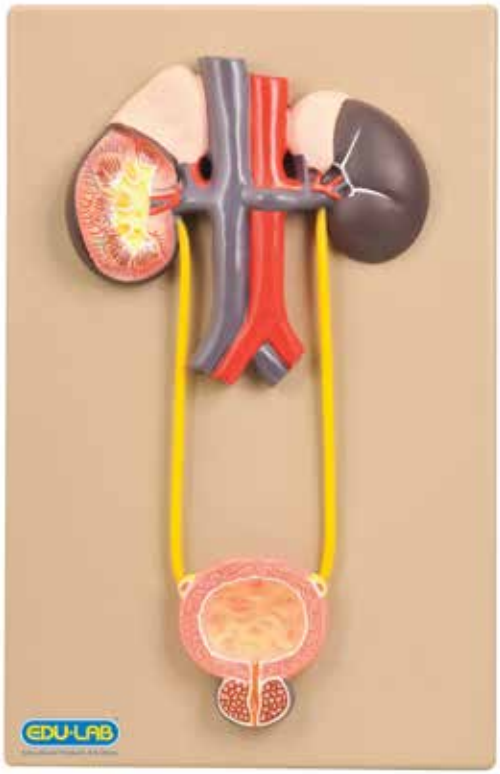
KEY STAGE KS3-6

CODE	PRICE
13-20-1113	£18.20

MODEL, URINARY ORGANS, KIDNEY & BLADDER

Natural size, separates into 3 parts. Kidneys, ureters, adrenal glands, bladder with prostate and major blood vessels shown.

Right kidney sectioned and bladder prostate are removable.



KEY STAGE **KS4-5**

CODE	PRICE
AM112	£108.65

VISKING TUBING, 30M SIZE 2

Size 2 dialysis visking tubing, 30m length, flat packed.

EDULAB PRICE **£42.80**

KEY STAGE **KS4-5**

CODE	PRICE
EDU008	£42.80

VISKING TUBING CLIPS (PK10)

The Mediclip is a single size plastic clip designed to meet the general needs of tubing users and is ideal for most situations where membranes of up to 40mm flat width are being used (to Size 7). Reusable and autoclavable.

- Overall length when closed: 53mm.
- Width: 11mm.
- Thickness: 6mm.
- Pack of 10.

KEY STAGE **KS4-5**

CODE	PRICE
MEDICLIPS	£27.38

MODEL, SKELETON WITH FRAME, LIFE SIZE - ISG®

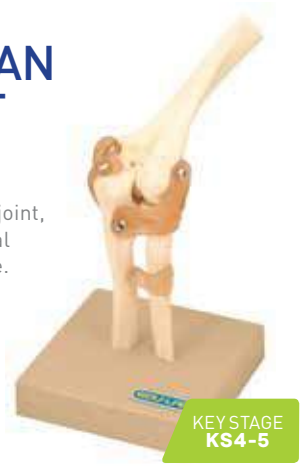
This ISG life-size plastic skeleton has a detachable skull with a full set of permanent teeth, removable cranium and movable joints.

KEY STAGE **KS3-5**

CODE	PRICE
HDM110	£164.63

MODEL, HUMAN ELBOW JOINT - ON BASE

A model of the human elbow joint, showing the essential internal structure, mounted on a base.



KEY STAGE **KS4-5**

CODE	PRICE
AM0136	£49.39

MODEL, HUMAN KNEE JOINT - ON BASE

A model of the human knee joint, showing the essential internal structure, mounted on a base.

KEY STAGE **KS4-5**

CODE	PRICE
AM0134	£48.29

MODEL, SKELETON WITH MUSCLES AND JOINT LIGAMENTS

ISG Model Skeleton with Muscles & Joint Ligaments.

This excellent ISG model clearly showing bone structure with ligaments and muscles. Bones can be moved to demonstrate limb movement. Muscle and ligament tissue is colour differentiated. The skeleton is life size and is mounted on a heavy base. This makes the skeleton stable. The base has wheels so the skeleton can be moved around in the lesson easily. This resource represents excellent value for money.

KEY STAGE **KS3-5**

CODE	PRICE
403-005	£466.44

CLEVER CATCH - HUMAN ANATOMY

A fun and engaging way for students to learn about the Human Body- as always, the student will answer the question under his left thumb when the ball is caught.

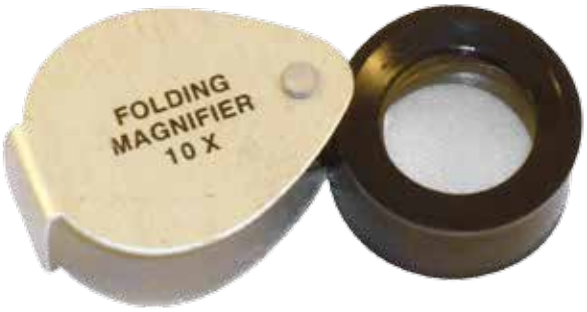
A fun way to practise and learn!

KEY STAGE **KS3**

CODE	PRICE
SR-1433	£11.41

MAGNIFIER, FOLDING 18-20 DIA 10XMAG (GOWLING)

Folding magnifier with plano-convex lens of extra white glass. Unbreakable plastic lens holder and aluminium anodised cover. Superior quality.



KEY STAGE **KS3-5**

CODE	PRICE
P502B	£2.18

WATCHMAKERS EYE GLASS DIA 25MM PLASTIC LENS

Watchmaker's eyeglass, plastic lens, 25mm diameter.

KEY STAGE **KS3-5**

CODE	PRICE
P504	£3.84

MAGNIFIER, FOLDING 25 DIA DOUBLE (PK10)

Folding magnifiers fitted in frame, superior quality.

KEY STAGE **KS3-5**

CODE	PRICE
P500C	£22.00

MAGNIFIER, POCKET TYPE IN POUCH DIA.40MM

Single. Diameter 40mm. Supplied with pouch.

EDULAB PRICE **£2.14**

KEY STAGE **KS3-5**

CODE	PRICE
P503	£2.14

MAGNIFIER, FOLDING 25 DIA (PK10)

Folding magnifiers fitted in frame, superior quality.

EDULAB PRICE **£20.85**

KEY STAGE **KS3-5**

CODE	PRICE
P500A	£20.85

MAGNIFIER, READING GLASS METAL FRAME

In a metal frame with bakelite handle.
Chrome plated. Packed in cardboard box.

CODE		PRICE
P510E	7.5/20cm	£4.34
P510F	10/15cm	£4.94
P510A	5/10cm	£3.24
P510G	10/20cm	£5.43

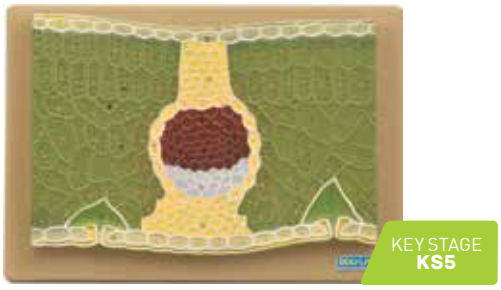
MAGNIFIER, READING GLASS 75MM

In durable plastic mount with handle.

CODE		PRICE
P506C	75mm	£2.47
P506A	50mm	£1.43
P506B	60mm	£1.70

DICOT LEAF V.S.

Model of dicot leaf showing internal details of a typical mesophytic leaf.



CODE	PRICE
BM20	£60.36

DICOT STEM T.S.

Model of dicot stem showing internal tissues and vascular bundles.

CODE	PRICE
BM12	£60.36

MONOCOT STEM T.S.

Model of monocot stem showing vascular bundles in transverse section.

CODE	PRICE
BM16	£42.80

MONOCOT ROOT T.S.

Model of monocot root showing internal details in transverse section.

KEY STAGE KS5

CODE	PRICE
BM26	£60.36

DICOT ROOT T.S.

Model of dicot root showing internal details.

KEY STAGE KS5

CODE	PRICE
BM24	£60.36

DICOT WOODY STEM

Bean (Phaseolus vulgaris). Size approx. 340x340x260mm.

KEY STAGE KS5

CODE	PRICE
BM28	£141.58

ROOT STEM & LEAF MODEL ACTIVITY SET

This 3-D model shows all the major structures within a seed-bearing woody plant. It also uniquely promotes the understanding of plant anatomy through the use of cross, transverse and longitudinal sections.

KEY STAGE KS4

CODE	PRICE
2840-H	£156.19

MICROSLIDE THE ROOT OF A FLOWERING PLANT (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Buttercup Root, Central Cylinder, Epidermis and Cortex, Root Cap and Zone of Growth, Zone of Elongation, Zone of Maturation, Root Tip - Root hairs.

KEY STAGE KS5

CODE	PRICE
T77	£98.11

MICROSLIDE THE STEM OF A FLOWERING PLANT (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Corn Stem, Fibrovascular Bundle (corn), Red Clover Stem, Basswood Stem (1 yr old) (18x), Basswood Stem (2 & 3 yrs old) (18x), An Annual Ring, Coleus Bud, Lenticil in Elderberry Stem.

KEY STAGE KS4-5

CODE	PRICE
T78	£98.11

MICROSCOPE PREPARED SLIDE SET PLANT STRUCTURE

SET INCLUDES:
Ranunculus TS. mature root; Zea mays TS. root; Allium LS root tip for mitosis; Cucurbita TS & LS stem; Tilia annual ringed; Zea TS & LS stem; Buxus lower epidermis; Ranunculus LS flower; Capsella LS ovule; Triticum germinating seed; Stigma with pollen tube; Pollen grains; Ligustrum TS leaf; Vicia young root hairs; Lilium TS mature anthers pollen; Ranunculus TS stem; Helianthus TS stem old secondary thickening; Zea TSleaf.

KEY STAGE KS4-5

CODE	PRICE
410-017	£100.12

BASIC BOTANY SLIDE SET OF 25

Set of 25 glass microscope with botanical specimens representing the major plant groups.

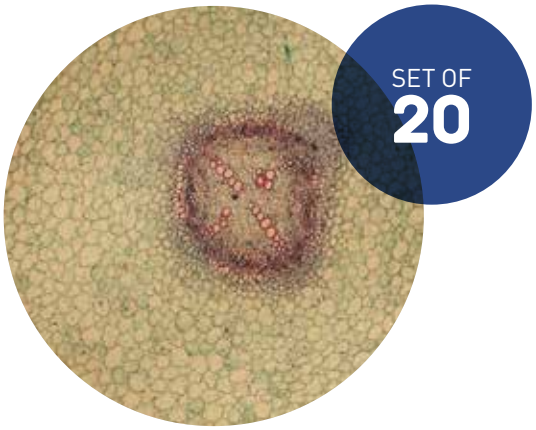
SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS5

CODE	PRICE
BBS-111	£86.70

BASIC PLANT ANATOMY SLIDE SET OF 20

Set of 20 glass microscope showing the major aspects of vascular plant structure.



SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-5

CODE	PRICE
BBS-002	£64.75

PHOTOSYNTHESIS APPARATUS

For the measurement and collection of gas evolved by aquatic plants during photosynthesis. The gas evolved can be measured using the calibrated capillary tube and drawn off for analysis using the plastic syringes.

Mounted on a plastic panel, 190mm x 150mm.

PRICE FROM **£24.15**

KEY STAGE **KS4-5**

CODE	PRICE
B228	£24.15

PHOTOSYNTHESIS TEACHING MODEL

Zap chlorophyll with a photon and demonstrate the light reaction, the dark reaction, cyclic and non-cyclic phosphorylation, dissociate water and reduce NADP and NADPH all on the demonstration board (4 enlightening demonstrations).

KEY STAGE **KS5**

CODE	PRICE
T-605	£258.32

PLANT PIGMENTS & PHOTOSYNTHESIS LAB INVESTIGATION

Study plant pigments through chromatography - safely and easily! The class can now safely use paper chromatography to separate plant pigments without the use of hazardous developers. Class size - 40 students.

KEY STAGE **KS5**

CODE	PRICE
13-20-1393	£102.73

MICROSLIDE PHOTOSYNTHESIS (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Green leaf (110x), Green leaf (350x), Root hair, Vascular bundles, Leaf with and without sunlight, Leaf - Variegated, Starch grains, Bean seed.

PACK OF **10**

KEY STAGE **KS5**

CODE	PRICE
T59	£98.11

INVESTIGATING PHOTOSYNTHESIS

Explore how plants and algae carry out photosynthesis. Study the importance of photosynthesis to plants and algae as well as the conditions needed in order for it to occur. Your students will demonstrate that light is needed for the production of starch during this critical process. They will also determine the wavelength at which the rate of photosynthesis is optimized in Chlorella, by measuring their rate of growth and release of oxygen. Using the prepared microscope slides which are included, your class will also identify and study the leaf structures necessary for photosynthesis and their respective functions. Includes everything needed for a class of 40 students, including a chlorella MicroLIVE™ culture.

KEY STAGE KS4-5

CODE	PRICE
13-20-2913	£125.55

POTOMETER APPARATUS H TYPE

Suitable for individual student use. The cut shoot is attached to the side arm with tubing and the wide glass tube acts as a reservoir.

- Glass tube length 160 x 20mm dia
- Side arm 8mm dia
- Capillary tube length 140mm
- Bore: 1mm

PRICE FROM **£10.98**

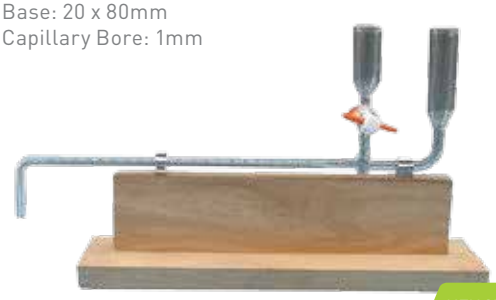
KEY STAGE KS4-5

CODE	PRICE
B198	£10.98

POTOMETER APPARATUS (GANONG'S)

For demonstration of transpiration rates and rates of water absorption by a cut shoot under various external conditions. A plant shoot is sealed into a stopper which fits the end tube and the whole apparatus is filled with water. The open end of the capillary tube is dipped into a beaker of water. The position of the air bubble may easily be adjusted by opening the glass stopcock to admit water from the reservoir. The whole apparatus is mounted on a varnished wooden base by spring clips.

- Base: 20 x 80mm
- Capillary Bore: 1mm



KEY STAGE KS4-5

CODE	PRICE
B192	£35.67

POTOMETER APPARATUS (ON WHITE STAND)

Used to show transpiration which occurs in small plant shoots. The apparatus is submerged and the specimen placed in the tube. When transpiration occurs, the bubble within the capillary moves. A syringe is used to zero the scale.

PRICE FROM **£27.43**

KEY STAGE KS4-5

CODE	PRICE
BPOT	£27.43

BIOLOGY KIT, MICROSCIENCE - EDULAB

Versatile, microscale kit based around the world renowned Comboplate. Enables students to perform a range of biology practicals previously only possible with traditional laboratory apparatus.

CODE	PRICE
310-074	£42.75

CO^2 LOGGER SENSOR - EDU-LOGGER

This logger sensor is based on an electromechanical reaction between CO^2 gas and the sensor.

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	350 to 10,000 ppm
ADC Resolution:	14 bit
Resolution:	1 ppm
Max Sample Rate (S/sec):	100

CODE	PRICE
900-230	£240.35

voltage on a light-bulb's output in Physics and more. With three ranges, it can be used in low light environments such as in a classroom, or high light environments as in daylight outdoors. It measures Illumination.

With both fast and slow modes, it can be used to measure fast light changes such as those produced by light bulbs connected to an AC supply, as well as the near steady levels outside on a sunny day. The light sensor in located in a plastic box just behind an access hole.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS3-5

TECHNICAL SPECIFICATIONS	
Experiment Duration:	50 milliseconds to 31 days
Range & Operation modes:	Illumination: 0 to 1,000 lx Illumination: 0 to 6,000 lx Illumination 0 to 150000 lx
ADC Resolution:	16 bit
Resolution:	1 lx,21x, 61x
Max Sample Rate (S/sec):	3000

CODE	PRICE
900-204	£60.36

LIGHT LOGGER SENSOR

- This sensor also has uses in biology especially with regard to photosynthesis.

This sensor is very versatile with applications in many areas of the natural sciences. It can be used to study photosynthesis in Biology, to study light-emitting chemical reactions in Chemistry, to study the effect of changing

OXYGEN LOGGER SENSOR - EDU-LOGGER

- In biology use to investigate respiration and photosynthesis. In chemistry any experiment where oxygen is produced.

This sensor can be used to make measurements of the level of free-oxygen in air or dissolved oxygen in water.
The free-oxygen in air mode is used to measure changes in oxygen levels during combustion or in reactions that produce oxygen (hydrogen peroxide decomposition).

The Dissolved oxygen mode is useful in the study of photosynthesis. The oxygen sensor is designed for use both in the school laboratory and in the field. It employs easy-to-use polarographic (Clark) technology and replaceable membranes are available for it.

The electrode itself is constructed of Delrin® for durability. With its integral thermistor, it provides dependable temperature-compensated measurements. The thermistor is housed in stainless steel and sealed on the electrode's outer wall providing fast, accurate readings.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 25% (in air) 0 to 125% (dissolved)
ADC Resolution:	12 bit
Resolution:	0% 0.01%
Max Sample Rate (S/sec):	100 Slow

CODE	PRICE
900-205	£196.45

HUMIDITY LOGGER SENSOR - EDU-LOGGER

- Can be used along with temperature sensor to show homeostasis. Also has uses in chemistry e.g. combustion and biology photosynthesis.

This sensor measures relative humidity. It can be used to record variations of the weather conditions and the biological effect on organisms such as seedlings and insects.

It can also be used to measure humidity changes in closed containers with a disinfectant such as silica gel. It is located in a plastic box with exposure of the sensor being through a hole in the side.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 100% RH
ADC Resolution:	16 bit digital
Accuracy:	±5% RH
Resolution:	0.10%
Max Sample Rate (S/sec):	100

CODE	PRICE
900-207	£71.34

POSTER: PLANTS & PROCESSES (LAMINATED)

Clearly labelled illustrations and micrographs bring the plant kingdom to life and reinforce basic concepts for complete understanding. This one-of-a-kind poster allows both teachers and students to easily study the many parts of a plant as well as key plant processes - including the life cycle, photosynthesis, pollination, fertilization and tropisms.

PRICE FROM **£35.38**

KEY STAGE **KS3-4**

CODE	PRICE
15-35-1156	£35.38

MODEL: TYPICAL FLOWER L.S.(MOUNTED)

Showing L.S. of flower.

- Dimensions overall 330 x 250 x 65mm. approx.

KEY STAGE **KS3-5**

CODE	PRICE
BM4	£42.80

MODEL: TYPICAL FLOWER (LARGE SIZE ON BASE)

Large size beautiful model of a typical flower, all parts detachable. Ovary with a single ovule inside.

KEY STAGE **KS3-5**

CODE	PRICE
BM2	£64.75

MICROSLIDE LESSON SET - PLANTS WITHOUT FLOWERS (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Spirogyra - Conjugating Tubes, Yeast, Bread Mould, Mushrooms, Moss, Fern (Fossil), Fern, Conifer.

PACK OF **10**

KEY STAGE **KS4**

CODE	PRICE
T211	£98.11

CARROT CLONING KIT

This kit demonstrates callus tissue production from root cells, and the regeneration of whole, cloned carrot plants from the callus.

The callus cells can be examined, along with development stages of the whole plant from the embryoid. Sufficient for up to 30 students or groups.

CODE	PRICE
410-008	£87.36

MODEL: TYPICAL FLOWER L.S.(MOUNTED)

This kit provides the media, equipment and instructions for propagating small cauliflower plantlets from cauliflower curd, by the process of meristem culture. The process is relatively quick and simple and no special facilities are required. Plantlets, which should be visible in 6-8 weeks, can later be transplanted into compost and grown-on. Suitable for GCSE and higher level. Sufficient for up to 10 students or groups.

CODE	PRICE
410-009	£70.40

MICROSLIDE LESSON SET - VEGETATIVE PROPAGATION (PK10)

Microslides® are sets of 8 related 35mm images as photographed through a microscope to be viewed through a Microslide® Viewer (EDU-505). Arrows and call-outs help the students locate important features being studied. Accompanied by a detailed text folder designed to stimulate, inform and question the students about the topic. Each text folder has a handy pocket to store the Microslides®.

Stem Cutting, Leaf Cutting, Stolons, Layering, Rhizomes, Bulbs, Stem Grafting, Potato Eyes.

KEY STAGE
KS5

CODE	PRICE
T231	£98.11

PLANT HORMONES SET

This set helps students understand how plant hormones affect plant growth and development.

Experiments include; breaking dormancy in seeds, rooting cuttings, killing weeds, preventing leaves from dropping. Suitable for GCSE students. Contents: Culture Medium, Indol-3-yl acetic acid, Lanolin, Gibberellic acid, Sucrose, 0.1% IAA in lanolin paste, Coumarin, N.A.A., 0.01% IAA in lanolin paste, Thiourea, 2,4-D, Ethrel 'e', Tetrazolium chloride, Agar.

CODE	PRICE
410-016	£147.07

PLANT CULTURE SET

The kit consists of a plant culture medium which contains all the elements required by the plant as well as a range of mixtures which are deficient in one element only. These media are provided in powder form and are simply added to water before use.

A clear demonstration of deficiency diseases can be given by growing seedlings or cuttings in the various solutions.

CODE	PRICE
410-014	£56.32

KEY TO IDENTIFYING DISPERSAL OF FRUITS & SEEDS

Wipe-clean A3 laminated and folded. Printed on both sides. Easy identification, with key questions that are easy to follow and clear, original full colour illustrations. Robust and easy to handle, these are a perfect wildlife reference for schools and nature lovers of all ages.

CODE	PRICE
K5	£5.05

CLINOSTAT (ELECTRIC)

Essential for studies on geotropism and phototropism on seedlings, cut shoots and small potted plants.
The seedlings are pinned to the cork table which is rotated by an electric motor. The Clinostat is supplied with a 70mm diameter cork lined/faced disc with a fitting to take a specimen tube. The angle is adjustable by a thumb screw with a clear plastic cover. The motor rotates 5 revolutions per hour. Complete with 3 core cable. 220V, 50Hz. 300mm (H). Disc diameter: 100mm.

CODE	PRICE
B244	£86.70

SACH'S WATER CULTURE MINERAL DEFICIENCY

Eight tubes each containing sufficient material to prepare four litres of liquid medium. One tube of complete medium. One tube lacking one of each mineral - phosphorus, nitrogen, calcium, potassium, magnesium, iron or sulphur.

CODE	PRICE
410-004	£31.30

MICROSCOPE PREPARED SLIDE SET ENVIRONMENTAL ADAPTATIONS OF PLANTS

Slide set to demonstrate specific microscopic adaptations of plants to their environments and habitats e.g. stinging cells of nettle, photosynthetic tissue in C3 and C4 plants.

KEY STAGE **KS4-5**

CODE	PRICE
410-010	£100.12

AMMONIUM LOGGER SENSOR - EDU-LOGGER

The Edu-Logger Ammonium sensor can be used to measure the concentration of ammonium ions (NH4+) in aqueous samples.

The sensor can be used to evaluate the degree of contamination of water due to the use of fertilizers.

KEY STAGE **KS5**

CODE	PRICE
900-258	£383.03

SOIL-LESS GARDEN LAB INVESTIGATION

Discover the fascinating world of hydroponics!

KEY STAGE **KS4-5**

CODE	PRICE
13-20-1383	£85.61

RADIATION EFFECTS ON PLANT GROWTH LAB INVESTIGATION - REFILL

Refill for additional classes for Radiation Effects on Plant Growth Kit (code: 13-20-1413).

KEY STAGE **KS5**

CODE	PRICE
13-20-1415	£38.81

NITRATE LOGGER SENSOR - EDU-LOGGER

The Edu-Logger nitrate sensor can be used to measure the concentration of nitrate ions (NO3-) in aqueous samples. Nitrates are used in fertilizers and can contaminate water. Also, untreated human sewage can be a source of nitrate contamination. All this can be studied with the nitrate sensor. Nitrate measurements can also be very relevant to study the nitrogen cycle in general and to relate this cycle to plants and algae. As with all Edu-Logger Sensors this must be used with the Edulogger USB module or the Wi-Fi module.

CODE	PRICE
900-259	£383.03

TULGREN FUNNEL

A soil sample is placed on the perforated plate and a 220V heating lamp is held above the soil, driving the organisms down through the funnel into a collecting jar. Supplied with coarse and fine mesh and 3 core cable. Requires a low wattage bulb and a beaker (not provided). Retort Rod and Base not included.

CODE		PRICE
EDU793		£60.36
401-004	(European Version)	£60.36

SOIL MOISTURE LOGGER SENSOR - EDU-LOGGER

This logger sensor is based on measuring the vacuum pressure in a tensiometer. A tensiometer is a closed tube with a special ceramic part in its end. The tensiometer is filled with water and put in the soil. If the soil is dry, water goes out by diffusion through the ceramic holes and vacuum pressure is created in the tensiometer. When we wet the soil, the vacuum in the tensiometer pulls water into the tensiometer and the vacuum decreases.

This is why soil moisture is measured in pressure level.

CODE	PRICE
900-239	£104.26

INVESTIGATING POND ORGANISMS LAB

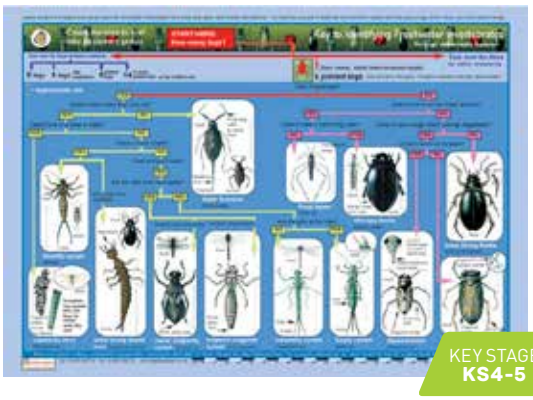
An exploration of pond life and its environment! This extensive kit provides the class with a detailed exploration of pond life. Students will perform six investigations including how organisms move, investigating form and function, looking at larger organisms, looking at smaller organisms, comparing organisms and studying Daphnia.

CODE	PRICE
16-20-4663	£125.55

KEY TO IDENTIFYING WATER INVERTEBRATES

Wipe-clean A3 laminated and folded. Printed on both sides. Easy identification, with key questions that are easy to follow and clear, original full colour illustrations.

Robust and easy to handle, these are a perfect wildlife reference for schools and nature lovers of all ages.



KEY STAGE **KS4-5**

CODE	PRICE
K1	£5.05

KEY TO IDENTIFYING LAND INVERTEBRATES

Wipe-clean A3 laminated and folded. Printed on both sides. Easy identification, with key questions that are easy to follow and clear, original full colour illustrations.

Robust and easy to handle, these are a perfect wildlife reference for schools and nature lovers of all ages.

KEY STAGE **KS4-5**

CODE	PRICE
K3	£5.05

KEY TO IDENTIFYING COMMON GRASSES

Gatekeeper Guides are wipe-clean A3 laminated and folded Identification Keys. These are double sided with a different set of keys on each side. The Guides provide easy identification using key questions that are easy to follow and clear, coloured illustrations which are attractive to study. Robust and easy to handle, these are a perfect wildlife reference for schools and nature lovers of all ages.

KEY STAGE **KS4-5**

CODE	PRICE
K7	£5.05

KEY TO IDENTIFYING WILD FLOWERS OF GRASSLAND

Wipe-clean A3 laminated and folded. Printed on both sides. Easy identification, with key questions that are easy to follow and clear, original full colour illustrations.

Robust and easy to handle, these are a perfect wildlife reference for schools and nature lovers of all ages.

KEY STAGE **KS4-5**

CODE	PRICE
K2	£5.05

129

MICROSCOPES RANGE

IN SCIENCE TOGETHER

MONOCULAR BIOLOGICAL MICROSCOPE 40X

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Monocular
Eyepiece:	WF10x/18mm
Objectives:	Achromatic 4x, 10x, 40x (telescopic)
Magnifications:	40x, 100x, 400x
Focusing system:	Coarse and Fine
Stage:	100 x 90mm. Plain Mechanical stage with paired clips
Condenser:	Single Lens with Disc diaphragm
Illumination:	50mm dia. mirror

CODE	PRICE
601-319	£55.97

MICROSCOPE, MONOCULAR BIOLOGICAL LED

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Monocular, 45° inclined, 360° rotating
Eyepiece:	WF10x/18mm
Objectives:	Achromatic 4x, 10x, 40x
Magnifications:	40x, 100x, 400x
Focusing system:	Coarse and Fine
Stage:	90mm dia., 360° rotating, moving range 5mm, with sample clips
Condenser:	Disc diaphragm
Illumination:	1W white LED, with intensity control

CODE	PRICE
601-040	£108.65

MICROSCOPE, MONOCULAR BIOLOGICAL - EDULAB

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Monocular
Eyepiece:	WF10x/18mm
Objectives:	Achromatic 4x, 10x, 40x
Stage:	Plain stage, 125x120mm with sample clips
Focusing:	Coaxial coarse and fine focusing mechanism with limit stop
Condenser:	0.65 N.A. with diaphragm
Illuminator:	1W LED with external power supply

CODE	PRICE
601-295	£159.14

MICROSCOPE, MONOCULAR, 400X, WITH COAXIAL KNOBS

Education microscope designed especially for students in primary and secondary schools. Easy of use. Die cast metal construction ensures long life of the equipment. Optics made of anti-fungus glass.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Monocular inclined 45º
Eyepiece:	Widefield WF10x/18mm
Objectives:	DIN Achromatic 4x, 10x, 40x
Magnifications:	40x, 100x, 400x
Stage:	Size 105x95mm. Mechanical stage and specimen holder for one slide
Focusing:	Coaxial coarse and fine control knobs on both sides of the stand
Illumination:	LED

CODE	PRICE
601-313	£197.55

MONOCULAR MICROSCOPE 400X LED

Monocular microscope, 400x, LED.360° rotating head, with 45° inclined eyepiece tube.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Illumination:	Special condenser with built-in illuminator. Light source: high intensity cold white LED, with adjustment knob. Input voltage: 110/230Vac, 50/60Hz. Max required power: 1W
Observation Modes:	Brightfield
Focusing:	Coaxial coarse and fine focusing mechanism
Stage:	120 mm x 110 mm stage with sample clips
Nosepiece:	Three positions revolving nosepiece, rotation on ball bearings
Head:	Monocular, 45° inclined and 360° rotatable
Eyepiece:	WF10x/18 widefield eyepiece with field number 18mm

CODE	PRICE
601-318	£126.21

MICROSCOPE, MONOCULAR 1000X LED

Accessories Instruction manual and dust cover included.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Monocular, 30° inclined, 360° rotating
Eyepiece:	WF10x/18mm
Objectives:	Achrom. DIN 4x, 10x, 40x, 100x (Oil)
Magnifications:	40x, 100x, 400x, 1000x
Focusing system:	Coaxial coarse and fine
Stage:	Double layer, 125 x 115mm with x-y 70x30mm moving range Condenser: 1.25 N.A. Abbe
Illumination:	LED with adjustable intensity

CODE	PRICE
601-281	£301.81

MICROSCOPE, BINOCULAR 1000X MAG

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Binocular, 30°inclined, 360°rotating
Eyepiece:	WF10x/18mm
Objectives:	Achrom. DIN 4x, 10x, 40x, 100X (Oil)
Magnifications:	40x, 100x, 400x, 1000x
Focusing system:	Coaxial coarse and fine
Stage:	Double layer, 125 x 115mm with x-y 70x30mm moving range
Condenser:	1.25 N.A. Abbe
Illumination:	LED with adjustable intensity

CODE	PRICE
601-283	£356.69

MICROSCOPE, BINOCULAR 1000X LED - EPLAN OBJECTIVES

This microscope is fitted with infinity e-plan objective lenses.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Binocular, 30°inclined, 360°rotating
Eyepiece:	WF10x/18mm
Objectives:	Achrom. DIN 4x, 10x, 40x, 100X (Oil)
Magnifications:	40x, 100x, 400x, 1000x
Focusing System:	Coaxial coarse and fine
Stage:	Double layer, 125 x 115mm with x-y 70x30mm moving range
Condenser:	1.25 N.A. Abbe
Illumination:	LED with adjustable intensity

CODE	PRICE
601-285	£576.19

MICROSCOPE, BINOCULAR BIOLOGICAL, 1000X, LED

This Edulab educational microscope is used for routine applications. Dye-cast frame, with high stability and ergonomy, for transmitted light observation. This model features a compact storage solution due to the footprint of the unit being designed to be lined up next to one another.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Binocular observation head, inclined 30° and rotatable 360° Diopter adjustment on left eyepiece Interpupillary adjustment 48-75 mm
Eyepiece:	Widefield eyepieces WF10X/18 with field number 18mm
Objectives:	Achromatic objectives with mechanical tube length 160 mm. All objectives are treated with an anti-fungus treatment. DIN 4x, 10x, 40x, 100x
Magnifications:	40x, 100x, 400x, 1000x
Observation Modes:	Brightfield
Stage:	Double layer with mechanical sliding stage. Size 125x116mm, X-Y movement range 76x30. Specimen holder for one slide. Vernier scale on the two axes, accuracy 0,1 mm.
Condenser:	Abbe condenser, N.A. 1.2 precentered

CODE	PRICE
601-296	£302.47

MICROSCOPE, MONOCULAR, 1000X, LED LIGHT - EDULAB

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Monocular inclined 30° and 360° rotatable
Eyepiece:	Widefield WF10x/18mm
Objectives:	DIN Achromatic 4x/10x/40x/100x (Oil)
Stage:	Size 125x116mm with double layer mechanical stage X-Y movement range 76x30mm. Vernier scale on the two axes, accuracy 0.1mm. Specimen holder for one slide
Condenser:	Abbe 1.2 N.A. precentered & diaphragm
Focusing system:	Coaxial coarse and fine focusing mechanism (graduation 0.002mm) with limit stop. Adjustable tension of coarse focusing knob
Illumination:	1W LED with external power supply. Light intensity controlled by a knob on the left side of the base. LED average lifetime 50.000hours

CODE	PRICE
601-314	£273.28

MICROSCOPE, TRINOCULAR

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Trinocular, 30° inclined, 360° rotating
Eyepiece:	WF10x/18mm
Objectives:	Achromatic DIN 4x, 10x, 40x, 100X (Oil)
Magnifications:	40x, 100x, 400x, 1000x
Focusing system:	Coaxial coarse and fine
Stage:	Double layer, 125 x 115mm with x-y 70x30mm moving range
Condenser:	1.25 N.A. Abbe
Illumination:	LED with adjustable intensity

CODE	PRICE
601-286	£488.39

MICROSCOPE, STEREO 20-40X, LED

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Binocular, 45° inclined, 360° rotating
Eyepiece:	WF10x/20mm
Objectives:	2x, 4x, selectable by rotating
Magnifications:	20x to 40x
Illumination:	Incident and transmitted, high efficiency LED with intensity control

CODE	PRICE
601-287	£214.01

MICROSCOPE, STEREO 7 - 45X, LED

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Binocular, 45° inclined, 360° rotating
Eyepiece:	WF10x/20mm
Objectives:	0.7x - 4.5x, continuous increment zoom
Magnifications:	7x to 45x
Illumination:	Incident and transmitted, high efficiency LED with intensity control

CODE	PRICE
601-288	£362.18

MICROSCOPE, STEREO MONOCULAR, MIRROR

For educational use, this instrument provides superb optical clarity and depth of field.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Monocular, 45° inclined, 360° rotating
Eyepiece:	WF10x/18mm
Objectives:	2x
Magnifications:	20x

CODE	PRICE
601-158	£53.78

MICROSCOPE, STEREO BINOCULAR 10-30X

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Binocular, 45 inclined (rear)
Eyepiece:	WF10x/20mm
Objectives:	1x / 3x
Magnifications:	10x / 30x
Illumination:	Incident & transmitted 10W, tungsten bulbs. Adjustable Interpupillary distance (51-75mm) with dioptric compensation

CODE	PRICE
601-170	£108.65

MICROSCOPE, STEREO BINOCULAR 20-40X

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Binocular, 45 inclined (rear)
Eyepiece:	WF10x/20mm
Objectives:	2x / 4x Selectable
Magnifications:	20x / 40x
Illumination:	Incident & transmitted 10W, tungsten bulbs. Adjustable Interpupillary distance (51-75mm) with dioptric compensation.

CODE	PRICE
601-171	£137.19

MICROSCOPE, STEREO BINOCULAR, LED

Binocular stereo microscope with fixed head (inclined frontally 45°), selectable 2x - 4x objective lenses and LED Incident and transmitted light with rechargeable battery that can operate for up to 24 hours on a single charge - allowing prolonged field operation without the need for a power supply.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Binocular, 45° inclined (front)
Eyepiece:	WF10x/20mm
Objectives:	2x / 4x
Magnifications:	20x / 40x
Focusing system:	Incident & transmitted LED

CODE	PRICE
601-173	£141.58

TECHNICAL SPECIFICATIONS	
Sensor:	CMOS 1/4" Resolution: 800 x 600 pixels (0.48MP)
Frame Rate at VGA Resolution:	25 frames/sec
Frame Rate at VGA Resolution:	30 frames/sec
Optical Format:	1/4" Aspect Ratio: 4:3 S/N Ratio: 52dB
Dynamic Range:	60dB Sensitivity: 2.0 V/Lux-second
Adapter for Stereo Microscopes:	30.5mm dia.
System Requirements:	Windows 2000 / XP SP2 / Vista, USB port
Included Software:	Optika Vision Lite
Capture Features:	Continuous auto WB and auto exposure

CODE	PRICE
601-252	£142.68

MICROSCOPE DIGITAL VIDEO CAMERA

USB Eyepiece Video Camera Mid-resolution digital video cameras for attaching to biological or stereo microscopes, with all you need for video capture via direct connection to a PC.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

MICROSCOPE, DIGITAL BINOCULAR 1000X, 3.2MP

This microscope is fitted with infinity e-plan objective lenses.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Digital, Binocular, 360° rotating, 30° inclined
Eyepiece:	WF10X/18mm
Nosepiece:	Quadruple, reversed
Objectives:	Achromatic 4x (0.10), 10x (0.25), 40x (0.65), 100x (1.25)
Working stage:	Double layer with mechanical sliding stage; 125x115mm; moving range 50x30mm
Focusing system:	Coaxial coarse and fine, with focusing stop mechanism
Illumination:	1 watt white LED, non-rechargeable, with brightness control
Condenser:	1.25 N.A. Abbe type
Digital camera resolution:	2048x1536 pixels (3.14Mp)
Output:	USB 2.0 port
Software:	Vision Lite for Windows XP/Vista/ Seven, 32-64 bit

CODE	PRICE
601-330	£663.99

MICROSCOPE, DIGITAL BINOCULAR 1000X, 1.3MP

This microscope is fitted with infinity e-plan objective lenses.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Binocular
Eyepiece:	0,7 .... 4,5 x Zoom
Resolution:	1280 x 1024 pixels (1.3 M pixels)
Sensor:	CMOS 1/2"
Pixel Size:	5.2 µm x 5.2 µm
Imaging Area:	6.67 mm x 5.33 mm
Frame Rate at Full Resolution:	7.5 frames/sec
Frame Rate at Half Resolution:	15 frames/sec
Optical Format:	1/2"
Aspect Ratio:	5:4
S/N Ratio:	max 45 dB Dynamic Range: 68.2 dB
ADC:	10 bit
System Requirements:	Windows 2000 / XP SP2 / Vista / Seven 32bit, USB 2.0

CODE	PRICE
601-331	£975.68

MICROSCOPE CAMERA, 5MP

C-mount system for video and still-image capturing at HIGH resolution. An optical adapter (included) can be used to connect it to the eyepiece tube of monocular and binocular microscopes.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Sensor:	CMOS 1/2,5"
Resolution:	2592 x 1944 pixels (5,04 Mpixels)
Sensitivity:	1,0V/Lux-second
Calibration slide:	76x24mm micrometric calibration slide
Dynamic Range:	60 dB
System Requirements:	Windows XP/Vista/Seven, 32-64 bit, USB port
Capture Features:	Continuous auto white balance, continuous auto exposure.

CODE	PRICE
601-332	£328.15

MICROSCOPE CAMERA, 9MP

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

CODE	PRICE
601-333	£680.45

MICROSCOPE, C MOUNT AND EYEPIECE CAMERA

The Edu-Cam® video cameras are especially designed to meet the various requirements in the educational field. When connected to a monitor or even to a TV, Edu-Cam® is able to carry out many different functions. It can be used as an episcope, for the reproduction of texts, documents, photographs; an enlarger, to enlarge small objects, insects, minerals; for video-microscopy; an overhead projector, for the projection of drawings; a camera for conferences, assemblies, meetings; a camera for filming, with the help of a video recorder. Its ultra-high sensitivity enables clear recording even in low light. The special lens enables you to focus from 0.76mm up to infinity. An extremely sensitive microphone (only on Multimedia models), captures the teacher's voice during the lesson (or surrounding sounds) that can be heard via a TV or separate amplification system. The microphone can be switched off if required.

C-Mount and Eyepiece Video Camera
Mid-resolution digital video cameras for attaching to biological or stereo microscopes, with all you need for video capture via direct connection to a PC.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Sensor:	CMOS 1/3" Resolution: 1280 x 1024 pixels (1.3MP)
Frame Rate at Full resolution:	15 frames/sec
Frame Rate at VGA Resolution:	30 frames/sec
Optical Format: 1/3" Aspect Ratio:	4:3 S/N Ratio: 44dB
Dynamic Range:	71dB Sensitivity: 1.0 V/Lux-second
Adapters for Stereomicroscopes:	30.0mm dia., 30.5mm dia.
C-Mount Included Optical Adapter:	0.5x (for eyepiece tube)
System Requirements:	Windows 2000 / XP SP2 / Vista 32 or 64-bit / Win 7 32 or 64-bit, USB 2.0 port

CODE	PRICE
601-280	£170.11

EDUCAM STUDENT PRO VIDEO CAMERA

The Edu-Cam® video cameras are especially designed to meet the various requirements in the educational field. When connected to a monitor or even to a TV, Edu-Cam® is able to carry out many different functions. It can be used as an episcope, for the reproduction of texts, documents, photographs; an enlarger, to enlarge small objects, insects, minerals; for video-microscopy; an overhead projector, for the projection of drawings; a camera for conferences, assemblies, meetings; a camera for filming, with the help of a video recorder.

Its ultra-high sensitivity enables clear recording even in low light. The special lens enables you to focus from 0.76mm up to infinity. An extremely sensitive microphone (only on Multimedia models), captures the teacher's voice during the lesson (or surrounding sounds) that can be heard via a TV or separate amplification system.
The microphone can be switched off if required.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
CCD:	1/3"
Resolution:	330 lines
Total pixels:	270,000
Signal/noise ratio:	>48 dB
Sensitivity (lux/F):	1.5 lux
Video signal:	PAL (NTSC opt.)
Working distance:	>0.76 mm
Objective:	8mm
Magnifications:	> 90x
Audio signal:	analogue
Voltage:	12V d.c
Power adapter:	220/12Vdc included
Base diameter:	17cm
Flexible arm length:	65cm
Weight:	3.4kg

CODE	PRICE
601-250	£389.61

DIGITAL MICROSCOPE (USB POWERED)

LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Monocular, 45° inclined, 360° rotating
Eyepiece:	WF10x/16mm
Nosepiece:	Triple
Objectives:	Achromatic 4x, 10x, 40x
Magnifications:	40x, 100x, 400x
Focusing system:	Separate coarse and fine
Stage:	90mm dia.,360° rotating with 5mm range & slide clips
Illumination:	White LED powered through USB

CODE	PRICE
601-258	£279.86

VIDEO CAMERA, EDUCAM STUDENT

The Edu-Cam® video cameras are especially designed to meet the various requirements in the educational field. When connected to a monitor or even to a TV, Edu-Cam® is able to carry out many different functions. It can be used as an episcope, for the reproduction of texts, documents, photographs; an enlarger, to enlarge small objects, insects, minerals; for video-microscopy; an overhead projector, for the projection of drawings; a camera for conferences, assemblies, meetings; a camera for filming, with the help of a video recorder.

LIFETIME WARRANTY

CODE	PRICE
601-249	£378.64

MICROSCOPE, DIGITAL MONOCULAR

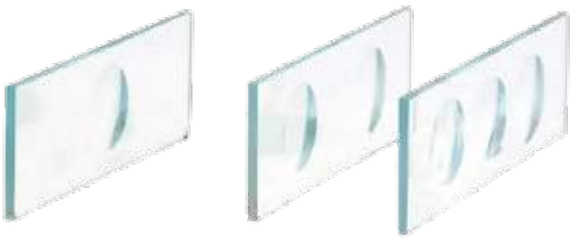
LIFETIME WARRANTY

TECHNICAL SPECIFICATIONS	
Head:	Monocular, 45° inclined, 360° rotating
Eyepiece:	WF10x/16mm
Nosepiece:	Triple
Objectives:	Achromatic 4x, 10x, 40x
Magnifications:	40x, 100x, 400x
Focusing system:	Coarse and fine with different axis
Stage:	90mm dia.,360° rotating with 5mm range & slide clips
Illumination:	White LED powered through USB

CODE	PRICE
601-243	£301.81

MICROSCOPE SLIDE ONE/ TWO CAVITY (PK10)

Polished spherical concavities are 16 to 18mm dia. 0.5 to 0.6mm deep and made of non-corrosive glass with bevelled and polished edges and corners. 75 x 25mm, 1.5mm thick.

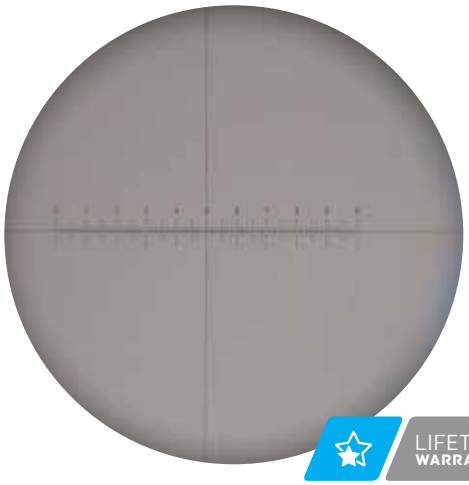


LIFETIME WARRANTY

CODE	PRICE
B86A	£5.43
B86B	£10.92

EYEPIECE MICROMETRIC WF 10X, 18MM - EDULAB

Micrometric Eyepiece WF 10X
Micrometer eyepiece, WF10x/18mm. 0.01mm graduations. Use with micrometric slide code 601-121 to calibrate your microscope.

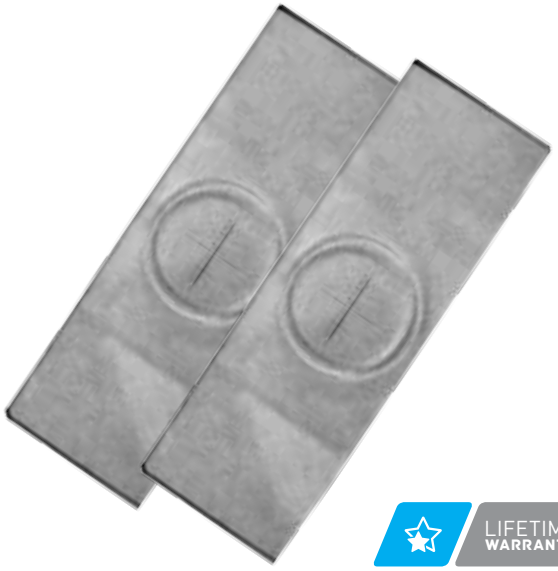


LIFETIME WARRANTY

CODE	PRICE
601-027	£57.07

MICROMETRIC SLIDE

26x76mm. Range 1mm. Divisions 0.01mm. For use together with the micrometer eyepiece code 601-027 to manually calibrate a microscope for cell counting.



LIFETIME WARRANTY

CODE	PRICE
601-121	£39.95

LENS TISSUE 100X150 (PK100)

Used for cleaning camera, spectrometer and microscope lenses.

LIFETIME WARRANTY

CODE	PRICE
MIA100	£3.29

PREPARED MICROSCOPE SLIDE SET

LIFETIME WARRANTY

PRICE FROM **£82.31**

CODE		PRICE
410-010	Adaptations Of Plants	£100.12
410-017	Plant Structure	£100.12
450-015	Health And Disease	£82.31
450-016	Exchange surfaces and epithelia	£82.31
450-017	Circulatory System	£82.31
450-018	Transport In Plants	£71.34
450-019	Connective Tissues	£71.34
450-020	Skin And Excretion	£82.31
450-021	Photosynthesis And Adaptations	£71.34
450-022	Meiosis And Mitosis	£82.31
450-023	Digestion (Stomach, Small Intestine & Large Intestine)	£82.31
450-024	Digestion (Liver, Pancreas & Tongue)	£82.31
450-025	Key Stage 4 Biology	£82.31

MICROTOME

Hand cylinder microtome with a wide flat top to guide the sectioning razor and to protect the hand. The feed screw has a 1mm pitch and a wide milled flange so that the embedded material may be advanced very gradually and thin sections cut easily.

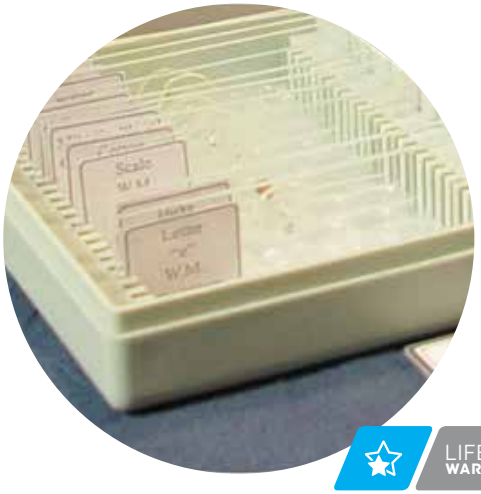
DIMENSIONS:
Cutting table 50mm diameter.
Central well 16mm diameter.

LIFETIME WARRANTY

CODE	PRICE
B72	£50.21

MICROSCOPE GLASS SLIDES 75 X 25 (PK50)

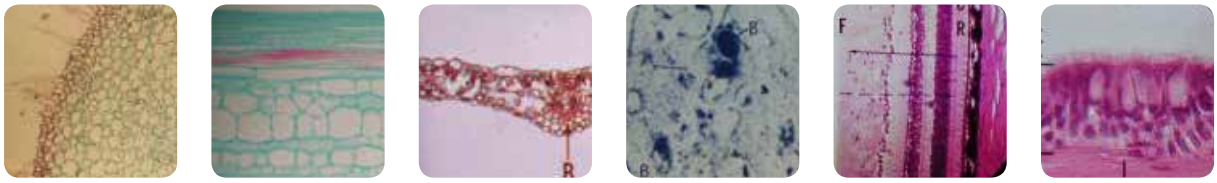
High quality clear and optically flat glass slides with ground and polished edges. Pre-cleaned. Variation in slide dimensions: ± 1mm in length and width, ± 0.2mm in thickness.



LIFETIME WARRANTY

CODE	PRICE
EDU164	£1.92

SLIDE SET OPTIONS



CODE	NAME OF SLIDE	NUMBER OF EACH SLIDE PER SET
450-016 Exchange surfaces and epithelia	Ciliated epithelium	10
	Squamous epithelium	10
	Hyaline cartilage	10
	Loose connective tissue	10
	Lung cartilage	10
450-017 Transport/circulatory systems in animals/humans	Artery and vein	10
	Cardiac muscle	10
	Human blood thin film	10
	Cardiac muscle (LS)	10
	Lymphatic (TS)	10
450-018 Transport in Plants	Zea stem TS and LS	5
	Tilia old stem (RLS)	5
	Helianthus , stem, bundles TS	5
	Helianthus, old stem, TS and LS	5
	Helianthus (sunflower), young and old route TS	5
	Ammophila (Marram grass), leaf TS	5
	Vicia (root apex)	5
	Vicia young root hairs	5
450-015 Health & Disease	Lymph node section	2
	Spleen section	2
	Lung of smoking	2
	Main artery atherosclerosis	2
	Coronary artery atherosclerosis	2
	Emphysema	2
	Thrombus	2
	Spleen TS	2
450-019 Connective Tissue	Non-striated (involuntary) muscle E	5
	Striated muscle, showing striations and nuclei LS	5
	Adipose tissue, section	5
	Pseudo-stratified ciliated: epithelium TS	5
	Areolar tissue, stained for fibres and cells E	5
	Spinal cord TS	5
	Compact bone, for Haversian Canals and lamellae	5
	Cardiac muscle showing the nuclei, striations and intercalated discs LS	5

CODE	NAME OF SLIDE	NUMBER OF EACH SLIDE PER SET
450-023 Digestion (Stomach, Small Intestine & Large Intestine)	Stomach wall, fundic VS	10
	Duodenum showing Brunner's glands	10
	Ileum, showing villi and goblet cells TS	10
	Stomach wall, pyloric region, VS	10
	Duodenum, section	10
	Colon, Section	10
450-020 Skin & Excretion	Skin, showing hair insertion and sebaceous glands VS	10
	Skin sweat glands VS	10
	Kidney injected, thick section	10
	Transitional epithelium bladder wall TS	10
	Kidney section	10
450-021 Photosynthesis & Adaptations	Prunus (Cherry) leaf TS	5
	Dicot leaf, TS	5
	Monocot, epidermis, for Stomata E;	5
	Ligustrum TS leaf	5
	Vicia young root hairs	5
	Ammophila (Marram grass)	5
	Pine mature pollen grain	5
	Ficus (Fig) sunken stomata	5
450-024 Digestion (Liver, Pancreas & Tongue)	Pancreas showing islets of Langerhans TS	10
	Tongue showing taste buds, VS	10
	Oesophagus, section	10
	Pancreas, section	10
	Liver, section	10
450-025 Key Stage 4 Biology	Human blood smear	10
	Spinal-cord TS	10
	Allium root tip, mitosis LS	10
	Artery and vein TS	10
	Squamous epithelium	10
	Moss leaf, for cells	10
401-083 Meiosis & Mitosis	Use mitosis and meiosis's slide set on page 185 Add	
	Astacus Testis VS	2
	Locust Testis VS	2
	Locust Testis squash	2
	Locust embryo squash	2
	Allium root tip LS	2
	Lillium anthers TS early prophase	2
	Lillium anthers TS late prophase	2
	Lillium anthers TS metaphase	2
	Lillium anthers TS late first division	2
	Lillium anthers TS second division	2
	Allium root apex, mitosis, LS	2
	Ovary showing follicles	2
	Testis for spermatogenesis	2

PRODUCT SPOTLIGHT

153-104

PRICE FROM £535.00

CHECK OUT OUR NEW BALANCES

- Robust
- Portable
- Highly Accurate
- Complete Range

BALANCE, PRECISION 420G X 0.001G

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-6

BALANCE, PRECISION 1200G X 0.01G

153-100

PRICE FROM £275.00

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS5-6

BALANCE, PRECISION 310G X 0.001G

153-101

PRICE FROM £350.00

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS5-6

147

CHEMISTRY RANGE

IN SCIENCE TOGETHER

CHEMISTRY DEMONSTRATION NYLON 6-10 ROPE TRICK

Show an example of polymer chemistry. Make your own nylon which is a synthetic compound of high molecular weight that consists of up to millions of repeated chemical units that are linked together. This polymer is referred to as Nylon 6-10. Kit contains sufficient reagents for five demonstrations. Instructions Included.

CODE	PRICE
360-014	£32.65

CHEMISTRY DEMONSTRATION POLYURETHANE FOAM

Make your own foam and explain how when two viscous liquids are mixed together, they initiate a reaction producing a light weight polyurethane foam which expands 30 times the original volume of the two liquids. Kit contains sufficient reagents for five demonstrations. Instructions Included.

CODE	PRICE
360-013	£49.07

CHEMISTRY DEMONSTRATION LE CHATELIER'S PRINCIPLE

Le Chatelier's Principle: A Dynamic Demo on the Overhead. Use an overhead projector to study the reaction of Le Chatelier's principle. Kit contains sufficient reagents for five demonstrations. Instructions included.

CODE	PRICE
360-024	£36.34

CHEMISTRY DEMONSTRATION CHEMICAL BATTERY

Construct a simple wet cell battery. When complete it will generate 1.5 volts for 20-30 minutes. Several cells can be connected in series to increase the voltage or in parallel to increase the current. Kit contains sufficient reagents for five demonstrations. Instructions Included.

CODE	PRICE
360-026	£36.34

CHEMISTRY DEMONSTRATION OXIDATION OF GLYCERIN

A small amount of potassium permanganate is placed in a petri dish. A few drops of glycerin are added and after a few seconds, a puff of smoke and violet flames are produced. Kit contains sufficient reagents for five demonstrations. Instructions Included.

PRICE FROM **£26.54**

KEY STAGE **KS5**

CODE	PRICE
360-023	£26.54

CHEMISTRY DEMONSTRATION THE SILICATE GARDEN

A few coloured crystals are added to a clear solution in a glass jar or beaker. Within a few minutes large, plant like structures extend from the crystals. Kit contains sufficient reagents for five demonstrations. Instructions Included.

PRICE FROM **£49.07**

KEY STAGE **KS4-5**

CODE	PRICE
360-027	£49.07

CLOCK REACTION DEMONSTRATION

Safely display the roles of temperature and concentration in chemical reactions. You'll mix one colourless solution with another. In a few seconds, the solution will suddenly turn dark blue. Increase the temperature of the solution, and the reaction occurs more rapidly. Dilute one of the solutions, and the reaction occurs more slowly. This modified version of the typical clock reaction uses safer chemicals to demonstrate the impact of changing temperature and concentration upon the outcome of chemical processes.

KEY STAGE **KS4-5**

CODE	PRICE
16-20-2511	£45.66

GREENER SYNTHESIS OF ACETYLSALICYLIC ACID

Show how to produce sodium salicylate acid from a naturally occurring, renewable resource. Convert sodium salicylate to salicylic acid. Use a quick confirmatory test to examine for the presence of salicylic acid.

The prepared salicylic acid can then be used to synthesize acetylsalicylic acid. There are enough materials for 15 groups. Teacher's manual and student copy masters are included.

KEY STAGE **KS4-5**

CODE	PRICE
360-009	£70.70

POLYPROPYLENE DUCTLESS FUME HOOD

ISG®'s Polypropylene Ductless Fume Hoods provide an ultimate protective work environment for lab staff working with acids and harsh chemicals. The electrical and mechanical components are manufactured by leading global companies, such as EBM Germany and AAF USA. The products comply with relevant international standards.

1. Active Charcoal Filter
2. LED Lighting
3. Control Panel, Light & Speed Guage
4. Tempered Glass
5. Electric Outlets

SPECIFICATIONS

- Welded white polypropylene structure
- Built-in sealed polypropylene worktop
- Easily dissembled back wall
- Tempered glass sliding front window
- Monitor indicating fan's total working time, for tracking and filter replacement purposes
- Top quality, quiet fan manufactured by EBM Germany
- Eco-friendly, cost-effective 600-800 LUX LED lighting separate from the fuming hall
- Wind speed at 0.6+0.1 m/s, 120±FPM
- Easy filter replacement.
- Top filtration unit including carbon filter
- User-friendly digital control system including fan speed control, and displays for air pressure, signal light, operation time and alarms.

CHEMISTRY DEMONSTRATION COLOURFUL VANADIUM

A Multi-step Reduction Reaction. Kit contains sufficient reagents for five demonstrations. Instructions Included.

CODE	PRICE
360-021	£61.57

OSCILLATING REACTIONS - THE TRAFFIC LIGHT

A flask containing a yellow solution is gently swirled and the solution turns red. When the flask is shaken the solution turns green.

KIT INCLUDES:

1 X 10 G SODIUM HYDROXIDE, BEADS UN1823
1 X 0.5G INDIGO CARMINE, MAKES 50ML
5 X 5 G DEXTROSE (GLUCOSE)

CODE	PRICE
200-012	£7.55

GREEN CHEMISTRY: THE HYDROGEN FUEL CELL DEMONSTRATION

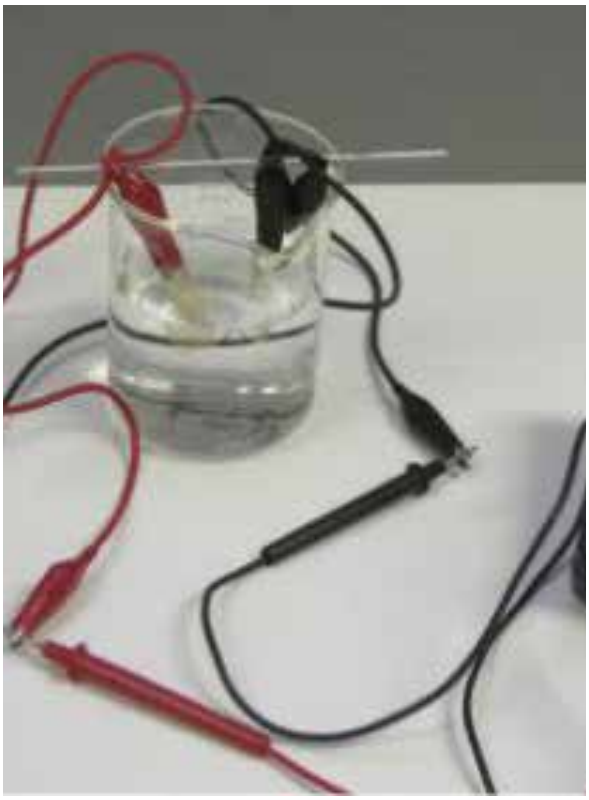
In this demonstration, energy will be produced from combining hydrogen and oxygen to form water. Platinum will serve as the catalyst and electrodes will be prepared by coating metal mesh with platinum.

The hydrogen and oxygen will come from electrolysis. After the cell is set up, a brief current is applied (with a 9-volt battery) causing the formation of hydrogen gas bubbles on one electrode and oxygen gas bubbles on the other.

Using a voltmeter, electricity produced by the recombining of hydrogen and oxygen, facilitated by the platinum metal catalyst, can be observed. Contains enough materials for 5 demonstrations.

KEY STAGE
KS4-5

CODE	PRICE
502-010	£51.31



HOTPLATE & MAGNETIC STIRRER - ISG®

The ISG® Hotplate and Magnetic stirrer is made of stainless steel with a ceramic to coating resist corrosion. It also has a separated safety circuit which will automatically stop heating when temperature reaches 350 degrees. The variable speed motor is designed to stay at a constant speed even during change in load.

High magnetic adhesion ensures that the stirrer bar stays stable at the bottom of the container. The ISG Hotplate Stirrer features an enclosed assembly with protection class IP42 and a DC brushless motor which guarantees long product life.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Dimension of Work Plate:	135mm
Work Plate Material:	Stainless steel with ceramic coated
Motor Type:	DC brushless motor
Motor rating input [W]:	18
Motor rating output [W]:	10
Power [W]:	530
Voltage [VAC]:	200-240
Frequency [Hz]:	50/60
Stirring Positions:	1
Speed Range [rpm]:	0-1500
Safety Temperature [°C]:	350
Temperature Display:	Scale
Dimension [W x D x H]:	160×280×85mm
Weight [kg]:	2.8

CODE	PRICE
153-005	£185.48

GREEN CHEMISTRY: PRODUCTION OF BIODIESEL

In this activity, students will be performing a two-phase process to produce small batches of crude biodiesel. The crude biodiesel produced is of sufficient quality for use in the demonstration of the burning qualities of both biodiesel and vegetable oil.

Included is an optional small-scale exercise where the students will use a washing procedure for the crude biodiesel if you wish to have the students experience the full process of producing biodiesel to meet quality levels necessary for use in vehicles. Sufficient materials for 15 groups. Teacher's manual and student copy masters are included.

KEY STAGE **KS4-5**

CODE	PRICE
502-011	£86.70

HOTPLATE & MAGNETIC STIRRER - PRO

The ISG® Hot plate stirrer heats to 340° and is widely used in chemical synthesis, physical and chemical analysis, bio-pharmaceuticals and other fields.
PID temperature technology controls heating process ensuring that target temperature is reached quickly and control and accuracy is enhanced. The ISG® hotplate casing is made from moulded stainless steel. The hotplate is ceramic coated to resist corrosion and increase heating consistency. This hotplate model is suitable for external temperature sensor which displays and controls the actual liquid temperature.

PRICE FROM **£317.18**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Plate Dimensions:	130 x 130mm
Stirrer Speed:	30 to 1500 rpm
Max. Plate Temperature:	+340°C
Heater Power:	530W
Stirring Capacity:	2
Dimension [W x D x H]:	155x270x55mm
Net Weight:	2.3kg
Electrical Supply:	240v
Socket:	To fit temperature controller
Speed Accuracy:	+/- 1%
Digital Display:	Yes
Hotplate Temperature:	Up to 340°C
Temp setting Accuracy:	+/- 1C
Speed Accuracy:	+/- 1%

CODE	PRICE
153-006	£317.18

NANOHEAT HOTPLATE, BASIC

The NanoHeat® laboratory Hotplate is a world first. This elegant and compact unit has been developed using highly efficient heating technology. NanoHeat® Hotplates have a high performance 60 second warm up time.

They have 3 heating levels and multiple warming options for general use. The hot plates are operated using an LED display touch screen and a timer countdown, with a safety lock function and high temperature warning indication. The non-corrosive glass ceramic surface is easy to clean. Both glass and ceramic utensils can be used.

Their compact and lightweight design makes them easy to transport and store.

TEMPERATURES FOR MODES 1,2 & 3:

MODE 1 = 180 degrees
MODE 2 = 270 degrees
MODE 3 = 360 degrees

PRICE FROM **£217.31**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Electrical Rating:	220-240V, 1200W, 50/60Hz
Dimensions:	200 (W) x 230(L) x 30(H) mm
Weight:	1.15kg

CODE	PRICE
607-020	£217.31

NANOHEAT® HOTPLATE, ADVANCED

This elegant and compact unit has been developed using highly efficient heating technology. ISG® NanoHeat® Hotplates have a high performance 50 second warm up time. They have 3 heating levels and multiple warming options for general use. The hot plates are operated using an LED display touch screen and a timer countdown, with a safety lock function and high temperature warning indication. The non-corrosive glass ceramic surface is easy to clean. Both glass and ceramic utensils can be used. Their compact and lightweight design makes them easy to transport and store.

The Advanced model of the ISG® Hotplate has all the above features which are included with the basic model. In addition to the above it includes an external probe. Using this probe the following operation modes can be used in most experiments: High accuracy temperature control in +/- 1°C, Warming setting in 1°C intervals, Temperature indications with an accuracy of 0.5°C

The temperature range is from 0-360°C. Using the innovative nano-technology this hotplate can heat from 0-300°C in under a minute!

TEMPERATURES FOR MODES 1,2, 3 & 4:

MODE 1 = 180 degrees
MODE 2 = 270 degrees
MODE 3 = 360 degrees
MODE 4 = 90 degrees in 1 degree increments

PRICE FROM **£433.51**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Electrical Rating:	220-240V, 1200W, 50/60Hz
Dimension [W x D x H]:	200x230x30mm
Weight [kg]:	1.15

CODE	PRICE
607-021	£433.51

NANOHEAT® HOTPLATE WITH WATERBATH

The NanoHeat® Waterbath's compact design enables it to be easily moved and transported. The electronic control ensures reliable bath temperature with +/- 1°C ariance.

The temperature adjusts at 1°C intervals. It is easy to set up and carry out multiple experiments simultaneously at different temperatures with several water baths.

Its flexible usage allows it to be used separately from the bath container for heating purposes. Operation is from an LED display touch screen allowing easy temperature selection.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Electrical Rating:	220-240V AC, 50/60Hz
Output Rating:	1200W
Dimension [W x D x H]:	200x230x156mm
Weight [kg]:	2.2kg

CODE	PRICE
603-065	£493.88

WATERBATH, KIT FOR NANOHEAT® HOTPLATE

Spare water bath kit for Nanoheat Hotplate as featured in product image 603-065. Hotplate not supplied with this kit. Image representative of range.

KEY STAGE **KS3-6**

CODE	PRICE
607-023	£108.65

VORTEX MIXER

The ISG® Vortex mixer widely used in life science, physical and chemical analysis fields, for vigorous re-suspension of cells or chemical pellets in tubes up to 15 ml. It's features include, touch and continuous operation, variable speed regulation from 0-2500rpm. The ISG® vortex mixer also has specially designed vacuum suction feet to ensure stability of the mixer during use.

KEY STAGE **KS4-5**

CODE	PRICE
153-010	£163.53

NANOHEAT® MAGNETIC STIRRER

The NanoHeat® Magnetic Stirrer is a 2-in-1 design allowing it to be more flexible in usage. The stirrer drive uses a ND Servo Motor and has a speed range of 0-1250 rpm with a smoothed speed control. The compact and light weight design makes it easy to transport and store. (Hotplate not included - supplied separately).

PRICE FROM **£170.11**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Electrical Rating:	220-240V AC, 50/60Hz
Dimension [W x D x H]:	200x268x85mm

CODE	PRICE
607-022	£170.11

CENTRIFUGE, MICRO

The ISG® Micro centrifuge is ideal for your laboratory if you are looking to do the following; DNA extraction and concentration, quick spin downs, microfiltration and cell separation. This ISG® Micro centrifuge runs to a maximum of 7000rpm and has a noise level of less than 45db.
The multiple rubber feet on the base are designed to keep the ISG centrifuge stable while in use. Also supplied with 2 interchangeable rotors suited for 2ml and PCR tubes. Lid colour may vary.

KEY STAGE **KS4-5**

CODE	PRICE
153-001	£145.97

Xacto™ PIPETTE BY ISG®

The new Xacto™ Pipettor from ISG® is the next step in pipetting revolution. Its high quality, robust European construction with a metal shaft and tip assures long lasting accuracy and limited maintenance.

This fully autoclavable pippettor features a double 'O' ring shaft for universal tip compatibility and a superb air tight seal. The Xacto™ pipette has a detachable volume mechanism for easy visibility for both right and left handers.

The detachable volume control also allows the use of unique fixed volume knobs that can be fitted within the pipette's range rather than having to purchase a new pipettor. This allows for minimal downtime, cost effective replacement and easy recalibration.

KEY FEATURES OF THE RANGE:

XACTO™ PIPETTOR, VARIABLE VOLUME, 20 - 200ul - ISG®

KEY STAGE **KS5**

CODE	OUTPUT	PRICE
153-319	20 - 200ul	£148.16

XACTO™ PIPETTOR, VARIABLE VOLUME, 0.5 - 10ul - ISG®

KEY STAGE **KS5**

CODE	OUTPUT	PRICE
153-320	0.5 - 10ul	£148.16

XACTO™ PIPETTOR, VARIABLE VOLUME, 2 - 20UL- ISG®

KEY STAGE **KS5**

CODE	OUTPUT	PRICE
153-321	2 - 20ul	£148.16

XACTO™ PIPETTOR, VARIABLE VOLUME, 100 - 1000ul - ISG®

KEY STAGE **KS5**

CODE	OUTPUT	PRICE
153-323	100-1000ul	£148.16

XACTO™ PIPETTOR, VARIABLE VOLUME, 10 - 100ul - ISG®

KEY STAGE **KS5**

CODE	OUTPUT	PRICE
153-322	10 - 100ul	£148.16

XACTO™ PIPETTOR, 8 CHANNEL, VARIABLE VOLUME, 20 - 200ul - ISG®

KEY STAGE **KS5**

CODE	OUTPUT	PRICE
153-324	20 - 200ul 8 Channel	£466.44

LIEBIG CONDENSER 200MM

Borosilicate glass, inner tube integral with body. Narrow jacket for efficient cooling. 200mm jacket length.

PRICE FROM **£16.41**

KEY STAGE **KS3-4**

CODE	PRICE
CH0301A	£16.41

FRACTIONAL DISTILLATION ASSEMBLY

Borosilicate glass. Joint Size 19/26. Comprised of the following components: Round-bottom Boiling Flask 250ml; Vigreux Column; Liebig Condenser; Receiver adapter vacuum; Erlenmeyer Flask 250ml; 4x Joint Clip 19/26.

KEY STAGE **KS4-5**

CODE	PRICE
340-005	£86.70

DISTILLING APPARATUS

Borosilicate glass. Joint Size 19/26. Comprised of the following components: Round-bottom Boiling Flask 500 ml; Still head; Liebig Condenser; Receiver adapter; Separating funnel with stopper; Supplied without glass beaker and metal stands.

KEY STAGE **KS3-4**

CODE	PRICE
340-004	£126.21

FRACTIONAL DISTILLATION COLUMN

Made from borosilicate glass with removable centre rod with discs, fitting inside a smooth bore tube with entry tube on side.

Number of discs: 20.
Overall Length: 480mm.

PRICE FROM **£39.46**

KEY STAGE **KS3-4**

CODE	PRICE
CH0382	£39.46

GAS PREPARATION KIT

This kit contains all essential glass elements needed for quick setup for production of gases in lab including Ammonia, Bromine, Carbon Dioxide, Carbon Monoxide, Chlorine, Hydrogen, Hydrogen Bromide, Hydrogen Iodide, Hydrogen Chloride, Hydrogen Sulphide, Hydrogen Peroxide, Nitric Oxide, Nitrogen, Nitrogen Dioxide, Nitrous Oxide, Oxygen, Sulphur Dioxide, Sulphur Trioxide etc.

PRICE FROM **£323.76**

KEY STAGE **KS3-4**

CODE	PRICE
340-003	£323.76

GAS GENERATOR, KIPPS

Borosilicate glass gas generator comprises three chambers. A rapid and effective apparatus to produce controllable amounts of common gases such as hydrogen sulphide, carbon dioxide, etc.

The apparatus consists of a lower acid reservoir with stopper, a central bulb with tapered tube extending downwards into the reservoir, and a safety funnel.

A rubber separator prevents the solid reactant in the middle bulb from falling into the reservoir. Capacity: 1000ml.

KEY STAGE **KS3-4**

CODE	PRICE
CH0516C	£93.29

GAS, SIMPLE PREPARATION KIT

A simple gas preparation kit for producing gases which can be collected over water, e.g. oxygen, hydrogen and carbon dioxide.

Comprises: plastic tank with lid, test tube stand, 5 test tubes 150 x 24mm with stoppers, thistle funnel, test tube with side arm and one-hole stopper, special gas chimney shelf, delivery tube and tubing connector. The tank and lid form a handy storage box for all the other components.

KEY STAGE **KS3-4**

CODE	PRICE
CH0506	£39.51

ORGANIC CHEMISTRY KIT NO 2 (34BU)

This set contains 16 items and is housed in a diecast foam-lined box for safe storage and transit.

Designed for quantities of starting material up to 150g.

KEY STAGE **KS5**

CODE	PRICE
CH0878	£137.79

ORGANIC CHEMISTRY KIT NO 4 (46BU)

This set contains 11 items with 19/26 ground joints. Housed in a foam lined box.

KEY STAGE **KS5**

CODE	PRICE
CH0880	£97.68

ORGANIC CHEMISTRY KIT NO 1 (27BU)

This kit contains 9 items all with size 14/23 joints for maximum versatility. The foam-lined box protects the set in transit and acts as a storage unit.

KEY STAGE **KS5**

CODE	PRICE
CH0876	£86.70

INTERCHANGEABLE GLASSWARE ORGANIC CHEMISTRY KIT (29BU)

Interchangeable Glassware Organic Chemistry Kit 29BU
Set of 6, joint size 14/23

KEY STAGE **KS5**

CODE	PRICE
CH0875	£64.75

INTERCHANGEABLE GLASSWARE JOINT CLIPS, 24/29 GREEN (PK10)

Joint safety clips for interchangeable glassware. Made from chemical resistant plastic.

KEY STAGE KS5

CODE	PRICE
717-001D	£27.44

INTERCHANGEABLE GLASSWARE JOINT CLIPS, 14/23 YELLOW/ORANGE (PK10)

Joint safety clips for interchangeable glassware. Made from chemical resistant plastic.

KEY STAGE KS5

CODE	PRICE
717-001B	£23.05

INTERCHANGEABLE GLASSWARE JOINT CLIPS, 19/26 BLUE (PK10)

Joint safety clips for interchangeable glassware. Made from chemical resistant plastic.

KEY STAGE KS5

CODE	PRICE
717-001C	£25.24

INTERCHANGEABLE GLASSWARE JOINT CLIPS, 10/19 RED (PK10)

Joint safety clips for interchangeable glassware. Made from chemical resistant plastic.

KEY STAGE KS5

CODE	PRICE
717-001A	£23.05

KINETIC THEORY MODEL

Large demonstration model. Polystyrene balls included. 6V AC.

Note: Power supply shown is not included.

CODE	PRICE
201-001	£68.05

SMOKE CELL

For the observation of 'Brownian Motion' in smoke particles. Consisting of a box with plastic lid as well as flanges that allow easy attachment to standard microscopes. The box contains a smoke cell, cylindrical condensing lens and a 12V, 3W festoon bulb.

The apparatus has been preset to focus the light at correct height. The set is supplied complete with detailed instructions and a squeeze-bottle type smoke generator.

- Dimensions: 90 x 46 x 20mm.

CODE	PRICE
WBSM	£20.85

STEAM TRAP

Cylindrical, borosilicate glass tube fitted with rubber bungs on both ends.

CODE	PRICE
PH0466	£9.88

SIMPLE CELL PLATE

Each plate is 125 x 50mm and fitted with 4mm socket terminals.

CODE		PRICE
PH0926B	Carbon 6mm	£4.39
PH0926C	Copper 1.5mm	£5.49
PH0926D	Lead 1.5mm	£3.29
PH0926A	Zinc 1.5mm	£4.39

VOLTAMETER

Platinum electrodes with two graduated test tubes of 10ml capacity. Mounted on base with terminals.

PRICE FROM **£24.13**

KEY STAGE **KS3-8**

CODE	PRICE
PH0941	£24.13

SIMPLE CELL KIT 150MM H X 100MM DIA

A 150mm high x 100mm diameter glass jar for making simple cells, complete with zinc and copper plates.

KEY STAGE **KS3-12**

CODE	PRICE
PH0924	£20.85

HOFFMAN VOLTAMETER STAND INCL. 600MM ROD

Metal stand with support clamp for use with Hoffman's Voltameter. Supplied with 600mm rod.

KEY STAGE **KS3-9**

CODE	PRICE
CH0740F	£31.83

ELECTRODE PLATINUM (PAIR)

A pair of electrodes of rectangular foil, fused into a protective glass tube with an internal connection lead running through the tube and rubber stopper to screw terminals. The shape of the foil exposes as much metal as possible to the reactant (water).

PRICE FROM **£42.80**

KEY STAGE **KS3-13**

CODE	PRICE
CH0740D	£42.80

HOFFMAN VOLTAMETER (PTFE) WITH ELECTRODES

Used for demonstrating the decomposition of water, determination of chemical composition by electrolysis and with applications in the evaluation of the electrochemical equivalent of hydrogen.

PRICE FROM **£69.79**

KEY STAGE **KS3-10**

CODE	PRICE
CH0740B	£69.79

ELECTRODE CARBON (PAIR)

High quality electrodes in ready-to-use tubed format. Excellent connection terminals make for safe and efficient use. Comprises a pair of carbon electrodes in rubber stoppers, with crocodile clip socket terminals, for electrolysis of hydrochloric acid, sodium hydroxide and salt solutions.

KEY STAGE **KS3-4**

CODE	PRICE
CH0740C	£18.66

ELECTRODE CARBON ROD 100X5MM (PK 50)

Carbon rod 100 x 5mm for electrolysis.

PRICE FROM **£31.83**

KEY STAGE **KS3-5**

CODE	PRICE
EL06886	£31.83

ACIDS, BASES AND THE pH SCALE

In this lab, you will gain an understanding of the basic differences between the properties of acids and bases. Know the role of hydrogen and hydroxide ions in acids and bases. Comprehend the nature of the pH scale with regards to acid and base strength. Students will examine the effects of acids and bases on several chemical pH indicators, determine the pH of several common household materials, and use the knowledge gained to determine the composition of four unknown clear solutions. There are enough materials for 15 groups. Teacher's manual and student copy masters are included.

KEY STAGE **KS3-5**

CODE	PRICE
360-001	£102.62

RUST RACE LAB INVESTIGATION

An introduction to oxidation-reduction reactions. Perform oxidation-reduction reactions. Test metals for corrosion. Measure oxygen consumption during metal corrosion. Compare the effectiveness of rust inhibitors. Class size - 40 students.

KEY STAGE **KS5**

CODE	PRICE
56-20-1713	£101.58

INTRODUCTION TO CHROMATOGRAPHY LAB INVESTIGATION

Discover chromatography's applications in clinical, forensic and analytical laboratories. Class size - 40 students.

KEY STAGE **KS3-4**

CODE	PRICE
56-20-1683	£67.60

PROPERTIES OF ASPIRIN

Aspirin is to this day the most widely used painkiller and largest selling non-prescription medicine in the world. Learn about the history of the development acetylsalicylic acid (aspirin) and test the performance of several different types of aspirin. Students will examine the solubility of aspirin in varying gastrointestinal environments, a comparison of active ingredients in regular and extra-strength aspirin, and the differences between regular and buffered aspirin. All aspirin samples are included and the kit contains enough materials for fifteen groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:

5 X 30 ML HYDROCHLORIC ACID, 1M SOLUTION UN1789
8 X 30 ML SODIUM HYDROXIDE, 1M SOLUTION UN1824
1 X 30 ML PHENOLPHTHALEIN, 1% IN ETHANOL UN1170
1 PKG/50 UNIVERSAL INDICATOR STRIPS
1 PKG/15 GRADUATED PLASTIC PIPETTES
45 DISPOSABLE MEDICINE CUPS
1 PKG/45 ASPIRIN, ENTERIC COATED
1 PKG/15 ASPIRIN, EXTRA STRENGTH
1 PKG/75 ASPIRIN, REGULAR
1 PKG/60 ASPIRIN, BUFFERED

NEW | KEY STAGE KS5-6

CODE	PRICE
200-016	£77.62

PROPERTIES OF ANTACIDS

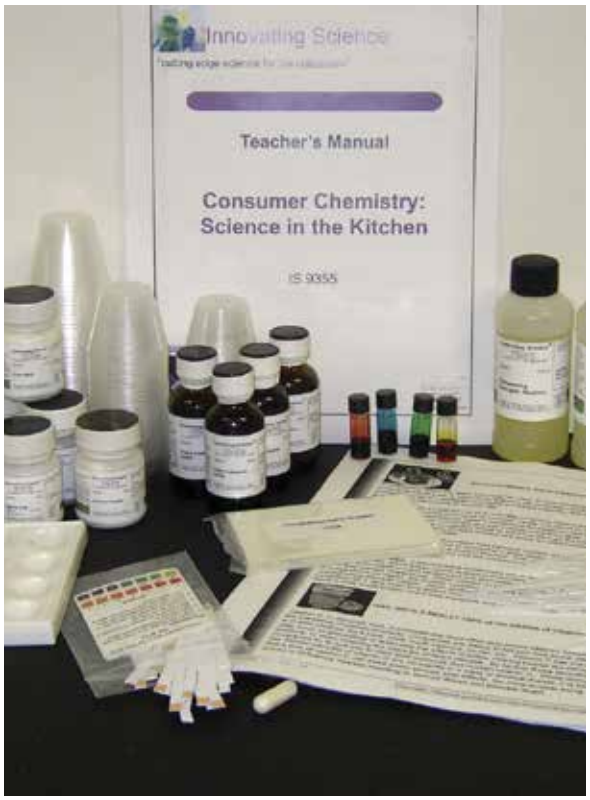
With the global population spending over a half a billion dollars a year on commercial antacids, several companies are out there competing for a part of the business. In this activity, students will learn about some of the more common active components in over-the-counter antacids as well as investigate the rate of acid neutralization of five different antacids. Students will also compare the buffering ability of three different calcium carbonate based antacids. All antacid samples are included and the kit contains enough materials for fifteen groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:

5 X 30 ML HYDROCHLORIC ACID, 1M SOLUTION UN1789
2 X 30 ML UNIVERSAL INDICATOR UN1170
2 X 30 ML BROMOTHYMOL BLUE, 0.5% AQUEOUS SOLUTION
1 PKG/15 GRADUATED PLASTIC PIPETTES
2 PKG/50 UNIVERSAL INDICATOR STRIPS
1 X 60 ML ANTACID #5, LIQUID
1 PKG/7 ANTACID #1, TABLET
1 PKG/7 ANTACID #2, EXTRA STRENGTH
1 PKG/7 ANTACID #3, TABLET
2 PKG/2 ANTACID #4, TABLETS
90 DISPOSABLE MEDICINE CUPS

NEW | KEY STAGE KS5-6

CODE	PRICE
200-014	£78.10



CONSUMER CHEMISTRY SCIENCE KIT - IN THE KITCHEN

This comprehensive kit incorporates a variety of scientific techniques all themed around common kitchen materials. Students will perform chromatography on commercial food colours, use chemical tests to identify an unknown cooking ingredient, examine the protein digesting ability of a common meat tenderizing enzyme, use titration to quantify vitamin C levels and then test an unknown juice or soda (not provided), and lastly examine some of the differences and similarities in the materials used to clean up (soap, hand and machine dishwashing detergents).

Contains enough materials for fifteen groups.

KEY STAGE **KS3-4**

CODE	PRICE
IS9355	£200.57

CONSUMER CHEMISTRY SCIENCE KIT - PROPERTIES OF ASPIRIN

Since its initial purification and commercialisation, several other painkillers have been introduced to the market. However, aspirin is to this day the most widely-used painkiller and largest selling non-prescription medicine in the world, and is also prescribed in low doses to victims of ischemic strokes to help prevent recurrence.

CODE	PRICE
IS9354	£24.39

CONSUMER CHEMISTRY SCIENCE KIT - PROPERTIES OF TOOTHPASTE

The history of teeth cleaning agents actually goes back thousands of years. Toothpaste as we know it today however is a comparatively recent development. In this activity, students will investigate several properties of toothpaste samples, provided in the kit, including presence of fluoride, pH, abrasiveness, and foaming ability. As a second activity, students will use the included materials to create their own to othpaste. Contains enough materials for fifteen groups.

CODE	PRICE
IS9350	£119.41

PROPERTIES OF SHAMPOO

Different shampoos are manufactured from a variety of ingredients to perform a variety of tasks. In this investigation, students will not only learn about the role of several shampoo ingredients, but also test several properties of different shampoos which are included in the kit. Students will determine the relative viscosity, pH, flash-foam formation and retention, oil emulsification, and contaminant-dispersion abilities of different shampoos. Kit contains enough materials for fifteen groups. Teacher's Manual and Student Study Guide copymasters are included.

KIT INCLUDES:
30 ML SHAMPOO #1
1 X 30 ML SHAMPOO #2
1 X 30 ML SHAMPOO #3
1 X 30 ML INK, BLACK, 10%
1 X 30 ML VEGETABLE OIL
1 PKG/50 UNIVERSAL INDICATOR STRIPS
1 PKG/45 GRADUATED PLASTIC PIPETTES
1 PKG/25 COPPER BALLS
45 DISPOSABLE MEDICINE CUPS
45 POLYSTYRENE TEST TUBES
3 PLASTIC CENTRIFUGE TUBE

NEW KEY STAGE KS5-6

CODE	PRICE
200-015	£86.69

ENVIRONMENTAL CHEMISTRY: WATER TREATMENT & FILTRATION

Students will develop knowledge of the processes performed at a water treatment plant and understand the reasons for each process. They will perform, on a small-scale, several of the procedures that occur in a water treatment plant on 'polluted' water. They will examine the changes in the water after each treatment step is performed. They will also observe physical characteristics of water, such as clarity, colour, odour, and how they are affected from the beginning of the treatment process until the end. There are enough materials for 15 groups. Teacher's manual and student copy masters are included.

CODE	PRICE
501-010	£79.29

FLAME TEST OF CHEMICALS LAB INVESTIGATION

Learn how elements can be identified using flames. Observe and record the colours emitted by metallic elements upon heating. Relate the results to known standards to identify unkown samples. Learn about the electronic structure of an atom. Explore the relationship between colour and energy in the electromagnetic spectrum. Class size - 40 students.

CODE	PRICE
56-20-1693	£113.00

ENVIRONMENTAL CHEMISTRY: NITRATES, PHOSPHATES & EUTROPHICATION

Understand the importance and value of fresh water and the need to protect and conserve this valuable resource. Realize that a variety of factors, including natural ones, contribute to the overall problem of water pollution. After completing this lab, students should understand the difference between point source and non-point source pollution and understand the role of nitrates and phosphates in the process of eutrophication.

CODE	PRICE
501-011	£60.88

ENVIRONMENTAL CHEMISTRY: ACID RAIN, WEATHERING & EROSION

Acid rain can be devastating to aquatic ecosystems and terrestrial areas. It not only effects naturally-occurring surfaces, such as rocky surfaces of mountainous regions, but man made surfaces as well. Stones and metals used in buildings, statues and monuments may be affected by acid rain. Rates of erosion and weathering increase rapidly depending on the degree of acidic rain.

CODE	PRICE
501-012	£79.29

MATERIALS KIT

A selection of materials in the form of rectangular blocks intended to familiarise the student with appearance, feel, texture, hardness and density of a range of common substances.

CODE	PRICE
MATKIT	£111.95

SLIME VARIOUS COLOURS

Slime is a polymer which exhibits both liquid and solid properties. It will 'flow' if left for a period of time but will also break or snap if pulled apart quicky. Must be kept well sealed to prevent drying out. Available in five colours and two pack sizes.

CODE		PRICE
370-009	Slime, Green 140g	£3.15
370-008	Slime, Green 50g	£2.80
370-011	Slime, Yellow 140g	£3.15
370-010	Slime, Yellow 50g	£2.80
370-013	Slime, Blue 140g	£3.15
370-012	Slime, Blue 50g	£2.80
370-007	Slime, Black 140g	£3.15
370-006	Slime, Black 50g	£2.80
370-005	Slime, Red 140g	£3.15
370-004	Slime, Red, 50g	£2.80
370-002	Slime, 50g, Pk3 Black, Green & Red	£8.34
370-003	Slime, 140g, Pk3 Black, Green & Red	£9.52

PUTTY BLUE

Putty will bounce if dropped, but will flow if gently stretched. Roll it up into a ball and leave on a worktop, you will see that it slowly flows, gradually flattening.

KEY STAGE **KS4**

CODE		PRICE
370-014	Putty, Blue, 50g	£8.34

PLASTICS SAMPLE PACK

Contains a selection of 12 novel and unusual plastics chosen to exhibit a range of different properties, such as optical effects, behaviour when heated or reaction with water. Included in the pack are two-way mirror film, live edge acrylic, smart image film, smart colours film, polymorph, heatshrink tubing, shape memory polymer, PVC soft sheet, neoprene foam, ecofilm and hydrogel, plus an accompanying leaflet.

KEY STAGE **KS4**

CODE	PRICE
370-019	£16.37

SMART COLOUR STARTER PACK

THIS PACK CONTAINS:
1 ml of each thermochromic pigment paste;
1 gram of highlyconcentrated glow-in-the-dark pigment powder; 20 ml syringe of acrylic medium.

PRICE FROM **£14.54**

KEY STAGE **KS4**

CODE	PRICE
370-020	£14.54

SMART MATERIALS PRESENTATION PACK

Contains a vast array of smart and unusual materials and is ideal for those required to give presentations or demonstrations about materials. The case includes a smart materials book and some basic accessories for handling the materials. Case size: 46 x 33 x 15cm.

PRICE FROM **£181.09**

KEY STAGE **KS4**

CODE	PRICE
370-021	£181.09

METALS AND SMART ALLOYS STARTER PACK

Many GCSEs refer to the use of smart alloys and shape memory alloys. This pack contains a variety of smart alloys including a two-way memory spring, smart spring, smart wire, memory wire, superelastic wire, and wire holders for securing the materials. There are many practical activities that can be done with the alloys and are described in the accompanying SEP booklet 'Metals and smart alloys.

CODE	PRICE
370-018	£45.63

NANOTECHNOLOGY: FERROFLUIDS

Understand the definition of nanotechnology as it applies in current usage. Learn of one nanomaterial, ferrofluid, and some of its applications in modern technology.
Create magnetite nanoparticles through a precipitation reaction, while employing a surfactant to create a colloidal suspension of magnetite nanoparticles (ferrofluid).
Then examine the response of ferrofluid when exposed to a magnetic field. Teaching notes included.
Class size: 15 students.

CODE	PRICE
360-003	£67.76

FABRICS SAMPLE PACK

Includes sample swatches of linen, cotton, Thinsulate, Lycra, Gore-Tex, nylon, silk and Teflon-coated polycotton held together by a tag. Each swatch is a different colour and a key card is included in the pack.

CODE	PRICE
370-017	£9.05

MICROCHEM WORKSHEETS, KEY STAGE 3, 4 & 5, IN BINDER

A series of worksheets to assist in the teaching of chemistry and biology at Key Stage 3. The resources cover a wide range of practical experiments using the innovative Microscience System. Each file contains notes on use and care of Microscale equipment. Photocopying unrestricted for recipient schools.

CODE		PRICE
S003/B	Key Stage 3	£40.55
S004/B	Key Stage 4	£40.55
S005/B	Key Stage 5	£40.55

REFLUX TUBE FOR COMBOSTILL (PK 10)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

KEY STAGE **KS3-5**

CODE	PRICE
310-050	£42.45

TEST TUBE, GLASS RIMMED 12MM (PK 20)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

KEY STAGE **KS3-5**

CODE	PRICE
310-057	£46.22

GLASS DISTILLATION TUBE FOR COMBOSTILL (PK 10)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

KEY STAGE **KS3-5**

CODE	PRICE
310-048	£83.41

THERMOMETER 0 - 150 °C (PK 10)

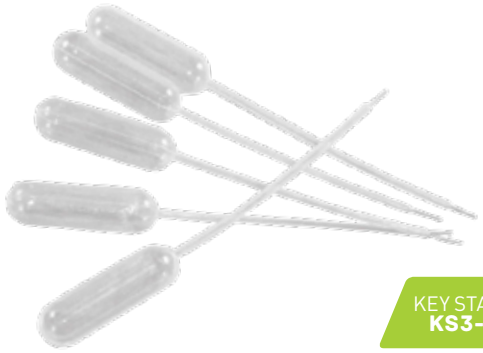
Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

KEY STAGE **KS3-5**

CODE	PRICE
310-056	£71.34

PROPETTES (DROPPING) (SET OF 100)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!



KEY STAGE **KS3-5**

CODE	PRICE
310-040	£34.66

STRAW ELECTRODE (PK 20)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

PRICE FROM **£12.13**

KEY STAGE **KS3-5**

CODE	PRICE
310-038	£12.13

SILICONE TUBE 25CM WITH U BEND (PK 20)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

PRICE FROM **£12.13**

KEY STAGE **KS3-5**

CODE	PRICE
310-039	£12.13

GAS LID

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

PRICE FROM **£7.24**

KEY STAGE **KS3-5**

CODE		PRICE
310-044	Gas Lid 3 (Pk20)	£7.24
310-043	Gas Lid 2 (Pk20)	£7.24
310-042	Gas Lid 1 (Pk20)	£7.24

FUNNEL, MICROSCALE, (PK 20)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

KEY STAGE **KS3-5**

CODE	PRICE
310-067	£6.35

GAS COLLECTING TUBE + LID (PK 20)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

KEY STAGE **KS3-5**

CODE	PRICE
310-062	£6.07

FILTER PAPER, MICROSCALE (PK 100)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale.

For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

KEY STAGE **KS3-5**

CODE	PRICE
310-063	£15.60

COMBOSTILL INNER REACTION VESSEL (EACH)

KEY STAGE **KS3-5**

CODE	PRICE
310-073	£2.89

COMBOSTILL HEATING BOTTLE & LID (EACH)

KEY STAGE **KS3-5**

CODE	PRICE
310-072	£6.07

VIALS, LARGE, PLASTIC, (PK 20)

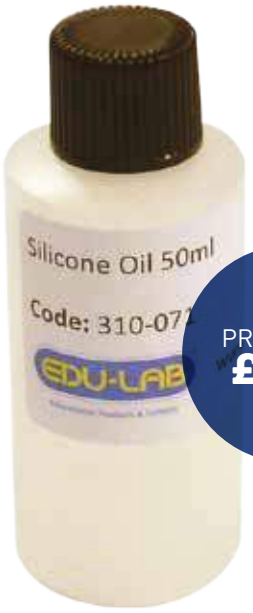
Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

PRICE FROM **£10.98**

KEY STAGE **KS3-5**

CODE	PRICE
310-035	£10.98

SILICONE OIL 50ML



PRICE FROM **£4.62**

KEY STAGE **KS3-5**

CODE	PRICE
310-071	£4.62

GLASS COMBUSTION TUBE (PK 20)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

PRICE FROM **£18.20**

KEY STAGE **KS3-5**

CODE	PRICE
310-021	£18.20

ELECTRODE, LEAD, (PK 20)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

PRICE FROM **£12.13**

KEY STAGE **KS3-5**

CODE	PRICE
310-020	£12.13

DROPPER BOTTLE, 10 ML (PK 100)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

PRICE FROM **£53.78**

KEY STAGE **KS3-5**

CODE	PRICE
310-025	£53.78

COMBOPLATE, MICROSCIENCE ORGANIC (PK 20) - EDULAB

60-well microplate used in general microtitration special procedures and hundreds of chemistry, biology and physics education experiments. This high grade plate is designed to the dimensions of standard 96 well and 48-well plates. The plate is divided into 2 sections 48 small wells (volume 0.3ml) and 12 large wells (volume approx 2.5ml). Each well is identified by a grid reference system. The small wells can be likened to 'micro test tubes' and the large wells to 'micro beakers'.

PRICE FROM **£78.56**

KEY STAGE **KS3-5**

CODE	PRICE
310-019	£78.56

MAGNIFYING GLASS - 25MM DIA LENS (PK 20)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

PRICE FROM **£30.04**

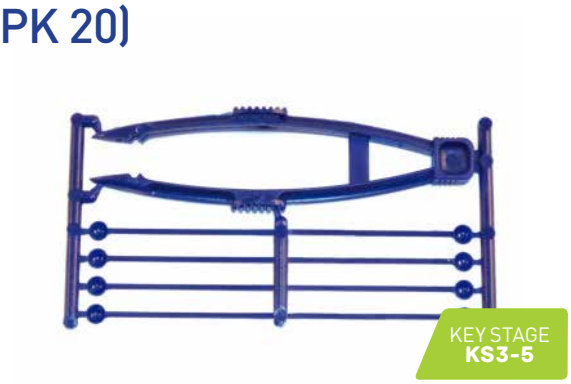
KEY STAGE **KS3-5**

CODE	PRICE
310-023	£30.04

CURRENT INDICATOR LED (PK 20)

CODE	PRICE
310-022	£114.37

SPATULA & FORCEPS (PK 20)



CODE	PRICE
310-033	£23.05

THERMOMETER 0 - 50 C (PK 10)

CODE	PRICE
310-029	£60.36

SILICONE TUBING 5M

CODE	PRICE
310-032	£18.20

VIAL ORGANIC (PK 20)

CODE	PRICE
310-034	£18.20

RETORT STAND UPRIGHT (PK 20)

CODE	PRICE
310-028	£10.98

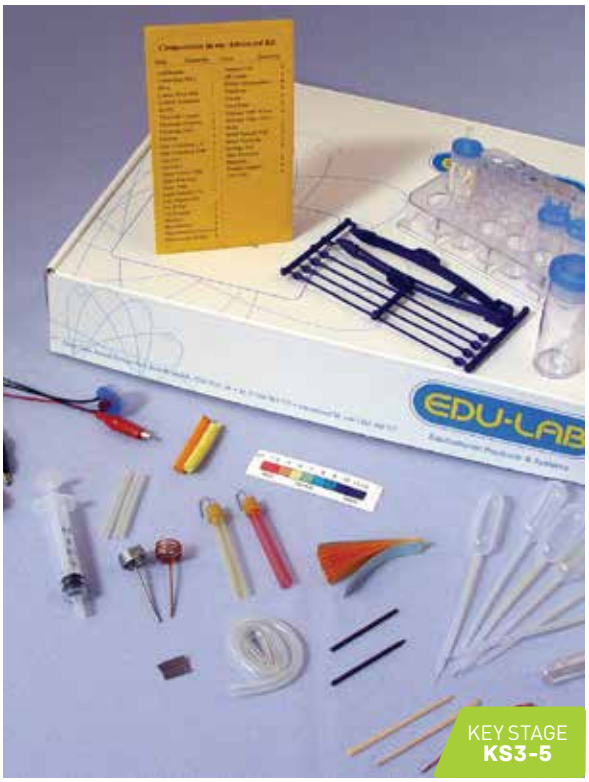
BASIC KIT, STUDENT, MICROSCIENCE - EDULAB

The development of the Comboplate inspired other developments in physical apparatus that allow students the opportunity of performing over a hundred chemical experiments previously requiring macro-scale apparatus.

CODE	PRICE
310-003	£22.99

ADVANCED KIT, STUDENT, MICROSCIENCE - EDULAB

The Advanced MicroChem Kit provides all the physical hardware required to perform the experiments incorporated in the basic kit.



CODE	PRICE
310-004	£38.36

RETORT STAND CROSS ARM (PK 20)

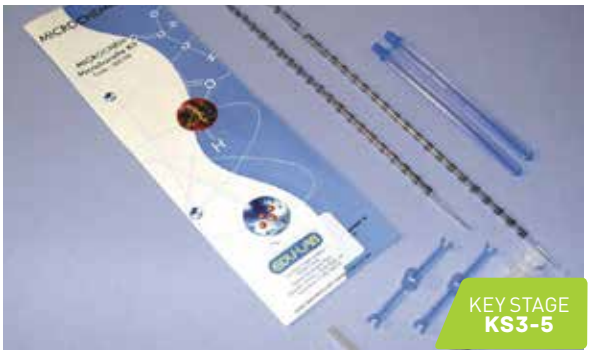
CODE	PRICE
310-027	£10.98

MICROBURNER (PK 20)

CODE	PRICE
310-026	£27.44

MICROBURETTE KIT, MICROSCIENCE - EDULAB

To be used in conjunction with the comboplate, the Microburette is highly recommended by leading education institutions and has a place in over 10,000 schools worldwide. Durable and easy to maintain, the Microburette can used for accurate and efficient titrations by secondary school students. Regularly achieving reproducibility coefficients of 0.98 and providing accuracy up to 2 decimal places, results compare very well with traditional Class B glassware.



KEY STAGE **KS3-5**

CODE	PRICE
310-012	£12.13

COMBOSTILL, MICROSCIENCE - EDULAB

The Edulab Combostill® Winner of the WorldDidac Award 2000 comes highly recommended by leading educators and is widely used in school labs around the world, while also having applications in research.

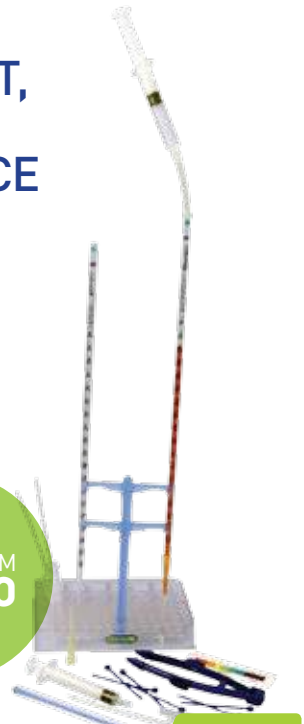
PRICE FROM **£71.34**

KEY STAGE **KS4-5**

CODE	PRICE
310-009	£71.34

TITRATION KIT, STUDENT, MICROSCIENCE - EDULAB

The MicroTitration kit is designed for accurate and efficient titrations in secondary school experiments.



PRICE FROM **£18.60**

KEY STAGE **KS3-5**

CODE	PRICE
310-011	£18.60

COMBOPLATE (PK20), MICROSCIENCE - EDULAB

60-well microplate used in general microtitration, special procedures and hundreds of chemistry, biology and physics education experiments. This high grade plate is designed to the dimensions of standard 96-well and 48-well plates. The plate is divided into 2 sections: 48 small wells (volume 0.3ml) and 12 large wells (volume approx 2.5ml). Each well is identified by a grid reference system. The small wells can be likened to 'micro test tubes' and the large wells to 'micro beakers'.

PRICE FROM **£76.83**

KEY STAGE **KS4-5**

CODE	PRICE
310-018	£76.83

MICROSCIENCE WORK STATION, BIOLOGY, PHYSICS AND CHEMISTRY - EDULAB

This is a Microscience Kit which encompasses a large proportion of the Year 10 (Key Stages 3 & 4) Practical Curriculum.

It is designed for individual use or for use in small groups. Curriculum based worksheets and guides are available. The system is recognized by curriculum and examination authorities. The Microscience Workstation covers Biology, Chemistry & Physics.

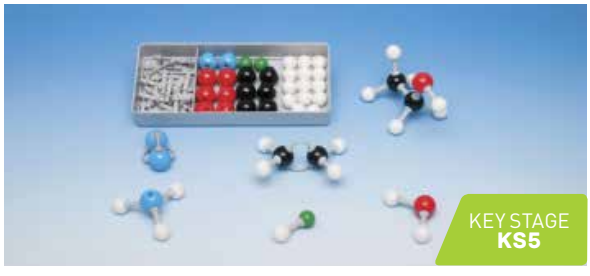
Worksheets and guides available to complement this workstation cover many experiments, for example see experiments tab.

KEY STAGE **KS3-5**

CODE	PRICE
EDU131	£151.33

MOLECULAR MODEL SET - ELEMENTARY ORGANIC, 30 ATOM

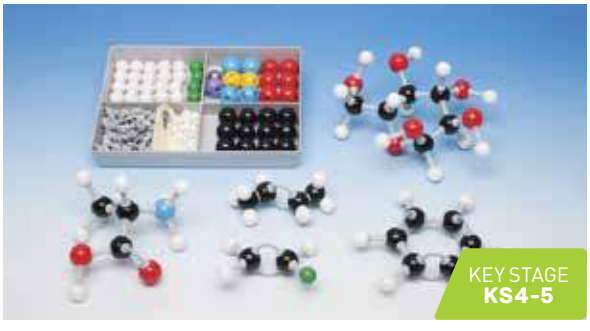
Excellent quality models produced from precision engineered moulds and materials. Each kit comes in a durable storage case with compartments for segregation of parts. The range of models included in the Edu-Lab range is designed to enhance teaching of the UK and US curricula. These 'original' models have been used by thousands of students worldwide and are renowned for their ease of use. The joining pieces are carefully designed to ensure models are firmly constructed so they can be passed around during the lesson without fear of falling apar



CODE	PRICE
330-038	£11.52

MOLECULAR MODEL SET - ORGANIC STUDENT

Excellent quality models produced from precision engineered moulds and materials. Each kit comes in a durable storage case with compartments for segregation of parts. The range of models included in the Edu-Lab range is designed to enhance teaching of the UK and US curricula. These 'original' models have been used by thousands of students worldwide and are renowned for their ease of use. The joining pieces are carefully designed to ensure models are firmly constructed so they can be passed around during the lesson without fear of falling apart.



CODE	PRICE
330-035	£18.60

MOLECULAR MODEL SET - INORGANIC/ORGANIC STUDENT

Excellent quality models produced from precision engineered moulds and materials. Each kit comes in a durable storage case with compartments for segregation of parts. The range of models included in the Edu-Lab range is designed to enhance teaching of the UK and US curricula. These 'original' models have been used by thousands of students worldwide and are renowned for their ease of use. The joining pieces are carefully designed to ensure models are firmly constructed so they can be passed around during the lesson without fear of falling apart.

CODE	PRICE
330-036	£19.21

MOLECULAR AND ORBITAL MODEL SET - ORGANIC STRUCTURES

Molecular models help the teacher convey a concrete representation of the molecular world. The brilliance of the Molymod range is its ease of use and accurate representation in an easily understood way. They can be used by students at all levels, to represent simple substances right through to more complex structures like Buckminsterfullerene and ionic lattices.

CODE	PRICE
330-043	£36.68

MOLECULAR MODEL SET - INTRODUCTORY

Excellent quality models produced from precision engineered moulds and materials. Each kit comes in a durable storage case with compartments for segregation of parts. The range of models included in the Edu-Lab range is designed to enhance teaching of the UK and US curricula. These 'original' models have been used by thousands of students worldwide and are renowned for their ease of use. The joining pieces are carefully designed to ensure models are firmly constructed so they can be passed around during the lesson without fear of falling apart.

CODE	PRICE
330-029	£19.35

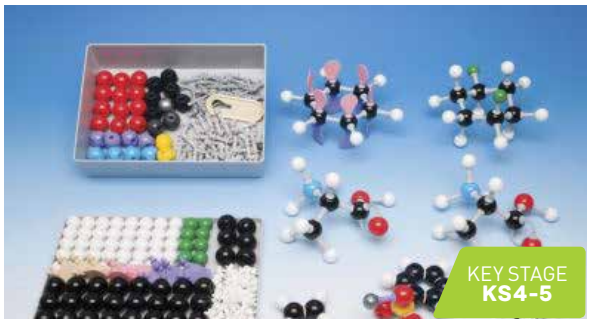
ATOMOD™ MOLECULAR MODE SET - INORGANIC, STUDENT, 6 PACK

Molecular models help the teacher convey a concrete representation of the molecular world. The brilliance of the Molymod range is its ease of use and accurate representation in an easily understood way. They can be used by students at all levels, to represent simple substances right through to more complex structures like Buckminsterfullerene and ionic lattices.

CODE	PRICE
330-028	£41.58

MOLECULAR MODEL SET - ORGANIC, TEACHER

Excellent quality models produced from precision engineered moulds and materials. Each kit comes in a durable storage case with compartments for segregation of parts. The range of models included in the Edu-Lab range is designed to enhance teaching of the UK and US curricula. These 'original' models have been used by thousands of students worldwide and are renowned for their ease of use. The joining pieces are carefully designed to ensure models are firmly constructed so they can be passed around during the lesson without fear of falling apart.



CODE	PRICE
330-031	£38.41

MOLECULAR MODEL SET - SEMI-SPACE FILLING

Excellent quality models produced from precision engineered moulds and materials. Each kit comes in a durable storage case with compartments for segregation of parts. The range of models included in the Edu-Lab offering is designed to enhance teaching of the UK and US curricula. These 'original' models have been used by thousands of students worldwide and are renowned for their ease of use. The joining pieces are carefully designed to ensure models are firmly constructed so they can be passed around during the lesson without fear of falling apart.

CODE	PRICE
330-033	£38.41

MOLECULAR MODEL SET - INORGANIC/ORGANIC TEACHER

Excellent quality models produced from precision engineered moulds and materials. Each kit comes in a durable storage case with compartments for segregation of parts. The range of models included in the Edu-Lab range is designed to enhance teaching of the UK and US curricula. These 'original' models have been used by thousands of students worldwide and are renowned for their ease of use. The joining pieces are carefully designed to ensure models are firmly constructed so they can be passed around during the lesson without fear of falling apart.

CODE	PRICE
330-032	£38.41

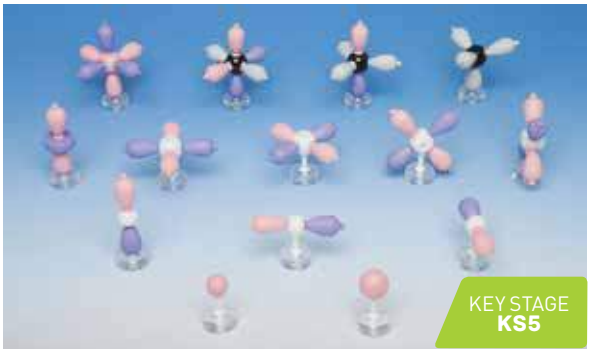
MOLECULAR MODEL SET - KEY STAGE 3 SCIENCE COLLECTION

Excellent quality models produced from precision engineered moulds and materials. Each kit comes in a durable storage case with compartments for segregation of parts. The range of models included in the Edu-Lab range is designed to enhance teaching of the UK and US curricula. These 'original' models have been used by thousands of students worldwide and are renowned for their ease of use. The joining pieces are carefully designed to ensure models are firmly constructed so they can be passed around during the lesson without fear of falling apart.

CODE	PRICE
330-037	£19.35

MOLYORBITAL™ ATOMIC ORBITAL MODEL SET - 14 MODEL

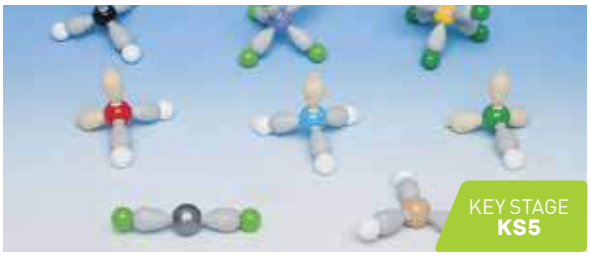
Molecular models help the teacher convey a concrete representation of the molecular world. The brilliance of the Molymod range is its ease of use and accurate representation in an easily understood way. They can be used by students at all levels, to represent simple substances right through to more complex structures like Buckminsterfullerene and ionic lattices.



CODE	PRICE
330-044	£30.68

MOLYORBITAL™ ATOMIC ORBITAL MODEL SET - ELECTRON REPULSION THEORY, 8 MODEL COLLECTION

Molecular models help the teacher convey a concrete representation of the molecular world. The brilliance of the Molymod range is its ease of use and accurate representation in an easily understood way. They can be used by students at all levels, to represent simple substances right through to more complex structures like Buckminsterfullerene and ionic lattices.



CODE	PRICE
330-045	£19.70

ATOMOD™ MOLECULAR MODEL SET - INORGANIC, STUDENT

CODE	PRICE
330-027	£7.51

ATOMOD™ MOLECULAR MODEL SET - ORGANIC, 6 PACKS

CODE	PRICE
330-026	£7.51
330-025	£41.58

MOLECULAR MODEL, DIAMOND

CODE	PRICE
330-005	£13.72

MOLECULAR MODEL, BUCKMINSTERFULLERENE

CODE	PRICE
330-007	£21.95

MOLECULAR MODEL, POLYSTYRENE

CODE	PRICE
330-009	£12.65

MOLECULAR MODEL SET - BENZENE C6H6

CODE		PRICE
330-041	Hybridised	£18.48
330-042	Unhybridised	£13.75

MOLECULAR MODEL, POLYPROPYLENE

CODE	PRICE
330-008	£10.98

MOLECULAR MODEL KIT, TERYLENE (POLYESTER)

CODE	PRICE
330-021	£12.65

MOLECULAR MODEL KIT, PVC - POLYVINYL CHLORIDE

CODE	PRICE
330-020	£8.66

MOLECULAR MODEL NYLON 6.6

CODE	PRICE
330-022	£17.91

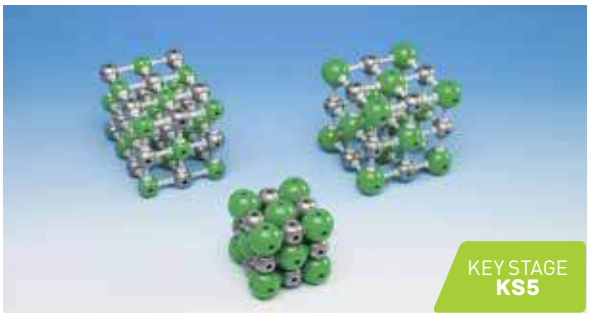
MOLECULAR MODEL KIT - DETERGENT

CODE	PRICE
330-024	£13.58

MOLECULAR MODEL KIT, SOAP

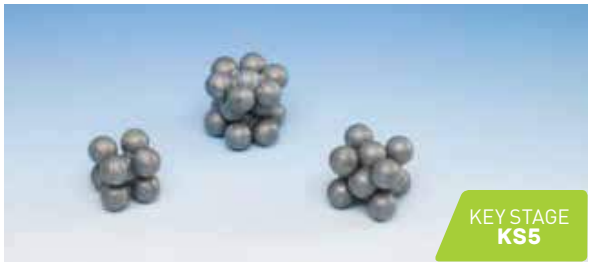
CODE	PRICE
330-023	£13.81

MOLECULAR MODEL KIT, SODIUM CHLORIDE (NACL)



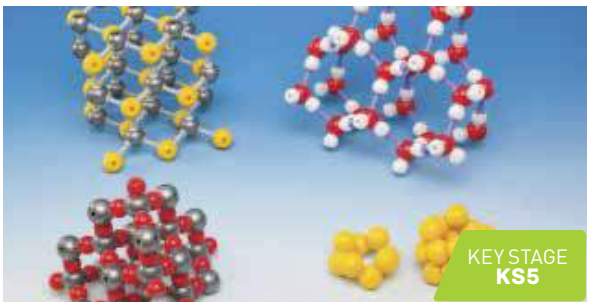
CODE	PRICE
330-011	£19.06

MOLECULAR MODELS, PRE-ASSEMBLED, IRON, ZINC, AND COPPER



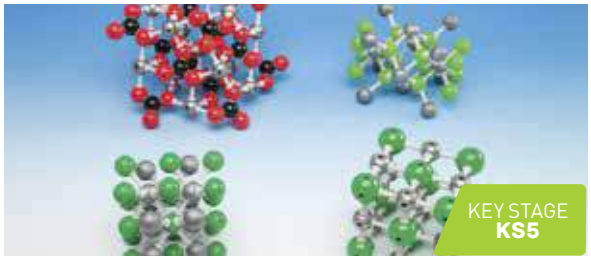
CODE	PRICE
330-046	£22.53

MOLECULAR MODEL KIT, ZINC BLENDE



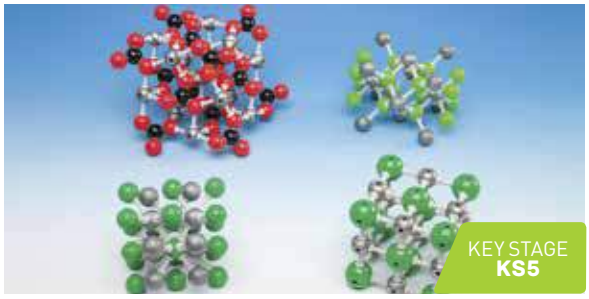
CODE	PRICE
330-012	£19.35

MOLECULAR MODEL, PRE-ASSEMBLED, CAESIUM CHLORIDE



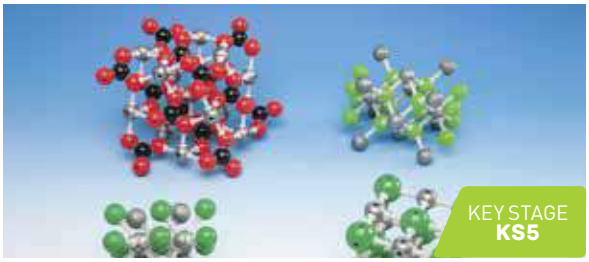
CODE	PRICE
330-016	£20.11

MOLECULAR MODEL, PRE-ASSEMBLED, CALCITE



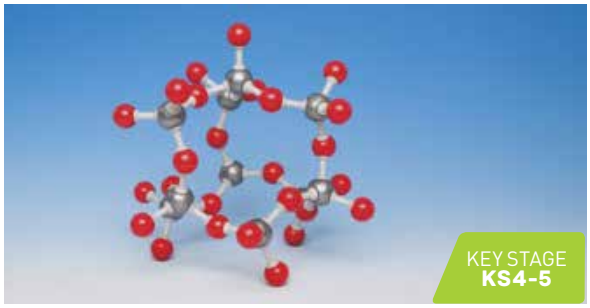
CODE	PRICE
330-013	£33.44

MOLECULAR MODEL, PRE-ASSEMBLED, CALCIUM FLUORIDE (FLUORITE)



CODE	PRICE
330-015	£20.11

MOLECULAR MODEL, PRE-ASSEMBLED, QUARTZ



CODE	PRICE
330-017	£21.37

MOLECULAR MODEL SET - COMPLEX IONS

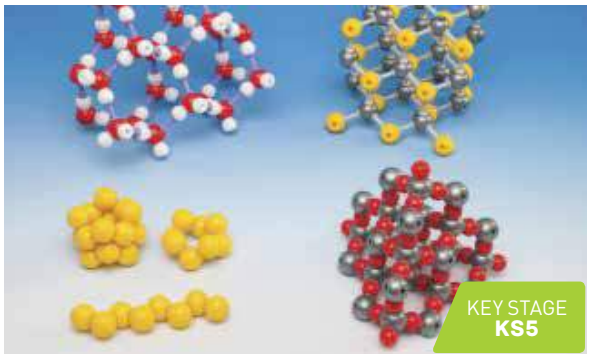
CODE	PRICE
330-034	£42.68

MOLECULAR MODEL, SILICON DIOXIDE "DIAMOND-LIKE STRUCTURE"

CODE	PRICE
330-018	£21.90

MOLECULAR MODEL KIT, SULFUR (THREE MOLECULES S8)

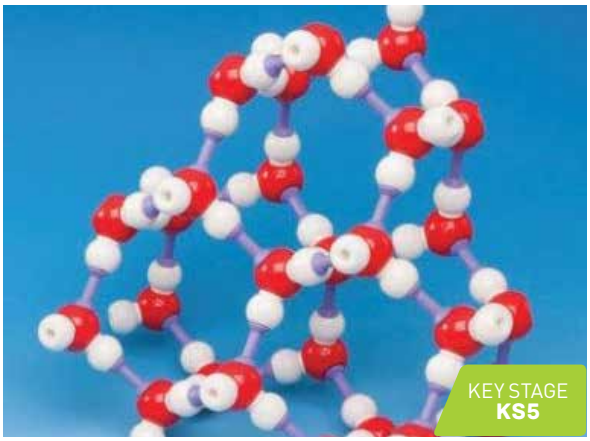
Molecular models help the teacher convey a concrete representation of the molecular world. The brilliance of the Molymod range is its ease of use and accurate representation in an easily understood way. They can be used by students at all levels, to represent simple substances right through to more complex structures like Buckminsterfullerene and ionic lattices.



CODE	PRICE
330-019	£10.39

MOLECULAR MODEL, ICE

Molecular models help the teacher convey a concrete representation of the molecular world. The brilliance of the Molymod range is its ease of use and accurate representation in an easily understood way. They can be used by students at all levels, to represent simple substances right through to more complex structures like Buckminsterfullerene and ionic lattices.



CODE	PRICE
330-010	£20.80

ATOM ACTIVITY MODEL

An easy to understand model of atomic structure, this is a graphic model of all the key components of the atom including the nucleus; the particles that constitute the atom including protons, neutrons and electrons; and the electron layers. Facilitates clear comprehension of the atom's structure and such important concepts as atomic numbers, ionic and covalent bonding, electroneutrality, the filling of electron layers and the definition and calculation of ionic load. This durable plastic model is transparent for convenient use with an overhead projector.

CODE	PRICE
53-30-1070	£36.22

POSTER: THE ULTIMATE PERIODIC TABLE

A super sized look at the elements! Oversized, colour coded laminated chart provides an informative look at the periodic table. Each element is featured with standard information, such as atomic symbol and weight. However, also included is detailed information on the discovery of the element as well as its characteristics, availability, uses and role in life processes. The chart also includes fascinating information on the composition by element of the human body, the planets in our solar system, a fish, a tree - even a cheeseburger!

CODE	PRICE
53-35-1056	£35.38

187

FORENSICS RANGE

IN SCIENCE TOGETHER

FINGERPRINTING, A FORENSIC LAB INVESTIGATION - EDULAB

- Contains materials for up to 40 students

Apply the scientific method using actual crime-solving techniques. Using fingerprints lifted from a fictional crime scene, your students become forensic scientists and learn the proper techniques to make, observe, analyse and classify fingerprints according to the FBI's actual classification system.

Includes everything needed to solve the mystery, including revolutionary 'Ink-less' fingerprint cards which can easily and cleanly!

Create fingerprints for analysis without the use of ink pads.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

YOUR STUDENTS WILL:
Understand what makes a fingerprint
Take a 'direct' fingerprint
Identify and classify fingerprint types using patterns on skin
'Lift' and identify latent fingerprints

CODE	PRICE
13-20-1263	£114.40

POSTER: FINGERPRINT IDENTIFICATION (LAMINATED)

- Dimensions: 548 x 870mm

A detailed overview of the standard patterns of fingerprints as well as how ridgeline details are used to determine an identical match.

Informative text describes the science of fingerprinting as well as how fingerprints are made, lifted and matched.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

CODE	PRICE
14-35-1101	£35.38

FORENSIC CHEMISTRY: DUSTING FOR FINGERPRINTS

- Contains materials for up to 15 groups.

To identify different types of fingerprints and distinguishing characteristics, as well as dusting for fingerprints, the most commonly used method of fingerprint detection. Includes a Teachers Manual, Student Guide and Analysis copy-masters.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Identify different fingerprint types
Distinguish characteristics of fingerprints
Learn the common practice of dusting for prints
Have access to analysis reports

CODE	PRICE
271-001	£21.04

CRIME SCENE INVESTIGATION - EDULAB

- Contains materials for up to 40 students.

A fascinating exploration of the science of criminal investigations.

Examine the physical evidence of a crime scene and gather evidence. Perform various tests to analyse the evidence gathered. Identify the crime's victim through dental records and fingerprints. Perform tests to determine the cause of death. Analyse evidence to determine a suspect.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
How to examine physical evidence
How to correctly gather evidence at a crime scene
Perform various tests to determine cause of death
Analyse evidence and determine a suspect

CODE	PRICE
14-20-3863	£113.00

CRIME SCENE INVESTIGATION - FORENSIC CHEMISTRY OF WHODUNIT

- Contains materials for up to 6 groups.

Use your forensic techniques to solve the crime of the missing frogs. Four possible suspects have been identified. Use fingerprints, hair examination, and chemical analysis of ink by Thin-Layer Chromatography to help determine the most likely culprit. This activity includes a Teacher's Manual, Student Guide and Analysis copy-masters.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Use forensic techniques to solve crime
Use fingerprint, hair and chemical analysis
Identify results to find a positive match to catch the perpetrator
Have access to analysis reports

CODE	PRICE
IS9011	£122.74

MYSTERY OF THE BLOODY STAIN LAB INVESTIGATION - EDULAB

- Contains materials for up to 40 students.

Your students will become forensic scientists as they try to solve a murder using a 'bloody stain' left at the scene of the crime using simulated Neo/BLOOD®. First, they'll identify whether or not the stain is actual blood by searching for simulated blood cells under the microscope.

Then they'll solve the crime by performing ABO and Rh typing of the stain as well as of samples from the victim and several suspects. The match will help them 'nab' the perpetrator! As a result, the students will learn about blood groups, blood typing and how blood stains can be used in solving crimes.

ABOUT NEO/BLOOD® SIMULATED BLOOD TYPING LAB:
Investigations: Conduct realistic blood typing activities without exposure to the hazards of real blood! Neo/BLOOD® looks and behaves like real blood, provides quick, easy and completely safe results and realistically simulates agglutination. Contains simulated, microscopic blood cells which can be viewed and counted under a microscope or used with a haemacytometer.
Contains materials for up to 40 students.

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Understand how to use forensic science to solve murders
Learn how to use the NEO/BLOOD® kit
Solving the crime by performing ABO & Rh typing of the stain
Identify results to find a positive match to catch the perpetrator

CODE		PRICE
13-20-2143		£67.60
13-20-2145	Mystery Of The Bloody Stain - Refill	£46.80

CRIME SCENE TAPE

- Comes in lentghs of 30M.

Bright yellow Crime Scene Tape for use in forensics crime scene lessons.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

CODE	PRICE
60-5164	£15.52

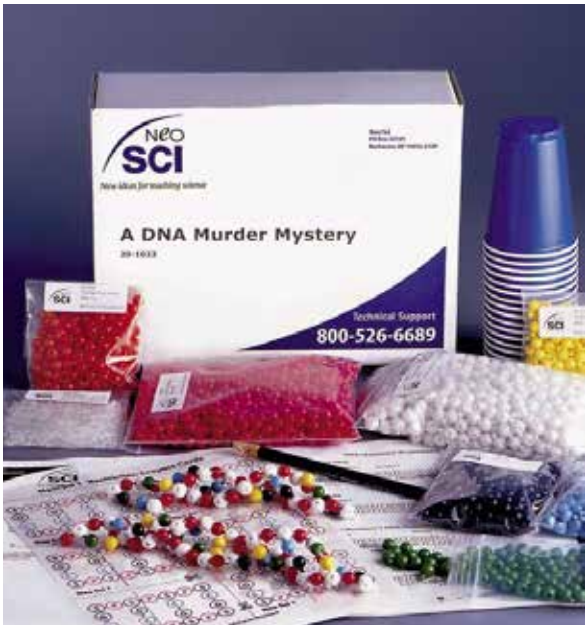
A fun way to learn about a topical, revolutionary technology. Teach your class about the latest innovations in DNA technology and their application to forensic science.

Given the completely reusable kit, the class is challenged to solve a murder by simulating each step of the DNA fingerprinting protocol and matching the 'pop bead' DNA fingerprints of suspects versus samples collected at the scene of the crime.

Your students will learn the basics of DNA fingerprinting and become familiar with DNA structure and extraction, gel electrophoresis and autoradiography. Contains materials for up to 40 students.

DNA MURDER MYSTERY LAB INVESTIGATION

- Contains materials for up to 40 students.



SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Simulate the DNA fingerprinting procedure
Construct and interpret an autoradiogram
Compare and evaluate DNA fingerprint patterns
Compare the strengths/limitations of DNA profiling

CODE	PRICE
13-20-1023	£188.33

DNA FORENSICS LAB INVESTIGATION

- Contains materials for up to 40 students.

Explore the use of DNA technology in crime solving!

Your students will become forensic scientists as they apply the latest innovations in DNA technology to a scenario-based DNA murder mystery. They'll compare the electrophoretic results of DNA samples from a 'crime scene' with those from various suspects.

Using a simplified DNA fingerprinting procedure, they'll then solve the crime based upon the fragment patterns revealed on the gel. In the process they'll learn the basic concepts of DNA fingerprinting as well as insight into why this revolutionary process is so accurate.

They'll also get a 'hands-on' education on DNA structure and extraction, gel electrophoresis and autoradiography. This activity brings the 'real-world' applications of biotechnology to life and will simulate discussion on the ethical considerations associated with the use of cutting-edge technology.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Use forensic techniques to solve crime
Using fingerprint, hair and chemical analysis
Identify results to find a positive match to catch the perpetrator
Have access to Analysis reports

CODE	PRICE
13-20-3383	£142.68

FORENSIC CHEMISTRY OF BLOOD TYPES

- Contains materials for up to 15 groups.

Blood typing is a method of classifying blood based on the presence or absence of specific proteins, called erythrocytes, on the surface of red blood cells.

Blood type, an inherited characteristic, is valuable to know in that it affects medical procedures, such as surgery and transfusions or paternity testing, as well as serving as evidence in criminal investigations. Determining blood type can help provide supporting evidence or eliminate a possible suspect's involvement in a crime.

This activity includes a Teacher's Manual and Student Guide and Analysis copy-masters. **Note:** This activity uses Innovating Science Simulated Blood and is safe for classroom use.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Learn the inherited characteristics of blood
Learn how to determine blood types
How to classify blood
Understand the value of identifying blood types

CODE	PRICE
IS9008	£64.75

FORENSIC CHEMISTRY OF DRUG DETECTION

- Contains materials for up to 15 groups.

Everyone who ate the school cafeteria's chilli became ill. Could someone have tainted it? You are a forensic toxicologist. It is your task to determine if any of the cafeteria ingredients could have been substituted with aspirin, which appears to have been stolen from the nurse's office. You will perform a series of chemical tests, including tests on control aspirin in the lab. This activity includes a Teacher's manual, Student's guide and Analysis copy-masters.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Be involved in a mystery drug detection investigation
Learn how to analyse test results
Perform a series of chemical tests on controlled asprin
Have access to analysis reports

CODE	PRICE
IS9010	£51.31

GUNSHOT RESIDUE PRESUMPTIVE TEST KIT

- Contains materials for up to 30 tests.

This is a two-part test to determine whether a surface has been exposed to a discharged firearm.

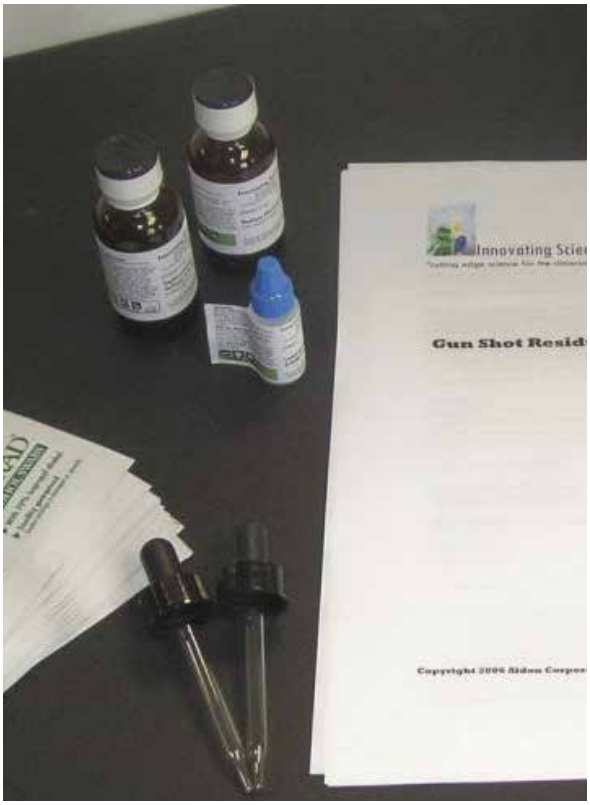
A rapid colour change takes place to verify the presence of nitrates and lead. Each kit contains instructions and enough materials for 30 tests.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Learn the process of testing for firearm discharge
Learn how to use chemicals to produce an accurate test
Examining all possible methods of gathering evidence
Have access to analysis reports

CODE	PRICE
271-004	£41.98



FORENSIC ANTHROPOLOGY TALKING BONES LAB INVEST KIT

- Contains materials for up to 40 Students.

Your students will work as forensic anthropologists within a lab to help solve a 'cold' case! The class explore the exciting world of anthropology. They will perform hands-on analysis of a bone recovered from the crime scene to determine the age, gender, and race of the victim. Further toxicology, microscopy, and soil analysis will lead to the elimination of suspects and the identity of the victim.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Be involved in a mystery forensic cold case
Learn how to perform a hands on analysis
How to determine age, gender and race of victim
Have access to analysis reports

CODE	PRICE
16-20-4553	£222.57

FORENSIC CHEMISTRY - CHEMICAL DETECTION OF FINGERPRINTS

- Contains materials for up to 15 groups.

FORENSIC CHEMISTRY:
Utilise alternative methods for detecting fingerprints. Examine some possible methods of gathering evidence when dusting for fingerprints is not effective.

Learn to identify fingerprint types, a method of fuming for fingerprints, and a technique of chemically-developing fingerprints.

The three activities include fingerprint analysis, ninhydrin development, and cyanoacrylate fuming. This activity includes a Teachers Manual, Student Guide and Analysis copy-masters.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Learn the process of testing for firearm discharge
Learn how to use chemicals to produce an accurate test
Examining all possible methods of gathering evidence
Have access to analysis reports

CODE	PRICE
271-006	£49.10

PRESUMPTIVE BLOOD TEST KIT

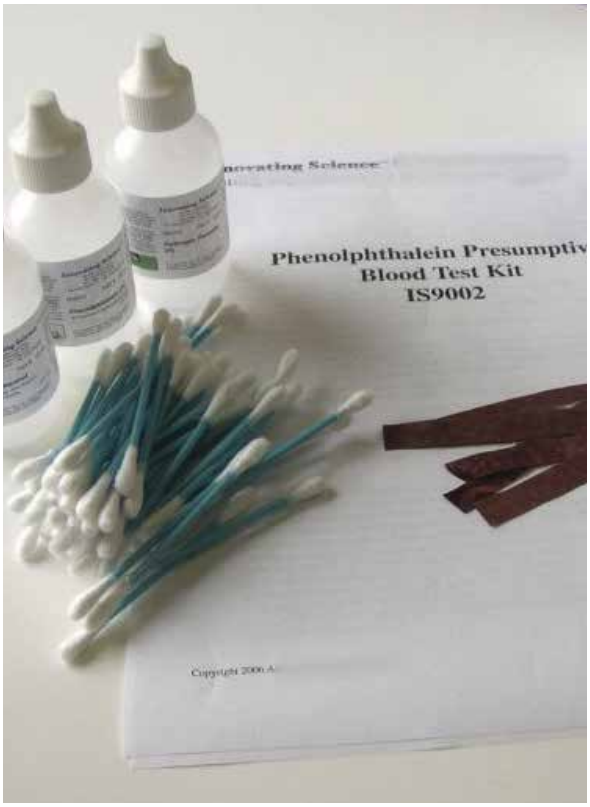
- Contains materials for up to 30 tests.

Test for the presence of blood on materials using phenolphthalein. The test will not distinguish between animal and human blood. Further serology tests are needed.

Includes instructions, blood standard and reagents to complete 30 tests.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**



YOUR STUDENTS WILL:
Test for the presence of blood on materials using phenolphthalien
Learn how to analyse test results
Understanding if further serology tests are needed
Have access to analysis reports

CODE	PRICE
IS9002	£27.99

CHEMILUMINESCENCE IN BLOOD STAIN DETECTION

- Contains materials for several demonstrations.

Crime scene investigators examine the scene of a possible violent crime for evidence, such as fingerprints, hair, fibres, etc. After collecting the evidence, they notice there is no visible blood.

Someone sprays the area with a liquid then turns out the lights. A strange, faint glow appears in certain areas of the scene. Learn how Luminol is used in scenes like this everyday.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

The special Luminol formulation does not require a separate hydrogen peroxide catalyst. Simply re-hydrate and use with the simulated blood haemoglobin to show your class.

This activity includes an Instruction Manual with suggested activities. There is enough material for several demonstrations.

YOUR STUDENTS WILL:
Learn the process of testing for blood stains
How to use chemicals to produce an accurate test
Examining all possible methods of gathering evidence
Have access to analysis reports

CODE	PRICE
IS9009	£39.18

FORENSIC CHEMISTRY OF CHROMATOGRAPHY

- Contains materials for up to 15 groups.

The school library's computers have been stolen. Left behind was a ransom note demanding money. Help solve the crime using Thin-Layer Chromatography to separate the ink on the ransom note and ink found in markers tied to possible suspects. It may be possible to provide evidence as to whether or not the ransom note could have been written with a particular marker. This activity includes a Teacher's Manual and Student Guide and Analysis copy-masters.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Be involved in a mystery forensic cold case
Learn how to perform a hands on analysis
Learn how to determine age, gender and race of victim
Have access to analysis reports

CODE	PRICE
IS9003	£123.14

PHYSICAL PROPERTIES OF GLASS

- Contains materials for up to 15 groups.

Often, during a criminal investigation, police and crime scene investigators must use all available tools and pieces of evidence to work backwards and create the most likely scenario as to what might have occurred. Different types of evidence provide different pieces to the puzzle. Learn about the different chemical and physical characteristics and properties of glass. Find how forensic scientists use these differences to help provide evidence to solve crimes.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Learn how to identify fingerprint types
Learn the use of evidence in investigation
Examine all possible methods of gathering evidence
Have access to analysis reports

CODE	PRICE
IS9005	£127.65

DNA FINGERPRINTING SIMULATION

- Contains materials for up to 40 students.

A hands-on, inquiry-based simulation of DNA typing! Study the process of DNA fingerprinting, simulating every step without the need for either equipment or even prior knowledge!

Using pop beads and other reusable manipulatives, your students will assemble DNA strands and use them in various inquiry-based scenarios to learn about DNA finger-printing and its application to forensics.

They'll also discover how this technique can be used in disease identification and in determining familial relationships. In the process, the class will gain a clear understanding of not only DNA fingerprinting but also basic DNA structure and related genetic concepts.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

YOUR STUDENTS WILL:
Simulate the DNA fingerprinting procedure
Compare and evaluate DNA fingerprint patterns
Study the applications of the DNA fingerprinting process
Gain an understanding of DNA structure

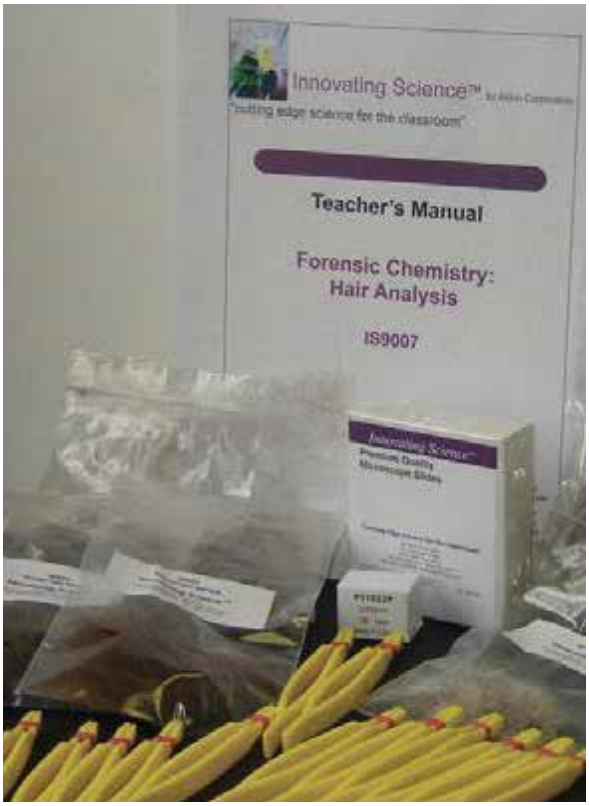
CODE	PRICE
16-20-3873	£199.45

FORENSIC CHEMISTRY HAIR ANALYSIS

- Contains materials for up to 15 groups.

Discover how forensic scientists use hair in solving crimes. Uncover the differences between animal hair and the various types of human hair.

Determine the origin of a hair sample from a crime scene in relation to hair samples from four known suspects. This activity includes a Teacher's Manual, Student Guide and Analysis copy-masters.



SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

CODE	PRICE
271-003	£79.29

PRODUCT SPOTLIGHT

Xacto™ PIPETTE BY ISG

The new Xacto™ Pipettor from ISG® is the next step in pipetting revolution. Its high quality, robust European construction with a metal shaft and tip assures long lasting accuracy and limited maintenance.

This fully autoclavable pipettor features a double 'O' ring shaft for universal tip compatibility and a superb air tight seal. The Xacto™ pipette has a detachable volume mechanism for easy visibility for both right and left handlers.

The detachable volume control also allows the use of unique fixed volume knobs that can be fitted within the pipette's range rather than having to purchase a new pipettor. This allows for minimal downtime, cost effective replacement and easy recalibration.

KNOW YOUR COLOUR?
FOR HELP OR FURTHER INFO CALL TODAY

Our research shows that 76% of labs use pipettes at 2 or 3 separate volumes on a day to day basis. We've developed our adaptable volume controllers to allow the switch between these volumes faster, more efficient and more cost effective.

KEY FEATURES OF THE RANGE:

199

PHYSICS RANGE

IN SCIENCE TOGETHER

GEIGER MULLER TUBE HOLDER

Geiger-Muller Tube Holder, for use with Edulab Scaler Timer (code: 281-006). An aluminium box 58 x 33mm (diameter x depth) which houses the G.M. tube socket. Connection is through a 1m long co-axial connecting lead, terminated in a standard P.E.T. connector.

A 2.2MΩ stabilizing resistor is internally wired in series with the anode connection. G.M. tubes available on request.

KEY STAGE KS3-5

CODE	PRICE
281-013	£159.14

SEALED RADIOACTIVE SOURCES

The active material is enclosed in metal foil fixed in a cylindrical mount provided with a stem of 4mm diameter. The foil is further protected from accidental damage by a wire gauze cap over the open window' of the mount. The nature and strength of each source is clearly engraved on its mount and it is also colour coded for identification. Each is supplied in a small lead castle' in a suitably labelled MDF storage box 100 x 75 x 65mm high. A data sheet is enclosed with each.

5μCi (185 kBq) of Strontium90 in equilibrium with its daughter nuclide Yttrium90, incorporated in a silver disc allowing the major proportion of the Beta radiation to escape.

KEY STAGE KS3-5

TECHNICAL SPECIFICATIONS	
Emissions:	Ð
Half-life:	28 years (strontium), 64 hours (yttrium)
Colour Code:	Yellow

CODE		PRICE
261-025	Strontium	£653.01
261-026	Cobalt	£653.01
261-027	Americium	£653.01

GEIGER MULLER TUBE - EDULAB

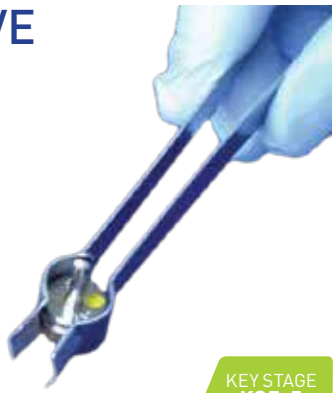
This is a halogen quenched metal tube with a thin end window, for detecting alpha, beta and gamma radiation and recommended as a general purpose tube for use with general school radioactive sources.
A plastic cap is fitted over the vents for protection.

KEY STAGE KS3-5

CODE	PRICE
261-007	£273.28

RADIOACTIVE SOURCE HANDLING TONGS

Specifically designed for handling radioactive sources, these tongs have shaped ends for gripping the source by the peg or the body. Length 165mm.



KEY STAGE KS3-5

CODE	PRICE
261-028	£8.42

PROTACTINIUM GENERATOR

Protactinium 234 has a half-life of about 70 seconds, and is ideal for the observation of radioactive decay. The isotope is a product of the Uranium 238 decay series. Supplied in a sealed container with leak-proof closure.

PRICE FROM **£252.23**

KEY STAGE **KS3-5**

CODE	PRICE
261-029	£252.23

PLANCK'S CONSTANT APPARATUS

The planck's constant apparatus functions as a ready-built circuit for the measurement of the photoelectric effect. Ideally used in conjunction with the Edu-Lab Picoammeter. Inside the unit are a caesium antimony cathode, a D/C power supply with a potentiometer to provide a variable retarding voltage to the photoelectric circuit and a digital display showing the retarding voltage. 6 Different coloured lenses are provided to vary the value of 'f'. A 4mm to UHF lead is included for connecting the picoammeter to the apparatus.

KEY STAGE **KS3-5**

CODE	PRICE
261-008	£576.19

PLANCKS CONSTANT DETERMINATION BOX

This apparatus is designed to determine the approximate value of Planck's Constant using the elbow voltage in the characteristics curves of a number of LEDs. There are seven LEDs covering from deep blue at 470 nm to near IR 940 nm mounted on the box with sockets for voltage and current measurements. By monitoring the voltage at which each LED begins to emit light a graph of energy input as a function of light emitted frequency can be plotted and an approximate value of Planck's Constant can be deduced. External 9V power source or 9V battery and connecting leads required.

PRICE FROM **£84.51**

KEY STAGE **KS3-5**

CODE	PRICE
261-030	£84.51

TELTRON TUBE HOLDER D

The Teltron range of demonstration discharge tubes has been designed to show the properties of the free electron. The D range is the original Teltron range with connections fixed on the tubes. The S range is a newer range with connections on the stand rather than the tubes. Please note the ranges are not interchangeable.

KEY STAGE **KS3-5**

CODE	PRICE
261-009	£262.30

TELTRON PERRIN TUBE D

The Teltron range of demonstration discharge tubes has been designed to show the properties of the free electron. The D range is the original Teltron range with connections fixed on the tubes. The S range is a newer range with connections on the stand rather than the tubes.

Please note the ranges are not interchangeable.

KEY STAGE **KS3-5**

CODE	PRICE
261-016	£475.48

TELTRON MALTESE CROSS TUBE D

The D range is the original Teltron range with connections fixed on the tubes. The S range is a newer range with connections on the stand rather than the tubes. Please note the ranges are not interchangeable.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Max. Filament Voltage:	6.3 V AC
Max. Anode Voltage:	5 kV
Anode Current:	Approx. 0.1 mA at 4 kV

CODE	PRICE
261-011	£421.71

TELTRON HELMHOLTZ PAIR OF COILS D

The Teltron range of demonstration discharge tubes has been designed to show the properties of the free electron. The D range is the original Teltron range with connections fixed on the tubes. The S range is a newer range with connections on the stand rather than the tubes.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Number of turns:	320
Max. Continuous Current:	1.0 A
Max. Momentary Current:	10 min @ 1.5 A; 3 min @ 2 A
Effective Impedance:	6ohm
Max. Field Strength:	Approx. 10 mT
Connectors:	4-mm sockets

CODE	PRICE
261-010	£275.41

TELTRON ELECTRON DIFFRACTION TUBE D

The Teltron range of demonstration discharge tubes has been designed to show the properties of the free delectron.

The D range is the original Teltron range with connections fixed on the tubes. The S range is a newer range with connections on the stand rather than the tubes. Please note the ranges are not interchangeable.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Number of turns:	6.3 V AC
Max. Continuous Current:	5 kV
Max. Momentary Current:	Approx. 0.1 mA at 4 kV
Lattice Constant of Graphite:	d10 = 0.213 nm; d11 = 0.123 nm.

CODE	PRICE
261-012	£685.94

TELTRON ELECTRON DEFLECTION TUBE D

The Teltron range of demonstration discharge tubes has been designed to show the properties of the free electron. The D range is the original Teltron range with connections fixed on the tubes. The S range is a newer range with connections on the stand rather than the tubes. Please note the ranges are not interchangeable.

TECHNICAL SPECIFICATIONS	
Filament Voltage:	6.3 V AC
Max. Anode voltage:	5000 V
Anode Current	Approx. 0.1 mA at 4000 V
Max. Capacitor Voltage:	5000 V
Fluorescent Screen:	Approx. 90x60 mm²
Glass Bulb:	Approx. 130 mm dia
Total Length:	Approx. 260 mm

CODE	PRICE
261-013	£609.11

TELTRON TUBE HOLDERS S TYPE

This holder is the mounting point for the entire line of Teltron Student ('S') Series and related accessories, such as the Helmholtz Coils S and Auxiliary Coil.

An easily replaceable fuse is located in the holder to protect the valuable tubes from excessive voltage.

CODE	PRICE
261-017	£217.22

TELTRON DIODE S

High-vacuum electron tube with thermionic cathode for demonstrating the thermoelectric effect (Edison effect). Use the tube to investigate the relationship between measured emission current and the voltage applied to the cathode. Also investigate the characteristics of diodes via the process of rectification. Instructions included.

TECHNICAL SPECIFICATIONS	
Max. Heater Voltage:	7.5 V AC/DC
Max. Anode Voltage:	500 V
Anode Current:	Approx. 2 mA at 200 V (Anode)

CODE	PRICE
261-023	£258.37

TELTRON PERRIN TUBE S

Highly evacuated electron tube with focusing electron gun and fluorescent screen inclined relative to the beam axis so that the path of the beam can be seen and the effects of electric and magnetic fields can be studied.

TECHNICAL SPECIFICATIONS	
Max. Filament Voltage:	6.3 V AC
Max. Anode Voltage:	5 kV
Max. Capacitor Voltage:	500 V
Anode Current:	Approx. 0.1 mA at 4 kV (anode).

CODE	PRICE
261-024	£461.86

TELTRON ELECTRON DIFFRACTION TUBE S

The Teltron range of demonstration discharge tubes has been designed to show the properties of the free electron. The D range is the original Teltron range with connections fixed on the tubes. The S range is a newer range with connections on the stand rather than the tubes. Please note the ranges are not interchangeable.

Teltron Electron Diffraction Tube S
Highly evacuated electron tube for demonstrating the wave nature of electrons through the observation of interference caused by passage of electrons through a polycrystalline graphite lattice (Debye-Scherrer diffraction) and rendered visible on a fluorescent screen. Also intended for determining the wavelength as a function of the anode voltage from the radii of the diffraction rings and the lattice plane spacing of graphite, as well as confirming de Broglie's hypothesis. Instructions included

OTHER EQUIPMENT FOR USE WITH THE TELTRON TUBES:
605-006 EHT Power Supply
261-031 Digital Meter with two shunts included
231-080 Shrouded Test Lead Red
231-081 Shrouded Test Lead Black

PRICE FROM **£620.68**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Max. Filament Voltage:	6.3 V AC
Max. Anode Voltage:	5 kV
Anode Current:	Approx. 0.1 mA at 4 kV
Lattice Constant of Graphite:	d10 = 0.213 nm; d11 = 0.123 nm.

CODE	PRICE
261-021	£620.68

TELTRON DUAL BEAM TUBE S

The Teltron range of demonstration discharge tubes has been designed to show the properties of the free electron. The D range is the original Teltron range with connections fixed on the tubes. The S range is a newer range with connections on the stand rather than the tubes. Please note the ranges are not interchangeable.

Teltron Dual Beam Tube S
Semi-evacuated electron tube filled with low-pressure helium and containing a tangential and axial electron gun. In the case of tangential bombardment and a perpendicularly aligned magnetic field, the fundamental electron charge-to-mass ratio can be determined from the diameter of the observed beam pattern. In the case of axial bombardment and a co-axial magnetic field, kinetic gas theory (e.g. impact excitation) and particle collisions can be studied through observations of the fine, luminescent beams resulting from excitation of the helium atoms. Instructions included

OTHER EQUIPMENT FOR USE WITH THE TELTRON TUBES:
605-006 EHT Power Supply
261-031 Digital Meter with two shunts included
231-080 Shrouded Test Lead Red
231-081 Shrouded Test Lead Black

PRICE FROM **£474.44**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Max. Filament Voltage:	7.5 V
Max. Anode Voltage:	300 V DC
Anode Current:	Approx. 30 mA at 200 V (anode)
Max. Deflection Voltage:	50 V DC

CODE	PRICE
261-022	£474.44

CUBES FOR DENSITY 20MM

Hardwood, Softwood, Brass, Tin, Zinc, Copper, Aluminium, Iron, Marble, Granite, Lead, Perspex.

KEY STAGE **KS3-5**

CODE		PRICE
EDU663A	20mm (Boxed Set 12)	£25.24
EDU605	20mm Alum (Pk5)	£25.24
EDU606	20mm Brass (Pk5)	£10.37
EDU607	20mm Copper (Pk5)	£13.88
EDU609	20mm Lead (Pk5)	£13.88
EDU752	20mm Plastic (Pk5)	£6.07
EDU608	20mm Steel (Pk5)	£10.37
EDU612	20mm Stone (Pk5)	£10.39
EDU610	20mm Wood (Pk5)	£4.34
EDU611	20mm Zinc (Pk5)	£14.76

DISPLACEMENT VESSEL

KEY STAGE **KS3-5**

CODE		PRICE
PH0116	100 x 50mm	£3.29
PH0117	115 x 90mm	£14.27
PH0118	225 x 125mm	£12.07

CYLINDERS, METAL SET OF 6 IN WOOD CASE

Precision cylinders for experiments on density. Set of 6 cylinders: Brass, Lead, Iron, Copper, Aluminium and Zinc. Supplied in wooden block.

KEY STAGE **KS3-5**

CODE		PRICE
P110A	30 x10mm	£16.46
P110B	40 x10mm	£17.56

METAL CUBES

Brass, Lead, Zinc, Copper, Aluminium & Iron.

PRICE FROM **£10.92**

KEY STAGE **KS3-5**

CODE		PRICE
CBM10	10mm Side (Set 7)	£10.92
CBM20	20mm Side (Set 7)	£20.85
EDU892	20mm Side (Set 6)	£12.07

MAGNET, ELECTROMAGNET, 110X9MM DIA.WITH KEEPER

U-shaped core of circular section with armature and carrying hook. Wound with insulated copper wire and provided with barrel connections for use with 4-6 volts DC. Complete with keeper. 110 x 9mm (dia).

KEY STAGE **KS3-5**

CODE	PRICE
MBEM	£8.78

C CORES WITH CLIP (SET 2)

Double 'C' core and holding clip. A laminated, rounded-rectangle core with square cross-section, which has been cut across the middle to produce two equal C's with square, bare-metal meeting faces. A spring steel clip is provided to hold them together.

PRICE FROM **£29.58**

KEY STAGE **KS3-5**

CODE	PRICE
CCORE2	£29.58

ELECTROMAGNETIC POWER SUPPLY

Low Voltage, high current power supply for uses with Westminster electromagnetic kits, Fleming's apparatus, etc. 1-0-1V nominal a.c., allow students access to a.c. of 1V or 2V d.c ouput is furnished by rectification of 2V a.c (unsmoothed) Short-circuit current is 10A. Tolerates short circuit. Transformer is protected by thermal fuses and slow-blow fuse 40A Shottky barrier diode for robust and efficient rectification.

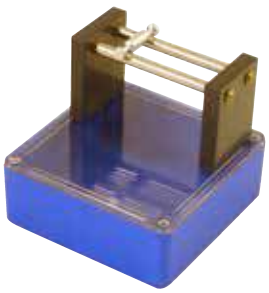
KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Input Voltage:	230V ±10% 50Hz
Outputs:	1-0-1V a.c., 2V d.c nominal
Dimensions:	208 x 155 x 115mm (W x H x D). Height including handle is 187mm.

CODE	PRICE
605-008	£108.65

FLEMING APPARATUS

Fleming's apparatus for supplies up to 6V 3A D.C.



KEY STAGE **KS3-5**

CODE	PRICE
FLM	£31.83

FORCE ON A CONDUCTOR APPARATUS

Comprising a strong U-shaped magnet and a pair of brass rails with 4mm socket terminals. A brass axle with plastic discs is free to roll along the rails and completes the electrical contact between them. When the axle is placed on the rails between the poles of the magnet, and a power supply unit is connected, the axle is repelled and rolls along the rails away from the centre of the magnetic field.

KEY STAGE KS3-5

CODE	PRICE
EDU045	£54.33

INDUCED CURRENT APPARATUS

Consists of a primary coil of insulated copper wire wound upon a cylinder with terminals, a secondary coil wound upon a cylinder into which the primary coil fits. A soft iron core fits the cylinder of the primary. Complete with terminals.

PRICE FROM **£31.83**

KEY STAGE KS3-5

CODE	PRICE
EDU095	£31.83

LENZ'S LAW - OPEN & CLOSED LOOP

Teaches Faraday's law of induction as well as Lenz' Law. Show how passing a magnet through a complete loop causes the device to move. No movement at all occurs when using the split loop.

KEY STAGE KS3-5

CODE	PRICE
221-005	£17.56

DEMONSTRATION DYNAMO MODEL

This Model uses the same basic assembly as the EDU727 Demonstration Electric Motor except it is mounted on a base plate (230 x 90mm) which also carries a hand-drive pulley of 120mm diameter. It is coupled to the smaller dynamo pulley

KEY STAGE KS3-5

CODE	PRICE
EDU728	£49.39

DEMONSTRATION MOTOR AC/DC - EDULAB

The Edulab Demonstration Motor produces AC/DC current simultaneously when the hand wheel is turned. The generation of AC/DC Voltage is represented by LED diodes.

KEY STAGE **KS3-5**

CODE	PRICE
231-032	£60.36

ELECTROMAGNET KIT

A comprehensive kit containing the essential items for basic experiments in electromagnetism. General investigation of Magnets, Eddy Current, Force Between Currents and Investigation of the Magnetic Field, are just some of the basic experiments that can be carried out with this kit.

Comprises: 8 anisotropic alloy magnets; 8 anisotropic ceramic ferrite magnets; 4 steel magnetic yokes; 6 plotting compasses; 5 hardboard formers of compasses; 1 bottle iron filings; 4 each double C Cores; clips for C Cores; aluminium rings; split aluminium rings; 4 support bases; armatures with axle rods; 8 split pins; 16 rivets; 1 length latex rubber tubing; 4 each formers of coils; reels of tape; reels of copper wire; 4 sheets of white paste board; plain postcards; reels of white cotton; 4 carbon resistors, 100Ω; flash lamp bulbs; 5 neon bulbs; 8 MES bulb holders; wood clamp; wood block.

KEY STAGE **KS3-5**

CODE	PRICE
KEM007320	£279.86

DEMONSTRATION ELECTRIC MOTOR

Simple form of DC electric motor having 2-pole armature wound with enamelled copper wire and a permanent magnetic field provided by a removable bar magnet. A disc-type commutator is incorporated and external connection to the phosphor-bronze brushes is by means of a pair of 4mm sockets. The motor operates on 6-8V DC.

KEY STAGE **KS3-5**

CODE	PRICE
EDU727	£47.74

DEMOUNTABLE TRANSFORMER KIT

Laminated low-loss core for attaching different coils to demonstrate the step up and step down transformer principle. Attractive demountable transformer with clearly labelled coils for GCSE physics and science and A-Level physics demonstrations. The principles used show how transformers are used in domestic electrical appliances and in the National Grid for power transmission. The core (code: PH0849/1) is made up of highly permeable U-shaped metal sheeting, which can be closed via two clamps with tightening screws.

KEY STAGE **KS3-5**

CODE	PRICE
231-021	£148.16

U-CORE C/W CLAMPS FOR MOUNTING ONLY

U-Core from Demountable Transformer Kit (code: 231-021231-028) is required.

KEY STAGE **KS3-5**

CODE	PRICE
PH0849/1	£108.65

TRANSFORMER ACCESSORY SET NO. 2

Lenz's law transformer accessory to demonstrate the production of large magnetic fields and Lenz's law damping on pendulums with and without slits.

KEY STAGE **KS3-5**

CODE	PRICE
231-030	£82.31

TRANSFORMER ACCESSORY SET - EDULAB

The Edulab Transformer accessory set is used to demonstrate that step down transformers can produce currents that are large enough to weld metals or boil water. Requires mains coil (code: 231-028).

KEY STAGE **KS3-5**

CODE	PRICE
231-029	£83.41

COIL TURNS

Coil for Demountable Transformer Kit (code: 231-021). Can be used to supplement the Demountable Transformer kit or can be used in conjunction with the U-Core from this kit (code: PH0849/1) and any combination of the other coils (listed below) for your particular requirements. Has two front-mounted 4mm sockets and is clearly labelled. Note: For connection to 230V mains the 1000-turn Mains Coil (code: 231-028) is required.

KEY STAGE **KS3-5**

CODE		PRICE
231-022	Coil 50 Turns	£26.89
231-023	Coil 100 Turns	£30.18
231-024	Coil 200 Turns	£26.34
231-025	Coil 500 Turns	£26.89
231-026	Coil 1000 Turns	£30.73
231-027	Coil 2000 Turns	£31.28
231-028	Coil 1000 Turns with mains connector	£27.99

INDUCTION COIL

This traditional induction coil is capable of producing a spark with an input of 6-12V DC and is therefore ideal for use with vacuum tubes, eudiometers etc. A fully adjustable vibrator system is incorporated with spark suppression capacitors in the base. A pair of pointer electrodes is supplied with the instrument, the pointer electrode having an insulating handle for spark gap adjustment. Low voltage input is via a pair of baseboard mounted 4mm sockets.

KEY STAGE **KS3-5**

CODE		PRICE
P1170C	20mm	£42.80
P1168	30mm	£64.75
PH1170B	50mm	£108.65

EDDY CURRENT UNIT

Two masses drop down a 33cm copper tube. One is steel, one is a neodymium magnet. When students see the magnetic mass falls more slowly than the steel mass, you can introduce them to electrical eddy currents.

The currents oppose downward motion through a moving magnetic field created by the falling neodymium magnet. Includes test masses.

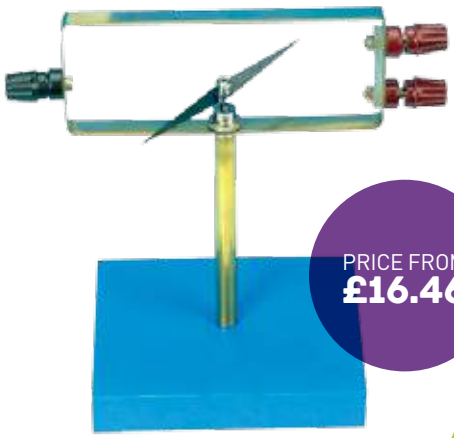
PRICE FROM **£24.15**

KEY STAGE **KS3-5**

CODE	PRICE
221-007	£24.15

OERSTED'S APPARATUS

To show the action of an electric current on a magnet. Cobalt steel needle 75mm long with agate bearing, supported by a pivot mounted on a plastic base. Needle is surrounded by a 130 x 50mm rectangular frame, in the vertical plane, fitted with two 4mm socket terminals at one end, one at the other.



PRICE FROM **£16.46**

KEY STAGE **KS3-5**

CODE	PRICE
PH0838	£16.46

VOLTAMETER, COPPER

Three copper plates supplied with insulated cover and glass jar.

KEY STAGE **KS3-5**

CODE	PRICE
PH0942	£20.58

LENS LAW

Study and checking of all properties of lenses and mirrors, on bench.

The main fundamental principles of geometrical optics are: focal distance measurement with different methods, conjugation law, magnification, autocollimation.

In addition optical aberrations and/or computer visualization can be studied.

PRICE FROM **£1,747.22**

KEY STAGE **KS3-5**

CODE	PRICE
705-001	£1747.22

ELECTROFLASH ELECTRONICS KIT

A superb resource for: investigating circuitry concepts; series and parallel bulbs; switches; resistors; incorporating meters to measure circuit values; exploring applied circuits (such as sensors, sirens, LED flashers, musical organs and more). Also invaluable for prototyping circuits. Enjoy exploring electronics with this revolutionary electronics kit.

KEY STAGE **KS3-5**

CODE	PRICE
231-016	£108.65

FUNDAMENTALS OF ELECTRONICS

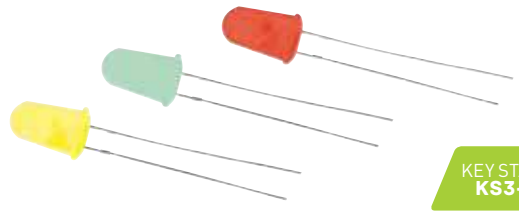
Three copper plates supplied with insulated cover and glass jar.

KEY STAGE **KS3-5**

CODE	PRICE
R-669100	£126.16

LEDS & SETS

Standard 5mm LEDs available in a range of colours.
Red, Pack of 100.



KEY STAGE KS3-5

CODE		PRICE
231-085	5mm, Bright Red PK100	£4.55
231-084	5mm, Red PK100	£4.06
231-095	LED Set - Edulab	£39.51

MINIATURE LDR

This miniature Light Dependent Resistor is housed in an epoxy package. Dark resistance of 1MO.

PRICE FROM £0.23

KEY STAGE KS3-5

CODE	PRICE
231-099	£0.23

NORPS 12 LDR

This Light Dependent Resistor is housed in a robust clear plastic case. Dark resistance of 1MO.

PRICE FROM £0.74

KEY STAGE KS3-5

CODE	PRICE
231-098	£0.74

MALVERN ELECTROSTATICS KIT

For a range of investigations and demonstrations of electrostatics.

CONTAINS:

1 x Electroscope
4 x Metallised polystyrene spheres
1 x Reel nylon
1 x Cellulose acetate Strip
1 x Polythene strip
1 x Wire stirrup
1 x Rubbing Cloth
1 x WireHook
1 x Electrophorus on Handle
1 x Proof plane
2 x Polythene tiles
2 x Aluminium cans

PRICE FROM £75.73

CODE	PRICE
PH0900	£75.73

ELECTROSTATIC INVESTIGATION

This Edulab kit contains various friction rods and fabrics for electrostatic experiments. A pith ball is suspended from the support and will clearly demonstrate attraction and repulsion.

KEY STAGE KS3-5

CODE	PRICE
231-018	£30.73

FRICTION ROD - NYLON

For electrostatics experiments, 300mm length, 13mm diameter.

KEY STAGE KS3-5

CODE		PRICE
PH0852	Nylon	£3.24
P857	Perspex 300 x 12mm	£3.24
FR1	Ebonite 300mm long	£3.24
FR2	Glass 300mm long	£3.24
P860	Glass/Brass	£3.24
P862	Brass/Ebonite	£3.24

FRICTION CLOTH, 300MM

Friction Rod for various experiments involving static electricity. 300 x 12mm.

KEY STAGE KS3-5

CODE		PRICE
P864	300mm Square	£4.34
PH0868	Silk 300mm	£4.34

GOLD LEAF ELECTROSCOPE IN FLASK

A glass conical flask, fitted with a rubber bung supporting a brass rod with gold leaf attached. Replacement Gold Leaves (code: PH0914) available separately.

KEY STAGE KS3-5

CODE	PRICE
PH0912	£9.88

ELECTROSCOPE, DUAL PURPOSE

The 'Malvern' dual purpose gold leaf electroscope has a metal plate to which a single gold leaf may be attached and is supported by an insulating bush in a metal case with a 4mm socket earthing terminal. A scale is provided for measuring the deflection of the leaf. Replacement Gold Leaves (code: PH0914) available separately.

PRICE FROM **£23.05**

KEY STAGE KS3-5

CODE	PRICE
PH0916B	£23.05

GOLD LEAF

Gold leaves for use with electroscopes.

KEY STAGE KS3-5

CODE	PRICE
PH0914	£10.96

PROOF PLANE

Consisting of an acrylic rod with brass disc of 50 mm dia.

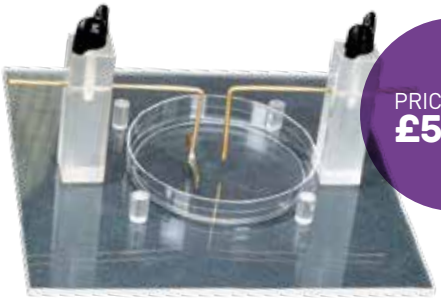
PRICE FROM **£4.39**

KEY STAGE KS3-5

CODE	PRICE
PH0874	£4.39

ELECTRIC FIELD APPARATUS

For demonstrating electric fields between electrodes. The apparatus includes a clear Petri dish 90mm Dia. x 12mm depth. The transparent base (140 x 125mm) allows the pattern to be projected via an overhead projector system. Alongside each terminal is a thumbscrew system which permits fine adjustment of the electrodes. Six electrodes are supplied, 2 'point source', 2 'line source' and 2 circular rings of 35 and 70mm Dia. The apparatus requires a safe, low current limited 0-5kV EHT supply (e.g. code: 605-006).



PRICE FROM **£53.78**

KEY STAGE **KS3-5**

CODE	PRICE
ELAP	£53.78

CONDUCTOR

Made of brass, interchangeable on pillars, fitted with insulators of ebonite on metal base.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Sphere (cm):	5
Cylinder(cm):	5 x 12.5
Cone(cm):	5 x 15

CODE		PRICE
PH0880	5cm (Set 3)	£31.83
PH0881	8cm (Set 3)	£43.35

FARADAY'S PAILS (SET 4)

Set of 4 aluminium, nesting, cylindrical containers each fitted with insulating feet. 150mm Dia. x 120mm high; 120mm Dia. x 110mm high; 90mm Dia. x 90mm high; 75mm Dia. x 75mm high.

PRICE FROM **£42.80**

KEY STAGE **KS3-5**

CODE	PRICE
PH0902	£42.80

VAN DE GRAAFF GENERATOR (MOTOR OR HAND DRIVEN) - EDULAB

This Edulab van de graaf generator is cranked by hand to demonstrate the effects of static electricity. Because you control the amount of electricity produced depending upon how hard and how long you crank, this is a true "hands on" experience for students. Can also powered from a DC source by a laboratory power supply. (605-056 Power supply).

PRICE FROM **£159.14**

KEY STAGE **KS3-5**

CODE	PRICE
231-017	£159.14

VAN DE GRAAFF GENERATOR WITH ACCESSORY KIT

Static electrical charge is produced by friction between this band and two rollers, one of polythene, the other of plexiglass. The charge is removed from the belt by a metal gauze and stored in the dome. The electric motor is driven from the mains supply, using a three-wire cable.

The base is fitted with a 4mm diameter socket which can be used either for supporting a conducting sphere (fitted with a cranked rod support) or for a wire connection to a separate conducting sphere (fitted on a plexiglass rod). A dust cover is provided to keep the Vande Graaff free from dust when not in use.

PRICE FROM **£323.76**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Diameter of Generator Dome:	220mm
Total Height:	500mm.Base (Max)
Dimensions (mm):	218 x 182 x 93
Operating Voltage:	220 to 240V AC (with 5A cartridge fuse)
Dome Capacitance:	(Approx) 15pF Maximum (Intermittent) current: (Approx) 6µA
Maximum Spark Length:	(Approx) 50mm
Diameters of Conducting Spheres:	100mm with Accessory kit

CODE	PRICE
231-162	£323.76

VAN DE GRAAFF GENERATOR - BELT

Spare belt set for Edulab Van De Graaff Generator.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Large Drive Belt:	370mm x 48mm x 1.5mm 30mm Diameter (Internal)
Small Drive Belt:	38mm Diameter (External) 3mm Gauge - Around belt

CODE	PRICE
VDG/BELT	£13.12
EDU2030	£13.86

VAN DE GRAAFF ACCESSORY KIT

The Generator consists of a conducting sphere (the dome) supported by a plexiglass pillar and a rubber belt driven by an electric motor concealed in the metal base. Static electrical charge is produced by friction between this band and two rollers, one of polythene, the other of plexiglass.

KEY STAGE **KS3-5**

CODE	PRICE
VDGACC	£53.78

WIMSHURST MACHINE

The ideal equipment for simple demonstration of electrostatics. No electrical power is required. The unit will quickly generate a charge with regular discharge. Under correct conditions the spark will travel 50mm in air between electrodes. Two plates are supported in two rigid uprights and driven by a belt in the opposite direction.
The plates are heavy, high resistance plastic with sectors of aluminium sheet. Two leyden jars (condensers) are made from corning glass and aluminium foil. The apparatus is mounted on a polished wooden base for easy use and transportation. 200mm diameter.

KEY STAGE **KS3-5**

CODE	PRICE
PH0848A	£108.65

DIGITAL COULOMB METER

The display shows the number of Coulombs deposited into the instrument, either by current through a resistance or from a capacitor, or from a source of static electricity. Displays up to 199 nC, accuracy ± 10nC.

KEY STAGE **KS3-5**

CODE	PRICE
231-037	£71.34

ELECTRIC WHIRL, 60DIA, 3 POINT WHEEL ON STAND

For demonstrating the effect of electrical discharge from points. The apparatus has a 60mm diameter three-pointed star wheel with all the points curved in one direction.
The wheel rotates freely on a pivot point mounted on a short stand and the base incorporates a 4mm connection socket.

PRICE FROM **£15.37**

KEY STAGE **KS3-5**

CODE	PRICE
P904	£15.37

PARALLEL PLATE CAPACITOR

Comprises 2 aluminium plates of 250mm x 250mm x 2.9mm thick, with 4mm sockets. Completed with 1 acetate sheet of 260mm x 260mm x approx. 1.5mm thick and 1 acetate strip of 260mm x 25mm x approx. 1.5m thick.

KEY STAGE **KS3-5**

CODE	PRICE
231-137	£53.78

REED RELAY

Nuffield specification 1010. A single pole changeover reed relay, capable of up to 5 to 400Hz changeovers per second driven by a Power signal generator, enables the repeated charge and discharge of parallel plate capacitors. Contact is current protected by a 12 ohm resistor. Maximum contact ratings 12V 10mA. Coil operating voltage up to 400 Hz.

KEY STAGE **KS3-5**

CODE	PRICE
231-146	£53.78

MOTOR GENERATOR

For use with the larger motor/generator in comparing power input and output by driving each in turn with the other and metering the voltage and current.

The Malvern Energy Transfer Kit consists of a number of separately available units which enable the user to show conversions of one form of energy to another in a variety of different ways. All units have a base measurement of 165 x 100mm and have 4mm socket terminals where appropriate.

KEY STAGE **KS3-5**

CODE		PRICE
PH0467B	Motor Generator (Small)	£23.05
PH0467A	Motor Generator (Large)	£31.83

CAPACITANCE SUBSTITUTION BOX

This unit has an easily selectable range of 11 preferred capacitors from 100µF to 0.47µF. The voltage rating for each range is 50 volts AC or DC. The unit is housed in a robust ABS case measuring 75 x 100 x 40mm and has a high quality rotary selector switch plus two 4mm safety sockets.

PRICE FROM **£20.85**

KEY STAGE **KS3-5**

CODE	PRICE
EDU082	£20.85

LAMP UNIT, TRIPLE

Use with motor/generators to indicate output. Lamp holders are connected in parallel and supplied with 3 lamps (3.5V, 0.25A, MES).

The Malvern Energy Transfer Kit consists of a number of separately available units which enable the user to show conversions of one form of energy to another in a variety of different ways. All units have a base measurement of 165 x 100mm and have 4mm socket terminals where appropriate.

KEY STAGE **KS3-5**

CODE	PRICE
PH0467C	£31.83

LINE SHAFT UNIT

For showing the conversion of electrical energy to potential energy by winding up a weight on a cord. One end of the 6mm steel shaft carries a 56mm diameter aluminium 'V' pulley and the other end is fitted with a cord anchoring collar. Supplied with a driving belt.

CODE	PRICE
PH0467E	£31.83

SPRING UNIT

Conversion of potential energy in a wound-up spring to electrical energy. This could also be used to wind a weight on a cord showing the change from potential energy to kinetic, and back, in the raised weight. The steel shaft carries a clock spring with a free wheel device, winding ratchet and aa 56mm diameter aluminium 'V' pulley. Supplied complete with driving belt.

CODE	PRICE
PH0467F	£42.80

FLY WHEEL UNIT 115MM DIA

For use with a large motor/generator and a lamp unit to demonstrate the conversion of electrical energy to kinetic energy and back again. Comprising an iron flywheel of 115mm diameter and 1.2kg mass in cast bracket with bearings. Shaft has an aluminium 44mm diameter pulley for driving. Spring belt supplied.

CODE	PRICE
PH0467D	£42.80

TURBINE PUMP UNIT

Use as a water turbine to drive a generator producing electricity or as a pump driven by a motor, raising a head of water to produce potential energy. The rotor has eight bucket blades and is housed in a block turbine chamber 50 x 50 x 25mm with a clear perspex front. Two inlet (for turbine and pump) and one outlet tubules are provided. The shaft carries a 15mm diameter pulley. A driving belt is supplied.

CODE	PRICE
PH0467G	£31.83

HEAD OF WATER UNIT

Use with a turbine pump unit for an open or closed system to demonstrate the conversion of electrical to kinetic energy in the pump and potential energy in the head of water. The unit is supplied complete with two 80mm diameter basins and shaped glass tubes. The upper platform has a 38mm Dia. hole for use as a simple recirculation system with a single reservoir.

PRICE FROM **£31.83**

KEY STAGE **KS3-5**

CODE	PRICE
PH0467H	£31.83

WATER TURBINE WITH DYNAMO MODEL

Conversion of mechanical energy into electrical energy. The turbine has a transparent cover, inlet and outlet tubes, directly connected to a dynamo and fitted on a sturdy plastic base.

PRICE FROM **£82.31**

KEY STAGE **KS3-5**

CODE	PRICE
PH0497	£82.31

MOUNTED SOLAR CELL

For use with the motor to demonstrate the production of electrical energy directly from light energy. The apparatus comprises a selenium photo-voltaic cell.

PRICE FROM **£27.44**

KEY STAGE **KS3-5**

CODE	PRICE
PH0467L	£27.44

MOUNTED MOTOR FOR SOLAR CELL

Small low consumption electric motor designed to run directly from the output of the solar cell, to illustrate the direct conversion of light energy to electrical and hence mechanical. The motor spindle carries a simple 16mm diameter pulley and is capable of raising a mass of at least 4g powered by the solar cell.

PRICE FROM **£16.46**

KEY STAGE **KS3-5**

CODE	PRICE
PH0467K	£16.46

HANDWHEEL DRIVE UNIT

For use in driving a dynamo, line shafts, flywheels, pumps etc. The driving and output pulleys are both 75mm diameter and the intermediate pulley 20mm diameter giving a step-up ratio of 3.75.

PRICE FROM **£31.83**

KEY STAGE **KS3-5**

CODE	PRICE
PH0467I	£31.83

TURBINE JET ENGINE

This cutaway section model is constructed of light and strong metal and mounted on base.

It shows air intake, axial flow, double stage compressor, fuel supply, combustion chamber, turbine rotor, jet thrust, exhaust etc.

PRICE FROM **£214.01**

KEY STAGE **KS3-5**

CODE	PRICE
PH0494	£214.01

MALVERN ENERGY TRANSFER LAMP

For use in conjunction with the Malvern Mounted Motor for Solar Cell (Code: PH0467K). Consists of a 12V, 24W S.B.C. bulb in a metal socket, mounted on a base with two 4mm sockets.

PRICE FROM **£20.80**

KEY STAGE **KS3-5**

CODE	PRICE
PH0467M	£20.80

POSTER: INVESTIGATING FORCE & MOTION (LAMINATED)

Graphically depicts force measurements; gravity and motion; Newton's Laws and much more!

KEY STAGE **KS3-5**

CODE	PRICE
44-35-1106	£35.38

HERO ENGINE

This is a model of a steam engine invented by Hero of Alexandria in about 60 AD. It represents an early example of a machine that will transform thermal energy into kinetic energy. Hero's engine illustrates transformations of energy and aspects of Newton's laws of motion.

The engine operates similarly to a rocket engine. The thermal energy supplied by the bunsen burner (not supplied) is transformed into kinetic energy in the steam jets. These jets possess momentum, and by Newton's third law ('action and reaction are equal and opposite'), give backward momentum and hence backward force to the nozzles from which they emerge.

These forces create a turning movement about the longitudinal axis of the glassware and hence the glass apparatus rotates.

KEY STAGE **KS3-5**

CODE	PRICE
P498	£31.83

ELASTIC MATERIALS KIT

CONTAINING: 2 x 130x50x50mm latex foam blocks, 4 elastic cords with eyelets, 4 soft rubber erasers, 1 x 900mm length of valve tubing, 2 x 40g reel of bare copper wire 0.28mm & 0.45mm diameter, 2 wide steel springs of 4.5 turns, 50mm diameter and 25 expandable steel springs with ends bent to form hooks for testing beyond the elastic limit.

KEY STAGE **KS3-5**

CODE	PRICE
PH0324	£31.83

FORCEMETERS

High quality tubular spring balances which are colour coded and scaled in both newtons and grams.

The stainless steel spring mechanism is clearly visible and zero adjustment is incorporated.

KEY STAGE **KS3-5**

CODE		PRICE
EDU100	Boxed Coded (Set of 6)	£13.72
ATSP0250	250g/2.5N Blue	£2.18
ATSP0500	500g/5N Green	£2.18
ATSP1000	1kg/10N Beige	£2.18
ATSP2000	2kg/20N Red	£2.18
ATSP3000	3kg/30N White	£2.18
ATSP5000	5kg/50N Yellow	£2.18

TWO WAY FORCEMETERS

A series of tubular meters used to investigate measurement of force involving either a push or a pull action. Calibrated in grams and newtons.

The extended rod has a clear flat surface to mark own scales of measurement using a dry wipe marker. The range of six balances is colour coded for easy reference.

KEY STAGE **KS3-5**

CODE		PRICE
SBPP100	Boxed Coded (Set of 6)	£19.48
SBPP25	Blue 2.5N	£3.28
SBPP5	Green 5N	£3.28
SBPP10	Beige 10N	£3.28
SBPP20	Red 20N	£3.28
SBPP30	White 30N	£3.28
SBPP50	Yellow 50N	£3.28

TIMER, DIGITAL

Large digital countdown timer with range up to 99 minutes and 59 seconds, with resolution of 1 second. Countdown only. Comes with stand, clip and magnetic fixing. Size: 80 x 70 x 20mm. LCD size: 64 x 38mm.

KEY STAGE KS3-5

CODE	PRICE
EDU1022	£8.67

INCLINED PLANE WITH FRICTION BOARD

For investigating sliding friction. Consisting of a plane board hinged at the base at one end, with a pulley for the force cord at the other end. The inclination of the plane is variable and is locked into position by means of a screw clamp with pointer. Clear increments reflect the selected angle on the attached angle measuring plate.

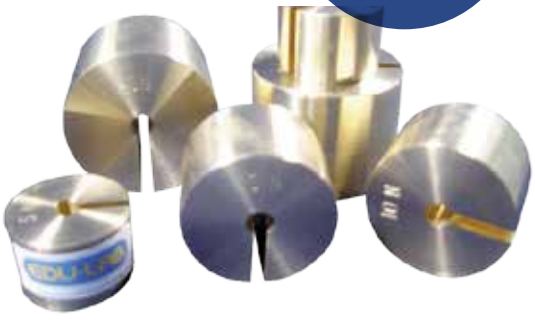
PRICE FROM **£31.83**

KEY STAGE KS3-5

CODE	PRICE
PH0337	£31.83

NEWTON MASS SET 10N SET

PRICE FROM **£38.41**



KEY STAGE KS3-5

CODE	PRICE
PH0258D-NTN	£38.41

INCLINED PLANE WITH ANGLE MEASURER

A board with a well-finished metal base 450 x 150mm hinged at one end supporting a scaled, plane board. The planed section can be inclined and fixed at any angle from 0 to 45° to the horizontal. The end of the inclined board features an adjustable pulley wheel from which masses can be suspended. Supplied without weights.

PRICE FROM **£42.80**

KEY STAGE KS3-5

CODE	PRICE
PH0334	£42.80

FORCE BOARD, WALL TYPE 750X600MM

For demonstrating the principles of the parallelogram and polygon of forces. Fitted with metal brackets for fixing to a wall. Designed so a clear space is left all round the edge of the board for the attachment of pulleys etc. The board is supplied complete with mounting brackets, cords, pulleys and masses.

CODE	PRICE
P348	£53.78

YOUNGS MODULUS APPARATUS

Consists of a scale plate carrying a 0 to 30mm scale and a movable vernier readable to 0.1mm precision. Both have bars with clamping screws for the wires and hooks for the tension weight and loading masses. A ceiling clamp is provided for the upper ends of the wires, together with a pair of large wood screws for attaching it to a convenient overhead beam, door frame etc. A tension weight, mass 1.3kg approx., for the comparison wire is also included. (No load masses or wires supplied).

CODE	PRICE
PH0329	£86.70

FORCE TABLE

With a large, 40cm diameter tabletop, 3cm thick support column and heavy cast base with levelling screws, this force table is suitable for use in any basic physics lab. The durable polymer tabletop carries an angle scale with 0.5° divisions, marked every 10° in both rotation directions. Four table clamp pulleys are included, each has a circular cut-out with a fiducial mark for accurate angle measurements. Four sets of slotted masses, each 150g x 5g including hangers, are supplied with the table. The slotted masses have a keyhole pattern which secures them during adjustments.

The cords include split rings for easy connection, allowing three-force and four-force equilibrium arrangements to be rapidly constructed. Includes spirit level. The table is 41cm high.

CODE	PRICE
251-404	£194.26

YOUNGS MODULUS APPARATUS (SET OF WIRES)

A selection of six, 6m long wires for use with Youngs Modulus Apparatus: one each of 21 swg and 22 swg in brass, copper and stainless steel.

CODE	PRICE
PH0330	£8.78

HOOKE'S LAW APPARATUS

To demonstrate that the relationship between the extension on a spring is proportional to the load applied to it.

This complete apparatus has a 150mm adjustable mirror scale to prevent parallax error and is marked in millimetres and mounted on a sturdy 300mm rod.

Attached to the rod is a hook supporting a coiled spring with a mass hanger and indicator. Supplied complete with a 250g slotted weight set, the apparatus is mounted on a wooden base.

PRICE FROM **£27.44**

KEY STAGE **KS3-5**

CODE	PRICE
PH0323	£27.44

STEEL EXTENSION SPRINGS

Expandable steel springs for extension experiments.

KEY STAGE **KS3-5**

CODE		PRICE
SPHK55A	15mm Dia. 55mm length (Pk200)	£15.37
SP6225	6mm Dia. 225mm length (Pk200)	£82.31

LEVER KIT

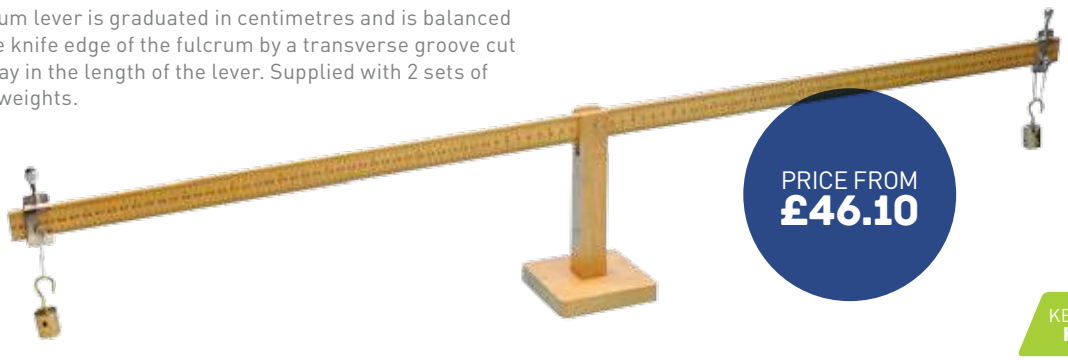
Designed as a kit for eight pupils consisting of five plywood beams 600 x 44 x 3mm graduated every 38mm. Each has a groove across its centre to locate the fulcrum point. Also included are four fulcrums 32 x 32 x 64mm and forty 25mm square metal blanks. Masses of the blanks are matched to ±1%.

KEY STAGE **KS3-5**

CODE	PRICE
PH0340	£31.83

LEVER - WOODEN

Fulcrum lever is graduated in centimetres and is balanced on the knife edge of the fulcrum by a transverse groove cut midway in the length of the lever. Supplied with 2 sets of 100g weights.



PRICE FROM **£46.10**

KEY STAGE **KS3-5**

CODE	PRICE
PH0344	£46.10

PULLEY, PLASTIC, (PARALLEL)

50mm diameter plastic pulleys with two hooks mounted in metal frame.

PRICE FROM **£1.64**

KEY STAGE **KS3-5**

CODE		PRICE
PLPUKSP	Single 2 Hook	£1.64
PLPULDP	Double 2 Hook (Parallel)	£2.47
PLPULTP	Triple 2 Hook (Parallel)	£3.29
MPULS	Metal, Single 2 Hooks	£3.02
MPULDP	Metal, Double with 2 Hooks (Parallel)	£3.29
MPULTP	Metal Triple, 2 Hooks (Parallel)	£5.49

PULLEY, ROD MOUNTING, BALL BEARING

50mm diameter plastic pulley with ball bearing mounted on a 150 x 15mm diameter bar. Tapped holes are provided so that the nylon pulley (with ball bearing) may be fitted onto the boss with its axis of rotation in any one of the three planes.

KEY STAGE **KS3-5**

CODE	PRICE
PULRDM	£10.92

PULLEY, PLASTIC, SINGLE, WITH BALL BEARINGS

Open sided frame with hooks at each end carrying pulleys with ball bearings. The open side frame allows for quick and easy stringing up as no threading is involved. Single, 50mm.

KEY STAGE **KS3-5**

CODE	PRICE
BPULS	£3.24

PULLEY, BENCH MOUNTING, E SHAPE

This aluminium, 50mm diameter bench-mounting pulley can be clamped to benches or boards of up to 28mm thickness.

KEY STAGE **KS3-5**

CODE	PRICE
PBMES	£9.88

PULLEY, ROD & BENCH MOUNTING 70MM

70mm diameter bench-mounting pulley, made of light alloy, on a brass/ silvered-steel bearing held in an alloy bracket with two clamping screws for bench or rod support.

PRICE FROM **£9.88**

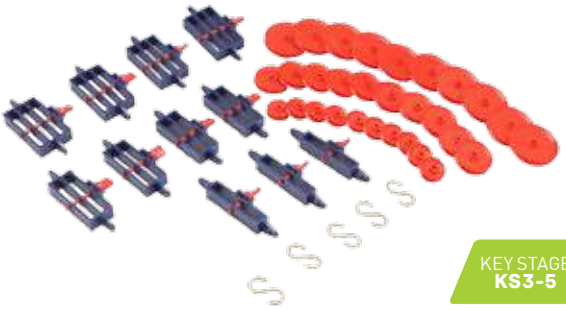
KEY STAGE **KS3-5**

CODE	PRICE
PBM70	£9.88

PULLEY BLOCK ASSEMBY SET

A set of components from which pulley blocks of many different configurations may be made. This versatile set is an economical alternative to using separate pulleys.

THE SET CONTAINS:
15 plastic pulley frames; 5 each of single, double & triple sheaves - each provided with a removable bearing pin and a pair of hooks; 30 plastic plain bearing pulleys - 10 pulley wheels each of 25, 38 & 50mm dia.

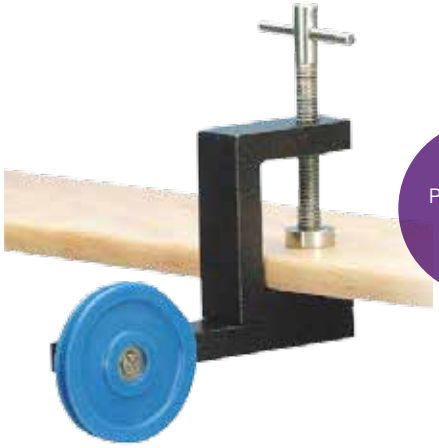


KEY STAGE **KS3-5**

CODE	PRICE
PH0292	£38.41

PULLEY, BENCH MOUNTING, BALL BEARING, NYLON

50mm diameter pulley carried on an aluminium boss 20 x 20 x 110mm, with a hole and clamping screw to accommodate rods up to 13mm diameter. Tapped holes are provided so that the nylon pulley (with ball bearing) may be fitted onto the boss with its axis of rotation in any one of the three planes.



PRICE FROM **£9.82**

KEY STAGE **KS3-5**

CODE	PRICE
PBBBP	£9.82

BRAIDED STRING, PHYSICS (ROLL OF 320M)

Ideal for use with pulleys. Stretch resistant. Will hold weight up to 13kg. 320m roll.

KEY STAGE **KS3-5**

CODE	PRICE
231-136	£39.51

BUCKET & CYLINDER, (SMALL/LARGE)

For demonstrating Archimedes' principle. This is a simple brass unit, suitable for class demonstration or individual use. The bucket has a suspension loop at the top and a hook at the bottom. The cylinder has a suspension hook at one end.

KEY STAGE **KS3-5**

CODE		PRICE
BUCKCS	Small	£8.03
BUCKSL	Large	£13.86

DYNAMIC TROLLEY, WOODEN (PAIR)

A pair of 300mm long wooden trolleys, mounted on three wheels. A spring loaded rod is fitted to give impulse when released.

KEY STAGE **KS3-5**

CODE	PRICE
EDU041	£49.39

DYNAMICS TROLLEY (PAIR)

Made from rigid ABS plastic, these trolleys have accurately-aligned, very low friction wheels.

Coupled with their low profile and accurate mass of 600g, this allows a range of kinematic experiments to yield high quality data. The two-position firing pins have a locking catch for safety and the trolleys have velcro pads for inelastic collision experiments. The trolleys are stackable and can withstand loads up to 60kg.

Dimensions: 310mm (L) x 130mm (W) x 90mm (H).

PRICE FROM **£53.78**

KEY STAGE **KS3-5**

CODE	PRICE
251-400	£53.78

COLLISION KIT

A simple and easy to use kit for work on momentum collisions and the coeffecient of restitution.
The kit consists of two bogies (velcro pad on one side, spring on the other); 1.2m long graduated track; pair of support feet; 2 photogate support holders and rods; mass set of 50g, 20g and 10g.

Can be used with Timer & Gates (code: 251-413).

PRICE FROM **£108.65**

KEY STAGE **KS3-5**

CODE	PRICE
251-414	£108.65

DYNAMICS SYSTEM (1.2M TRACK + 2 WOODEN TROLLEYS)

Consisting of one pair of wooden trolleys. A 1500mm x 300mm wooden track with side rails is included. Plastic feet are mounted on the track to provide an easily inclinable surface for dynamics experiments.

PRICE FROM **£203.04**

KEY STAGE **KS3-5**

CODE	PRICE
EDU887	£203.04

FORCE, MOTION & DYNAMICS KIT

This apparatus comprises a high quality aluminium profile bench with a built in scale to make a variety of measurements. The system provides a highly motivational approach to conducting dynamics experiments. Investigate the effect of different accelerating forces on different masses, elastic and inelastic collisions between two trolleys, acceleration on an inclined plane, kinetic energy and many more.

KEY STAGE **KS3-5**

CODE	PRICE
EDU801B	£246.94

TICKER TAPE TIMER - 12V BLACK

These devices use an electromagnet which activates a striker, producing dots via a carbon disk on the ticker tape. The dots are produced at a rate of 50 - 60Hz depending on the mains frequency. With 4mm terminal sockets.

The Ticker Tape Timers are used in the measurement of velocity, acceleration and general timing. There are 6V &12v units available - please check your unit rating before connecting the unit to a PSU.

KEY STAGE **KS3-5**

CODE		PRICE
EDU1089	Ticker Tape Timer - 12V Black	£53.78
281-003	Ticker Tape Timer Roll for EDU1089	£5.21

TICKER TAPE TIMER, 6V INCL.TAPE & DISC

These devices use an electromagnet which activates a striker, producing dots via a carbon disk on the ticker tape. The dots are produced at a rate of 50 - 60Hz depending on the mains frequency. With 4mm terminal sockets.

The Ticker Tape Timers are used in the measurement of velocity, acceleration and general timing. There are 6V & 12v units available - please check your unit rating before connecting the unit to a PSU.

KEY STAGE **KS3-5**

CODE	PRICE
EDU042	£41.71

TICKER TAPE HOLDER

A specially designed stand to hold our ticker tape rolls, makes an excellent accessory for ticker tape timer (EDU1089).

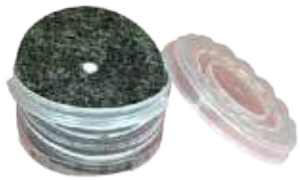
PRICE FROM **£20.85**

KEY STAGE **KS3-5**

CODE	PRICE
PH0353D	£20.85

TICKER TAPE CARBON DISC (PK100)

Ticker Tape Carbon Discs, 50mm Dia. with 4mm hole, for Ticker Tape Timers (codes: EDU035, EDU036, EDU042, EDU1089). Box of 100.



KEY STAGE **KS3-5**

CODE	PRICE
EDU037	£3.29

TICKER TAPE TIMER ROLL (5 ROLL PACK)

Ticker Tape Rolls for Ticker Tape Timers (codes: EDU035, EDU036, EDU042). Pack of 5 rolls, 30m x 15mm.

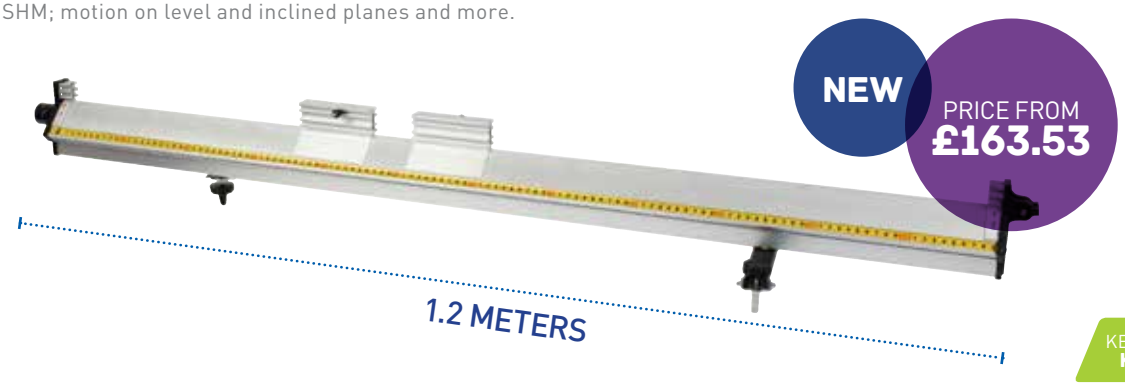
KEY STAGE **KS3-5**

CODE	PRICE
EDU036	£4.94

LINEAR AIR TRACK 1.2M

This Edulab Mini Linear Air Track is designed to provide a cost-effective way of studying all aspects of dynamics in a virtually friction-free environment. The Linear Air Track is particularly effective in the observing and measuring of collisions where conservation of momentum is dramatically demonstrated. The Edulab Mini Linear Air Track kit contains everything required for an array of experiments covering: velocity; force and acceleration; potential energy; kinetic energy; conservation of energy; SHM; motion on level and inclined planes and more.

The Air Track track itself measures 1.2 metres overall and is made from high strength 56 x 56 mm extruded aluminium. The tracks gliders are designed to accept standard slotted masses for additional loads and is supplied with a comprehensive accessory pack to enable every type of interaction.An air source is required to operate the track, which can be provided by our Edulab Laboratory Air Blower (code: LINBLO) which is not included.



KEY STAGE **KS3-5**

CODE		PRICE
153-600	Linear Air Track 1.2 Meter - Edulab	£163.53
153-601	Linear Airtrack +Blower 1.2 Meter	£273.28

LINEAR AIR TRACK - PREMIUM

This kit is designed to provide a cost-effective system for the study of all aspects of dynamics in a virtually friction-free environment. It is particularly effective in the field of collisions where conservation of momentum is dramatically demonstrated.

The kit contains everything required for a vast array of experiments covering: velocity; force and acceleration; potential energy; kinetic energy; conservation of energy; SHM; motion on level and inclined planes etc. The track itself measures 2 metres overall and is made from strong 56 x 56mm extruded aluminium. Gliders are designed to accept standard slotted masses for additional loads. It is supplied with a comprehensive accessory pack to facilitate every type of interaction.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Overall Dimensions (mm):	2055x224x180
Total Weight (kg):	9
Glider Lengths:	120mm, 240mm
Recommended Operating Temperature:	10 to 40°C
Recommended Operating Humidity:	<85%

CODE		PRICE
LINSET	With Access. & Blower Included	£547.65
LINTRC	Track Excluding Accessories	£323.76

LINEAR AIR TRACK BLOWER

This electronically controlled unit is specifically designed for laboratory use and is recommended for use with our Linear Air Track. The product is well-packed and of attractive appearance. A constant volume and pressure can be delivered to the apparatus enabling more accurate results to be obtained.

KEY STAGE **KS3-5**

CODE	PRICE
LINBLO	£137.19

EDULAB TIMING GATES (PAIR)

KEY STAGE **KS3-5**

CODE	PRICE
605-060	£63.66

EDULAB G BY FREEFALL APPARATUS AND TIMER

The apparatus consists of an electromagnet housed in a plastic moulded case supplied with a heavy steel sphere, an electromagnet unit with connections for an external timer and a platform unit containing a microswitch and terminals for the external timer. The electromagnet is primed when the stopping plate and solenoid are connected with the leads provided. The timer is triggered as soon as the ball release button is pressed.

PRICE FROM **£273.28**

KEY STAGE **KS3-5**

CODE	PRICE
605-059	£273.28

EDULAB G BY FREEFALL LAB TIMER

PRICE FROM **£203.04**

KEY STAGE **KS3-5**

CODE	PRICE
605-061	£203.04

EDULAB G BY FREEFALL APPARATUS

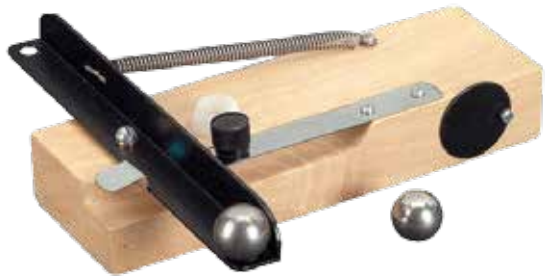
Includes solenoid and stopping plate. Millisecond timer NOT included. This can only be used with the Edulab timer.

KEY STAGE **KS3-5**

CODE	PRICE
605-062	£82.31

FALLING BODIES APPARATUS

L-section launcher with holes for locating two 19mm diameter steel balls which act as projectiles. The launcher is released by push button and projects one ball forward while allowing the other to fall freely. The launching mechanism is mounted on a wooden block (size: 180 x 60 x 30mm) which may be bench clamped and has a convenient storage pocket for the balls. Apparatus comes complete with two steel balls.



KEY STAGE **KS3-5**

CODE	PRICE
PH0318	£42.80

GUINEA & FEATHER APPARATUS

Demonstrates that objects fall at the same speed, regardless of weight, in a vacuum. Consisting of a 16mm diameter glass tube 50cm long, fitted with two rubber bungs, and a 40cm length of tube for connection to a vacuum pump.

Two objects with different weight and air resistance (e.g. a mass and a piece of paper or a feather) can be placed at the foot of the tube, and when inverted the objects will fall back to the bottom of the tube at the same rate - in a vacuum. Further studies of the effects of air resistance can be carried out, such as timing the fall of paper through variations of air pressure in the tube, to gauge the effects of air resistance on the acceleration of an object under gravity.

KEY STAGE **KS3-5**

CODE	PRICE
PH0160	£27.38

PENDULUM BALL BRASS (PLUMB BOB)

Comprising a solid sphere with a small hook for suspension.

KEY STAGE **KS3-5**

CODE		PRICE
PBBR13	Brass 13mm (Single)	£1.65
PBBR19	Brass 19mm (Single)	£1.81
PBBR25	Brass 25mm (Single)	£2.74

PENDULUM BALL LEAD (PLUMB BOB)

Comprising a solid sphere with a small hook for suspension.

KEY STAGE **KS3-5**

CODE		PRICE
PBLE13	Lead 13mm (Single)	£1.65
PBLE19	Lead 19mm (Single)	£1.76
PBLE25	Lead 25mm (Single)	£2.74

SECOND LAW OF MOTION APPARATUS

The unit is based on a substantial metal casting and the entire mechanism is visible. The spring gun offers two tensions. The 25 cm long unit has a 10 mm rod. It may be horizontally clamped to a support stand or table clamp. Complete with two steel balls.

CODE	PRICE
251-408	£24.15

DYNAMICS KIT, TRACK & ACCESSORIES

Designed to suit curriculum based experiments for the topics of Force & Motion. The carefully designed and matched components provide an excellent medium for demonstrating these important principles. The unit comprises: Aluminium Track, 1.2m; 2 high-impact moulded trolleys (1 spring loaded); 1 trolley weight; 10 x 10g masses; 1 x ticker tape timer; 20 x carbon discs.

CODE	PRICE
EDU043	£108.65

GYROSCOPES

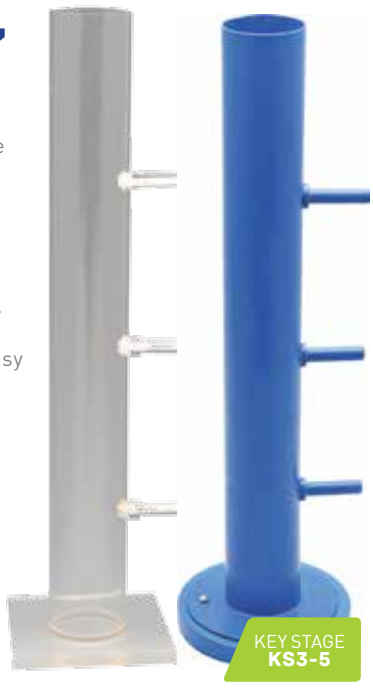
Simple but accurate gyroscope that will run for more than five minutes once set in motion.

CODE	PRICE
251-003	£20.85

CYLINDER, SPOUTING

For demonstrating the principle that pressure increases with depth. Comprising a 60mm diameter perspex pipe with 3 orifices of the same size, at different heights down one side. The clear perspex construction allows easy visibility of variation in liquid height.

Height of cylinder: 400mm.



CODE		PRICE
PH0198	Perspex	£34.02
PH0196	Metal	£19.76

MAGDEBURG HEMISPHERE

To demonstrate the existence of atmospheric pressure. Made of brass and fitted with stopcock and handle. Diameter: 75mm.

PRICE FROM **£40.55**

KEY STAGE **KS3-5**

CODE		PRICE
MAGD		£40.55
201-002	Plastic	£31.83

FORCE PUMP, MOUNTED ON STAND

PRICE FROM **£21.40**

KEY STAGE **KS3-5**

CODE	PRICE
PH0182B	£21.40

CRUSHING CAN

A light-walled tin plate can with an air-tight screw cap. Used to demonstrate force exerted by atmospheric pressure. 260 x 75mm (diameter).

PRICE FROM **£2.84**

KEY STAGE **KS3-5**

CODE	PRICE
211-401	£2.84

VACUUM PUMP, HAND

A lightweight hand operated vacuum pump, drawing 15cm3 per stroke, up to a maximum vacuum of 50mmHg. It can be used to produce positive gauge pressures up to 2atm.

PRICE FROM **£126.21**

KEY STAGE **KS3-5**

CODE	PRICE
251-001	£126.21

MANOMETER, GLASS, MOUNTED. SCALE 80-0-80

Glass manometer with built-in stopcock mounted on backing plate. Scale 80-0-80 with 2mm subdivisions. Backplate dimensions: 400 x 80mm.

KEY STAGE KS3-5

CODE	PRICE
MNMM	£16.46

EQUALITY OF PRESSURE IN LIQUIDS

To demonstrate the equal transmission by liquids of pressure in all directions. Comprising glass flask with holes and glass piston.

KEY STAGE KS3-5

CODE	PRICE
PH0194	£21.95

LIQUID LEVEL APPARATUS

This apparatus can be used at an elementary level to demonstrate that several connected bodies of water will equalize at the same height due to the equal transmission of pressure through liquids, with gravity and air pressure, regardless of their shapes.

KEY STAGE KS3-5

CODE	PRICE
LILEV	£31.83

BERNOULLI TUBES

PRICE FROM **£21.95**

For demonstrating that when a fluid passes through a tube and reaches a constriction the fluid speed increases with a loss in pressure.

Three side arms extend from the horizontal tube and allow the attachment of glass tubes to form simple manometers.

KEY STAGE KS3-5

CODE	PRICE
PH0136	£21.95

CAPILLARY TUBE APPARATUS

For demonstrating the relationship between capillary pressure and the bore diameter of the capillary tube.

The apparatus comprises a metal frame holding six capillary tubes of different bores vertically in a trough. The trough is filled with water and the difference in height of the resulting columns of water is immediately clear.

KEY STAGE KS3-5

TECHNICAL SPECIFICATIONS	
Overall Height of Frame:	90mm
Length of Capillary Tubes:	150mm

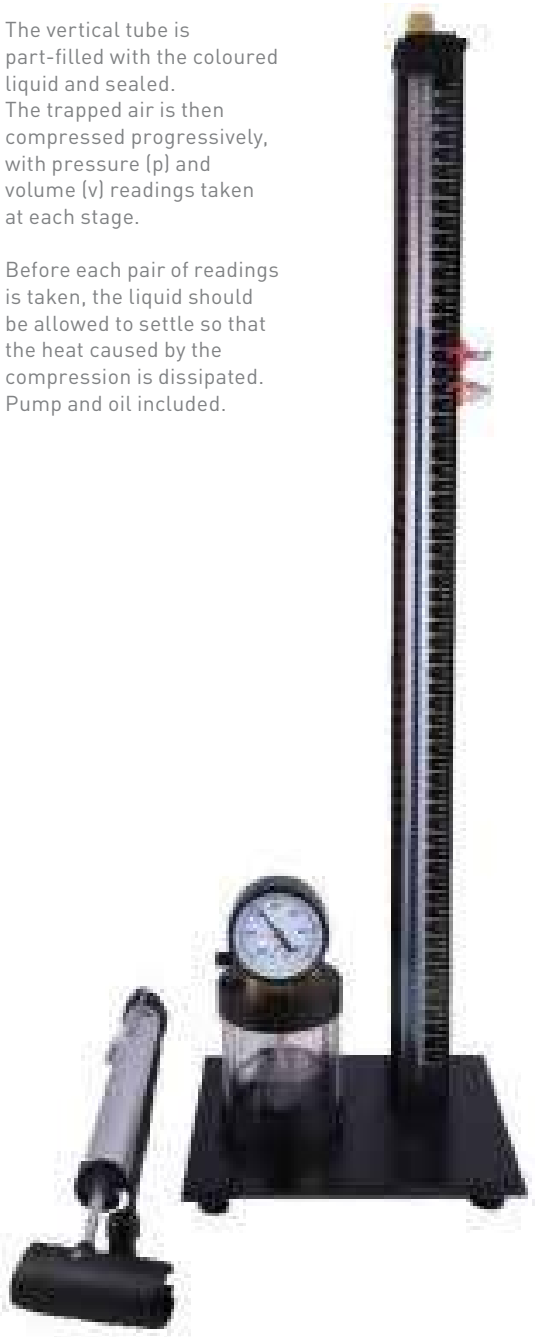
CODE	PRICE
PH0202A	£13.17

BOYLE'S LAW WITH GAUGE

Apparatus for the recording of pressure versus volumes and for investigating Boyle's Law.

The vertical tube is part-filled with the coloured liquid and sealed.
The trapped air is then compressed progressively, with pressure (p) and volume (v) readings taken at each stage.

Before each pair of readings is taken, the liquid should be allowed to settle so that the heat caused by the compression is dissipated.
Pump and oil included.



KEY STAGE **KS3-5**

CODE	PRICE
251-419	£108.65

BOYLE'S LAW - SIMPLE TYPE

A simple and economical apparatus for the demonstration of Boyle's Law. Consists of a sealed syringe mounted on wooden platfoms. When loaded with different masses the air inside is compressed. Change in volume can be read from the syringe scale.

PRICE FROM **£10.96**

KEY STAGE **KS3-5**

CODE	PRICE
251-403	£10.96

BOYLE'S LAW

This apparatus provides an excellent method of demonstrating Boyles Law. The unit is mounted on a sturdy Perspex board. The gauge and syringe are connected by a high pressure hose.

PRICE FROM **£108.65**

KEY STAGE **KS3-5**

CODE	PRICE
251-401	£108.65

BOURDON GAUGE

This product is for both general and laboratory use. The gauge of rugged design is mounted on a heavy metal base giving great stability. The read-out is by a substantial black needle on a 100mm diameter white face. The back of the gauge is enclosed by clear Perspex, allowing the mechanism to be viewed. The input metal tube is is riffled and designed to fit rubber tubing of 8mm internal diameter.

PRICE FROM **£60.36**

KEY STAGE **KS3-5**

CODE	PRICE
BC-2004	£60.36

JOLLY BULB WITH GAUGE

Comprising a thin-walled spherical bulb connected to a mechanical pressure gauge. The gauge gives instant pressure readings and reduces the inconvenience when using a manometer. Clamp not included.

PRICE FROM **£53.78**

KEY STAGE **KS3-5**

CODE	PRICE
EDU079	£53.78

CHARLES LAW APPARATUS

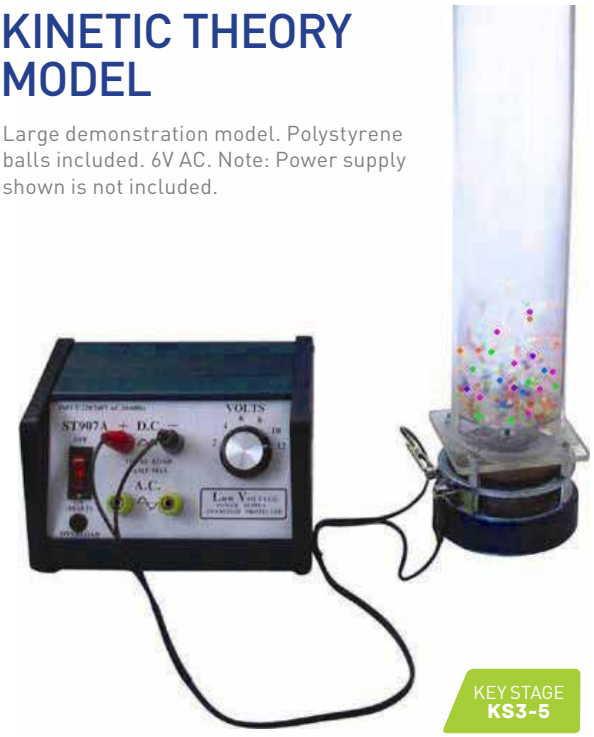
This apparatus can be used to demonstrate the thermal expansion of gases, to verify Charles' law and to estimate a Celsius value for the absolute zero of temperature. Apparatus provided: 1 x glass Charles' law tube, 1 glass beaker with stirrer. Supplied with a specification and full instructions for use.

KEY STAGE **KS3-5**

CODE	PRICE
CHLAW	£31.83

KINETIC THEORY MODEL

Large demonstration model. Polystyrene balls included. 6V AC. Note: Power supply shown is not included.



KEY STAGE **KS3-5**

CODE	PRICE
201-001	£68.05

POSTER: INVESTIGATING HEAT (LAMINATED)

A graphic depiction of key heat concepts. Includes an illustrated view of the sources of heat; the transfer of heat energy; heat absorption; the expansion and contraction of matter; and much more.

PRICE FROM **£35.38**

KEY STAGE **KS3-5**

CODE	PRICE
44-35-1111	£35.38

BAR & GAUGE APPARATUS

For illustrating expansion by heating and contraction by cooling. Comprising a bar of iron mounted on a support rod with wooden handle, and a brass gauge with a cut-out which barely admits the bar lengthways while cold, and a hole which passes the bar endways only while cold. Heating the bar and then comparing it to the gauge provides an excellent visual demonstration of thermal expansion.

PRICE FROM **£5.21**

KEY STAGE **KS3-5**

CODE	PRICE
P378	£5.21

BALL & RING APPARATUS (2 PIECE SET)

Two piece apparatus for demonstrating thermal expansion.

KEY STAGE **KS3-5**

CODE	PRICE
BRNG	£5.87

BAR BREAKING APPARATUS (INC10 BARS)

To show the forces which can be exerted during thermal expansion or contraction. Comprising a heavy cast iron frame 340 x 120 x 100mm with slotted end pillars to carry a stout iron bar.

The bar is threaded at one end for a large tensioning nut and has holes at the other end to accommodate the cast iron breaking bars.

The apparatus is supplied with a pack of ten breaking bars (code: EDU093)..

PRICE FROM **£30.73**

KEY STAGE **KS3-5**

CODE		PRICE
EDU092		£30.73
EDU093	Bar Spares for Bar Breaking Apparatus (Pk10)	£6.04

BIMETALLIC STRIP

For demonstrating the differential expansion of two metals by the curvature produced when the strip is heated in a flame. Comprises a 200 x 15mm strip of brass and steel rivetted together with heat resistant rivets and mounted in a well-finished wooden handle.

PRICE FROM **£7.63**

KEY STAGE **KS3-5**

CODE	PRICE
BIMET	£7.63

BURSTING BOTTLE

Designed to demonstrate the expansion of water on freezing. Comprises cast-iron bottle, 90 x 20mm, tapped to take threaded, square- shanked iron stopper.

KEY STAGE **KS3-5**

CODE		PRICE
EDU1035	With Plug 90 x 20mm	£8.62
EDU1035A	Without Plug 90 x 20mm	£6.20

LINEAR EXPANSION APPARATUS (WITH SCALE READING)

Two black metal pillars on a grey metal base, both drilled to hold metal specimens in the form of thin rods. Three rods of different metals are provided with thinner versions of two of these. An engraved scale with a sprung metal pointer is attached to one of the pillars to record the thermal expansion of the rods. Heating can be either by a spirit lamp or Bunsen burner.

The spirit lamp has the advantage that it can be placed under each rod and left there. The Bunsen burner has to be hand-held but gives greater heating. The effective length of the rod when mounted between the pillars is 210mm. The pointer has a velocity ratio of 2.5.

Moderate heating is sufficient to show that metals expand when heated and that different metals expand by different amounts. The apparatus, whilst clearly showing qualitative comparisons, is not intended to give accurate quantitative results.

KEY STAGE **KS3-5**

CODE	PRICE
PH0368	£53.78

HOPE'S APPARATUS

Designed to show that water has a maximum density at 4°C. In winter, ponds and lakes are cooled from above. Convection then occurs throughout until a dense layer of water at 4°C forms on the bottom. The water above continues to cool until it freezes, then the ice provides an insulating layer that keeps the denser water beneath from cooliing as quickly The comparatively warm layer on the bottom enables aquatic life to survive. Were water not to have its maximum density at a temperature above its freezing point, then ponds and lakes would freeze throughout and, because heat conduction between air and ice is such a slow process, possibly fail to thaw even during the summer months.

PRICE FROM **£20.85**

KEY STAGE **KS3-5**

CODE	PRICE
P388	£20.85

EXPANSION OF LIQUIDS APPARATUS

PRICE FROM **£42.80**

KEY STAGE **KS3-5**

CODE	PRICE
PH0390A	£42.80

CONVECTION IN WATER 200 X 150MM

Comprising rectangle of 20mm borosilicate glass tubing fitted with a filling funnel to show convection in liquid. Supplied as tube only without clamps.

KEY STAGE **KS3-5**

CODE	PRICE
PH0408B	£25.24

CONVECTION IN AIR APPARATUS

Consists of a metal box 220 x 100 x 165mm, with a sliding glass front and two detachable glass chimneys. A candle holder is fixed to the base beneath the left chimney. Candles not included.

KEY STAGE **KS3-5**

CODE	PRICE
P410	£21.90

CROOKES RADIOMETER

Comprising partly evacuated glass bulb approx 70mm diameter, with contained at its centre a fine pivot which supports four lightweight metal arms. One side of each vane is blackened, the reverse side is white. Infrared radiation heats the black faces of the vanes more than the white, causing a pressure difference on either side of the vanes which drives the vanes round, providing a pleasant visual demonstration of several physical effects. Discussion of the mechanism turning the vanes covers several areas of physics including: thermal radiation and absorption; thermal transfer; air pressure; and momentum of gas molecules. The unit is mounted on a round plastic base.

PRICE FROM **£10.70**

KEY STAGE **KS3-5**

CODE	PRICE
EDU094	£10.70

CONDUCTIVITY RODS, COPPER (SET 3)

Rods are 300mm long x 3mm diameter. Used for thermal conductivity experiments.
Set of 6 contains: 1 each of brass, copper, iron, lead, zinc and aluminium.

PRICE FROM **£4.35**

KEY STAGE **KS3-5**

CODE		PRICE
PH0397G	Set of 6 Metals	£9.88
CONCU	Copper (Set 3)	£4.35
CONRD	Aluminium (Set 3)	£4.94
PH0397	Conductivity Rods (Pk3)	£5.49
CONDFE	Iron (Set 3)	£4.66

CONDUCTOMETER

To demonstrate relative thermal conductivity of brass, copper, nickel, aluminium and iron. A rod of each metal is radially spaced equally on a brass hub. Each of the rods has a cavity at the outer end for holding paraffin wax. Using the wooden handle, hold the brass hub over a flame and see the wax melt at different rates.

PRICE FROM **£9.88**

KEY STAGE **KS3-5**

CODE	PRICE
PH0377	£9.88

WOOD & METAL CYLINDER

Comprising a cylindrical rod composed of two halves, one end of which is metal, the other wood. If paper is wrapped tightly round the cylinder and the rod is briefly held above a Bunsen flame, the portion in contact with the wood will be quickly scorched while the portion in contact with the metal will remain uncharred. 200 x 30mm (dia.).

KEY STAGE **KS3-5**

CODE	PRICE
PH0405	£11.52

CONDUCTIVITY APPARATUS (INGEN HAUSZ)

Five rods, one each of aluminium, brass, copper, zinc and iron, embedded along one side of a metal tank, size 150 x 90 x 100mm. Rates of melting compared by placing wax on the ends of the different rods thus demonstrates rates of conductivity in the different metals.

KEY STAGE **KS3-5**

CODE	PRICE
EDU174	£26.34

CONDUCTIVITY OF METAL APPARATUS (THERMAL)

Strips of copper, brass, steel and aluminium mounted on a wooden ring and meeting in the centre. Gentle heating at the centre melts wax placed in the hollows at the end of each strip. Rates of conductivity in the different metals can be compared by the difference in time taken for each cup of wax to melt.

PRICE FROM **£6.31**

KEY STAGE **KS3-5**

CODE	PRICE
EDU083	£6.31

HEAT SENSITIVE PAPER

A novel way to investigate temperature, insulation, and body temperature. Heat sensitive thermochromic paper changes colour as the temperature rises, even from the heat of your hand. The paper is supplied in four colours - blue/white, purple/pink, pink/white and green/yellow. Pack of 40 A4 sheets.

KEY STAGE **KS3-5**

CODE	PRICE
211-013	£28.32

LESLIE CUBE 130MM SIDES

Tinplate box with 130mm sides. The top opening is of 75mm diameter and is fitted with a lid. The apparatus is filled with water maintained at boiling point by a low bunsen flame. Infra-red sensors may be used to compare the relative radiant heat output from each of the four faces which are, respectively, blackened, roughened, varnished and polished.

KEY STAGE **KS3-5**

CODE	PRICE
P411	£17.51

HEAT ABSORPTION & RADIATION COMPARATOR

The apparatus allows demonstration for comparing heat absorption & radiation between dull and black bodies. Comprises a 12 V bulb which acts as a heat source and 2 parabolic metal bodies, one finished in black and one in shiny metal. These bodies have 2 thermometer holders attached for temperature readings. Instructions included.

PRICE FROM **£32.93**

KEY STAGE **KS3-5**

CODE	PRICE
211-011	£32.93

THERMOMETER PLATINUM RESISTANCE

Platinum resistance thermometer for showing the principles of platinum resistance thermometry and accurate temperature measurement. Suitable for temperatures below 150 degrees C. Fine platinum wire of 20hms resistance wound non-inductively on a mica frame and soldered to copper leads. Base has 4mm socket terminals.

PRICE FROM **£4.50**

KEY STAGE **KS3-5**

CODE	PRICE
PH0425	£115.24

HEATER BLOCK, CALORIMETER

For the experimental determination of the specific heat capacity of different metals. Cylindrical metal blocks, mass 1kg adjusted to an accuracy of ±2%. Each block is drilled with two holes, a large central hole 12.5mm diameter for a special immersion heater and a smaller hole of 7.5mm diameter for a thermometer or temperature sensor.

KEY STAGE **KS3-5**

CODE		PRICE
CABLCU	Copper, 102 x 40mm	£29.63
CABLBR	Brass, 108 x 40mm	£24.15
CABLST	Steel, 115 x 40mm	£13.17
CABLAL	Aluminium, 100 x 70mm	£13.17

CALORIMETER

With parallel sides and rolled rim, without stirrer.

KEY STAGE KS3-5

CODE		PRICE
PH0438A	CU 75 x 50mm	£5.49
PH0438B	Copper 100 x 75mm	£5.49
PH0440A	Aluminium 75 x 50mm	£4.94
211-007	Copper 100 x 65mm	£8.23
PH0440B	Aluminium 100 x 75mm (excl Stirrer)	£5.49

CALORIMETER SET - ALUMINUM

CONTAINS: Fibre insulator, Stirrer, Rubber stopper, Transparent cover, Thermometer.

KEY STAGE KS3-5

TECHNICAL SPECIFICATIONS	
Outer Vessel (mm):	125 x 145
Inner Vessel (mm):	100 x 125
Capacity:	1 litre
Weight:	700g

CODE	PRICE
211-002	£49.39

CALORIMETER SET 2

JOULE'S CALORIMETER SET:
Precision heating element.
Custom made foam plastic heat insulation.
Spare cap included for when an experiment does not require heat.
Stirrer and stopper included.
No thermometer included.

It is a 1% resistance tolerance 2W resistor conveniently mounted on nickel plated brass polesby means of a transverse screw.

PRICE FROM **£59.00**

KEY STAGE KS3-5

TECHNICAL SPECIFICATIONS	
Outer Vessel (mm):	110 x 100
Inner Vessel (mm):	70 x 65
Precision Heater:	12W

CODE	PRICE
211-010	£64.75

CALORIMETER SET

Resting on a felt pad inside an outer vessel 100 x 75mm (diameter). The outer vessel is fitted with a detachable clip-type thermometer support. Complete with stirrer.

KEY STAGE KS3-5

CODE	PRICE
PH0444	£20.85

CALORIMETER, JOULES

For the determination of the specific heat capacity of a liquid by the electrical method. The unit is a nickel-plated copper calorimeter 75 x 50mm (diameter), lagged and enclosed within an outer vessel 100 x 75mm (diameter). A close-fitting ebonite lid is provided with a wire stirrer, and a pair of 4mm socket terminals connected to a contestant wire heating coil. The resistance of the coil is approximately 6Ω and should be used with a current 0.5A (with a maximum of 1A). Supplied without thermometer.

CODE	PRICE
PH0452A	£53.78

STEAM GENERATOR 1.5 LITRES WITH HANDLE

Steam generator constructed from copper. 280 x 115mm, capacity 1.5L. Neck is 23mm in diameter. With side tube and water gauge.

CODE	PRICE
PH0458	£19.21

THERMOELECTRIC CONVERTER

A series of semiconducting junction plates is sandwiched between 2 aluminium heat-conducting plates. When a temperature difference exists between the 2 sides of the junction plate, electric current is generated to drive a little fan, providing a visual demonstration of the current produced. There is a switch on the thermoconverter to switch the junction plates between the motor fan or a pair of 4mm sockets. When the 4mm sockets pair are selected and driven with a 5V DC voltage, a temperature difference will be created and conducted by the aluminium plates.

CODE	PRICE
211-008	£53.78

THERMOPILE

Four 130mm long copper and iron wires twisted together to form seven junctions, four on one side and three on the other. Fitted with brass connectors.

CODE	PRICE
PH0428	£7.13

COMPACT LIGHT SOURCE

Compact light source: a 12V,100W quartz iodine lamp in a ventilated housing. Two adjacent sides have 19mm diameter apertures that can be used to produce an intense 'line' source, or end-on as a powerful 'point' source. The lamp housing is mounted on a stainless steel rod about 150mm x10mm diameter. Supplied complete with an 80cm lead with twin 4mm plugs.

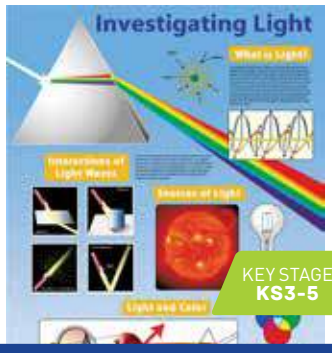
PRICE FROM **£218.40**

KEY STAGE **KS3-5**

CODE	PRICE
241-525	£218.40

POSTER: INVESTIGATING LIGHT (LAMINATED)

An illuminating look at light, its sources and applications.



KEY STAGE **KS3-5**

CODE	PRICE
44-35-1121	£35.38

PINHOLE VIEWER

With this device, students learn how the intensity of light and differently shaped lenses affect what the eye actually sees.

KEY STAGE **KS3-5**

CODE	PRICE
6016	£31.23

LIGHT ENERGY KIT

Help your students to understand the properties of light energy with this kit. 18 activities, including light transmission, light theory and colour, light sources, reflection, refraction and diffraction of light. Teacher's Guide included.

KEY STAGE **KS3-5**

CODE	PRICE
3981	£132.16

PINHOLE CAMERA KIT

The kit consists of 8 cardboard boxes 150 x 100 x 100mm with hole, screen and lid; filament lamp; 50 sheets of black paper 200 x 250mm; one 60W lamp; one mounted lamp holder with flex; one packet of pins. Uses a basic pinhole camera to show the principles of image formation.

PRICE FROM **£49.39**

KEY STAGE **KS3-5**

CODE	PRICE
PH0607	£49.39

REFLECTION, DIFFRACTION, REFRACTION KIT

These hands-on experiments reveal the mystery of how light travels. This kit includes instructions for reflecting and refracting light, and includes light theories. A variety of translucent opaque objects and a Teacher's Guide are also included.

CODE	PRICE
4003	£125.55

RAYBOX WITH ACCESSORIES

The raybox can be used in a single-ray mode without using the plano-convex lens. However, with the lens inserted (plane face towards the light source), and using the two-slit, three-slit or broad-slit masks, the emergent light can be made to be divergent, convergent or parallel by adjusting the position of the light source in relation to the lens. These facilities enable the raybox to be used in a wide range of optical experiments with transparent flat based blocks, prisms and mirrors.

CODE	PRICE
EDU039N	£21.95

RAYBOX MIRRORED WITH ACCESSORIES (LIGHT & OPTIC KIT)

This kit is very useful for reflection, refraction and colour mixing experiments. The Mirrored Raybox (code: EDU528) consists of a light source (12V, 24W lamp) producing a convergent, divergent or parallel beam. On one end there is an adjustable cylindrical convex lens (for parallel beam) and a triple aperture system for colour mixing experiments at the other end. (Lateral aperture is provided with adjustable hinged mirror). All apertures in the box are provided with vertical channels to hold slit-plates and colour filters.

CODE	PRICE
ESR23	£53.78

RAYBOX WITH ACCESSORIES

The raybox can be used in a single-ray mode without using the plano-convex lens. However, with the lens inserted (plane face towards the light source), and using the two-slit, three-slit or broad-slit masks, the emergent light can be made to be divergent, convergent or parallel by adjusting the position of the light source in relation to the lens. These facilities enable the raybox to be used in a wide range of optical experiments with transparent flat based blocks, prisms and mirrors.

CODE		PRICE
EDU656	RayBox Slit Plates (Pk2)	£5.49
EDU528	RayBox Mirrored (No accessories)	£27.44

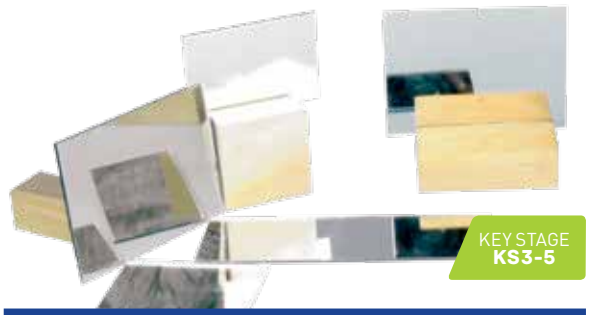
RAY BOX (12V)

Used for a wide range of optics experiments with this high quality, robust ray box. Designed with two slots to hold blanking plates, seven grooves for lenses. Supplied with 12V, 20 - 24W, bulb, holder, slit plates, blanking plates and instructions.

CODE	PRICE
EDU1207	£29.58

MIRROR, PLANE GLASS, UNMOUNTED

Optically worked glass. Silver backed with protective coating. Unmounted.



CODE		PRICE
EDU909	50 x 50 (Pk10)	£5.48
PH0514A	75 x 25 (Pk10)	£5.48
PH0514B	75 x 50 (Pk10)	£5.48
PH0514C	100 x 75 (Pk10)	£5.48
PH0514D	150 x 25 (Pk10)	£5.48
PH0514E	150 x 50 (Pk10)	£5.48
PH0514E	150 x 100 (Pk10)	£5.48
PH0516	Mirror Support Block (Pk10)	£11.52

RAYBOX BULB

Accessories for Raybox (code: EDU528).

CODE	PRICE
RAYBULB	£2.83

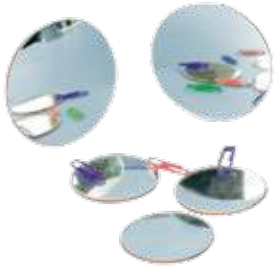
RAYBOX COLOUR FILTERS PLASTIC MOUNTED (SET 8)

CODE	PRICE
CFSET6	£8.78

CONCAVE MIRRORS

CODE		PRICE
PH0520B	50mm Dia. 75F (Pk10)	£9.87
PH0520C	50mm Dia. 100F (Pk10)	£9.87
PH0520D	50mm Dia. 150F (Pk10)	£9.87
PH0520E	50mm Dia. 200F (Pk10)	£9.87
PH0520F	50mm Dia. 300F (Pk10)	£9.87
PH0520L	75mm Dia. 300F (Pk10)	£9.87
PH0520	50mm Dia. 250F (Pk10)	£5.48
PH0516	Mirror Support Block (Pk10)	£11.52

CONVEX MIRRORS



KEY STAGE KS3-5

CODE		PRICE
PH0526B	50mm Dia. 75F (Pk10	£9.87
PH0526C	50mm Dia. 100F (Pk10)	£9.87
PH0526D	50mm Dia. 150F (Pk10)	£9.87
PH0526E	50mm Dia. 200F (Pk10)	£9.87
PH0526F	50mm Dia. 300F (Pk10)	£9.87
PH0526L	75mm Dia. 300F (Pk10)	£9.87

PRISM - CLEAR GLASS VARIOUS

High quality glass with optically worked surfaces. All angles accurately worked. The edges are slightly bevelled and the glass completely bubble-free.

KEY STAGE KS3-5

CODE		PRICE
PH0566A	Prism - Clear Glass Rectangular Block 75 x 50 x12mm	£2.14
PH0566B	Prism - Clear Glass Rectangular Block 75 x 50 x 18mm	£3.24
PH0566C	Prism - Clear Glass Rectangular Block 100 x 60 x 18mm	£4.94
GBREC	Prism - Clear Glass Rectangular Block 115 x 65 x 18mm	£6.53
PH0566E	Prism - Clear Glass Rectangular Block 125 x 65 x 18mm	£4.94
PH0558A	Prism - Glass Right Angled 25 x 25mm	£2.14
PH0556A	Prism - Clear Glass Equilateral 25 x 25mm	£2.14
PRMEQ38	Prism - Clear Glass 60 x 60 x 60mm Deg - 38 x 38mm	£2.69
PREMQ50	Prism - Clear Glass 60 x 60 x 60mm Deg - 50 x 50mm	£2.69
PRIG38	Prism - Clear Glass 90 x 45 x 45mm Deg - 38 x 38mm	£2.80
PRIG50	Prism - Clear Glass 90 x 45 x 45mm Deg - 50 x 50mm	£2.80
PRISM	Prism - Clear Glass 90 x 60 x 30mm	£4.34
PH0570C	Prism - Clear Glass Semi Circular 90 x 16mm thick	£4.34

PRISMS - ACRYLIC VARIOUS

A clear polished acrylic prism for optics experiments.

KEY STAGE KS3-5

CODE		PRICE
ACB010	Prism - Acrylic 25mm Block - Rectangle 75 x 50mm	£5.05
ACB011	Prism - Acrylic 25mm - Biconvex 75 x 115mm	£5.05
ACB012	Prism - Acrylic 25mm - Biconcave 75 x 115mm	£5.05
ACB013	Prism - Acrylic 25mm - Semi Circle 75mm Dia.	£5.05
PH0570A	Prism - Acrylic Semi Circular Block 90 x 16mm Thick	£3.24
PH0570B	Prism - Acrylic Semi Circular Block 90 x 25mm Thick	£3.24
PH0560A	Prism - Perspex Acrylic Equilateral 38 x 38mm	£3.24
PH0564	Prism - Acrylic Narrow 15 x 60 x 20mm (Pair)	£5.43
ACB014	Prism - Acrylic 25mm Equilateral 57mm Sides 60 x 60 x 60mm	£5.05
GACB3	Prism - Giant, Acrylic 25mm - Rectangle 180 x 120mm	£13.17
GACB1	Prism - Giant, Acrylic 25mm - Equilateral 190 x 190 x 190mm	£13.17
PH0562A	Prism - Perspex Acylic Right Angled 35 x 25mm	£2.73
ACB015	Prism - Acrylic 25mm - Triangle 75mm Side 90 x 45 x 45mm	£5.05
ACB016	Prism - Acrylic 25mm - Triangle 75mm Sides 90 x 60 x 30mm	£5.05
PH0568B	Acrylic Rectangular Block 100 x 65mm	£4.38

PRISM - ACRYLIC 22MM (BOXED SET OF 7)

CONSISTS OF 7 BLOCKS, ALL FACES FULLY POLISHED: Rectangle 75 x 50mm; Semi-circular 75mm dia.;Triangle 60 x 60 x 60° with 58mm side; Triangle 90 x 45 x 45° with 75mm hypotenuse; Triangle 90 x 60 x 30° with 75mm hypotenuse; Bi-convex, 75mm long curved faces, 100mm radius; Bi-concave, 75mm long curved faces, 100mm radius, 25mm thick.

KEY STAGE KS3-5

CODE	PRICE
ACB017	£31.83

LIGHT GUIDE DEMONSTRATOR

An 'S' shaped acrylic bar 220 x 20 x 20mm which can be used with the Raybox (code: EDU528) to demonstrate total internal reflection. It helps students to understand the principles of optical communications. The bottom of the bar is painted white to aid visibility.

KEY STAGE KS3-5

CODE	PRICE
WB005	£36.22

TRIANGULAR PRISMS

Optically worked prisms for use with Spectrometer. Equilateral triangle, two faces polished. 32 x 32mm.

KEY STAGE KS3-5

CODE		PRICE
PH0583A	Prism - Borosilicate Glass Crown R Index 1.51	£21.40
PH0583B	Prism - Flint Glass Dense R Index 1.62	£31.83
PH0583C	Prism - Extra Dense Glass Flint R Index 1.65	£31.83
PH0583D	Prism - Double Extra Dense Glass Flint R Index 1.71-1.74	£53.78

LENSES CYLINDRICAL GLASS

Single high quality precision finished lens for a variety of light and optics experiments. Individually pouched and supplied in a neat presentation case.

KEY STAGE KS3-5

CODE		PRICE
CYLEN10	50 x 45 F 75mm - Planoconvex	£9.88
CYLEN05	50 x 45 F 75mm - Biconcave	£5.98
CYLEN01	50 x 45 F 75mm - Biconvex	£5.98

LENSES BICONCAVE/ CONVEX 50MM X 100/150F

Biconcave, 50mm. Focal Length: 100mm
Biconcave, 50mm. Focal Length: 150mm
Biconvex, 50mm. Focal Length: 100mm
Biconvex, 50mm. Focal Length: 150mm

KEY STAGE KS3-5

CODE		PRICE
EDU144	(Pk4)	£9.87

LENS MENISCUS

High quality precision finished lenses for a variety of light and optics experiments. Individually pouched and supplied in neat presentation cases.

KEY STAGE KS3-5

CODE		PRICE
LEME11D	Lens Meniscus + 11D 50mm Dia.	£5.49
LEME3D	Lens Meniscus - 3D 50mm Dia.	£5.49
LEME55D	Lens Meniscus + 5.5mm Dia.	£5.49
LEME25D	Lens Meniscus + 2.5 D 50mm Dia.	£5.49
LEME8D	Lens Meniscus + 8D 50mm Dia.	£5.49

LENS HOLDER (WOODEN) FOR UP TO 76MM DIA

A wooden holder to take lenses or mirrors up to 76mm diameter. Comprising an upright 100mm high with V-shape slot to hold a convex or concave lens, mounted on a rectangular base 100 x 50mm. An index mark is engraved on each end of the base.

KEY STAGE KS3-5

CODE		PRICE
P550/F	Lens Meniscus + 11D 50mm Dia.	£1.92

LENSES BICONCAVE & BICONVEX GLASS (PK 20)

High quality precision finished lenses for a variety of light and optics experiments

KEY STAGE KS3-5

CODE		PRICE
LBVL050	Biconcave Glass 50mm - 50mm Focal	£9.87
LBVL100	Biconcave Glass 50mm - 100mm Focal	£9.87
LBVL150	Biconcave Glass 50mm - 150mm Focal	£9.87
LBVL200	Biconcave Glass 50mm - 200mm Focal	£9.87
LBVL250	Biconcave Glass 50mm - 250mm Focal	£9.87
LBVL300	Biconcave Glass 50mm - 300mm Focal	£9.87
LBVL500	Biconcave Glass 50mm - 500mm Focal	£9.87
LBVS050	Biconcave Glass 38mm - 50mm Focal	£9.87
LBVS100	Biconcave Glass 38mm - 100mm Focal	£9.87
LBVS150	Biconcave Glass 38mm - 150mm Focal	£9.87
LBVS200	Biconcave Glass 38mm - 200mm Focal	£9.87
LBVS250	Biconcave Glass 38mm - 250mm Focal	£9.87
LBVS300	Biconcave Glass 38mm - 300mm Focal	£9.87
LBVS500	Biconcave Glass 38mm - 500mm Focal	£9.87
LBXL050	Biconvex Glass 50mm - 50mm Focal	£9.87
LBXL100	Biconvex Glass 50mm - 100mm Focal	£9.87
LBXL150	Biconvex Glass 50mm - 150mm Focal	£9.87
LBXL200	Biconvex Glass 50mm - 200mm Focal	£9.87
LBXL250	Biconvex Glass 50mm - 250mm Focal	£9.87
LBXL300	Biconvex Glass 50mm - 300mm Focal	£9.87
LBXL500	Biconvex Glass 50mm - 500mm Focal	£9.87
LBXS050	Biconvex Glass 38mm - 50mm Focal	£9.87
LBXS100	Biconvex Glass 38mm - 100mm Focal	£9.87
LBXS150	Biconvex Glass 38mm - 150mm Focal	£9.87
LBXS200	Biconvex Glass 38mm - 200mm Focal	£9.87
LBXS250	Biconvex Glass 38mm - 250mm Focal	£9.87
LBXS300	Biconvex Glass 38mm - 300mm Focal	£9.87
LBXS500	Biconvex Glass 38mm - 500m Focal	£9.87

LENS HOLDER FOR 60MM DIA. WITH BASE (PK 5)

Plastic lens holder suitable to house lenses up to 50mm. Mounted on base. Used in conjunction with Light & Optics experiments. Simple locking ring holds lens firmly in position.

KEY STAGE KS3-5

CODE	PRICE
EDU734	£16.46

OPTICAL PIN 50MM LONG (PK 100)

Optical Pins Pack of 100.

PRICE FROM £5.43

KEY STAGE KS3-5

CODE	PRICE
241-512	£5.43

LASER PEN

This inexpensive and lightweight laser pen is useful for ray optics demonstrations and simple diffraction work. To help with this you do not have to keep your finger on the button. Once pressed the pen will stay on until the button in pressed again. In addition to this you can make your point on overhead images with this useful presentation tool.

CAUTION: Laser Light. Do not stare into the beam or view directly with optical instruments.

KEY STAGE KS3-5

CODE	PRICE
712-004	£6.53

ROTATABLE OPTICAL DISC HARTLEY'S

A 230 mm diameter disc marked from 0 to 360 degree at every 1 degree, with centre mark, on a stable base. The main disc and the lamp house with 12V, 24W bulb can be rotated and held in any desired position. With the lamp house, a rotatable disc with single, double, triple and quadruple slits and with adjustable lens carrier with lens for divergent, parallel or convergent light beams is provided. Optical elements provided for reflection are 50 mm wide. Optical element for refraction are semicircular, biconvex, biconcave, right angle prism and a trapezoidal acrylic blocks. These optical elements have powerful magnets attached for fixing of blocks to the disc.

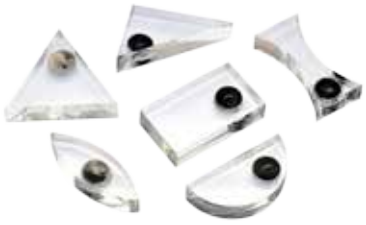
PRICE FROM £64.75

KEY STAGE KS3-5

CODE	PRICE
241-515	£64.75

SET OF 6 OPTICAL ELEMENTS FOR USE WITH HARTLEY'S ROTATABLE DISC

A 230 mm diameter disc marked from 0 to 360 degree at every 1 degree, with centre mark, on a stable base. The main disc and the lamp house with 12V, 24W bulb can be rotated and held in any desired position. With the lamp house, a rotatable disc with single, double, triple and quadruple slits and with adjustable lens carrier with lens for divergent, parallel or convergent light beams is provided. Optical elements provided for reflection are 50 mm wide. Optical element for refraction are semicircular, biconvex, biconcave, right angle prism and a trapezoidal acrylic blocks. These optical elements have powerful magnets attached for fixing of blocks to the disc.



KEY STAGE KS3-5

CODE	PRICE
241-516	£16.46

SEMICONDUCTOR LASER

This laser emits an intense monochromatic red beam of wavelength 630 - 640nm at 0.9mW (Class II operation). Typical beam divergence is approximately 1 millirad. The laser beam can be modulated by applying an external digital or analogue waveform to the 3.5mm jack socket on the rear panel. Alternatively the beam can be modulated by the internal generator which produces 0.1µs pulses at approximately 1MHz. This allows speed of light experiments to be easily performed.

PRICE FROM **£268.89**

KEY STAGE **KS3-5**

CODE	PRICE
241-510	£268.89

DEMONSTRATION LINE LASER (RED)

This Black & Decker BDL120 is a manual levelling laser which projects a laser line along the wall, and large bubble vials with back lights allow levelling in both horizontal and vertical modes. The unit will rotate 360° on the wall – which allows line generation in any direction. Suitable applications for this machine includes: installing shelves, hanging curtain rods and blinds, hanging pictures, hanging a series of pictures up/down a stairwell at an angle or hanging ornamental objects at the same level.

PRICE FROM **£34.57**

KEY STAGE **KS3-5**

CODE	PRICE
241-548	£34.57

SIMPLE OPTICAL BENCH

COMPRISES THE FOLLOWING:
Opaque screen, Lens Holder with Biconvex Lenses, One meter rule, Lamp housing, complete with 2 AA, Alkaline Batteries.

PRICE FROM **£48.29**

KEY STAGE **KS3-5**

CODE	PRICE
241-533	£48.29

OPTICAL BENCH SET

For use in a wide range of optics experiments including focal length of lenses, curvature or mirrors and lens combinations etc.

Comprises: non-twisting aluminium alloy bench (1,200mm) with easy to read scale divided into cm and mm; light source with mounting rod, bulb (12V, 24W), 2m of flex and 2 x 4mm plugs; 3 x universal holders on sliders: 50 x 50mm slides: triangular gauze object with image return screen, 2 x pin objects, diffuser/screen and scale object; magnification accessory with concentric circles 10mm and 20mm diameter; 100 x 100mm double sided scaled screen on slider; 50 x 50mm plane mirror.

PRICE FROM **£174.50**

KEY STAGE **KS3-5**

CODE	PRICE
EDU1208	£174.50

OPTICAL BENCH KIT 12V 24W

Wooden optical bench with accessories. 1.5 metres long with millimetre divisions.

MOUNTED ACCESSORIES: Lamp housing with white lamp; white metal object screen of 75mm diameter; lens holder for 38mm diameter lenses; object needle mounted on 6mm metal rod; plane mirror in metal frame, 100x75mm; white metal receiving screen with slot for squared paper.

CODE	PRICE
PH0666	£99.00

SLIT & WIRE SET

Set of components for experiments on diffraction by a slit or wire. Essential set to study diffraction phenomenon by a slit or a wire. Babinet's theorem can be checked.

CODE	PRICE
705-003	£1562.84

ABERRATION STUDY

Study of the various optical aberrations chromatic, distortion, curvature... Chromatic aberrations result in an image whose edges are iridescent red and blue outline. The optical system is not infinitely thin, there is a dispersion of the different wavelengths there through which will focus is not in the same plane. Thus, for lenses, the focal plane of blue is upstream of the red.

The effect will be reversed in the case of a diverging lens. To correct this aberration, a converging lens and a diverging lens of glasses of different indices (Crown and Flint) in order to match the red and blue focal planes are associated. This correction is called achromatic doublet or achromat. With colour filters, it can be noted the positions of the red and blue focal planes, for both a highly aberrant system as a condenser, for a conventional lens and an achromat.

KEY STAGE
KS3-5

CODE	PRICE
705-002	£965.80

Spherical aberrations result in a blurred image. Paraxial and marginal rays are not the same distance and do not focus year the same plane. An iris diaphragm allows you to select the paraxial rays and see the effect of aberrations on the image.

To correct this aberration, so called aspheric lenses -whose profile was modified to compensate for the optical path difference between the marginal and paraxial rays- are used. It is also possible to observe other types of geometric aberrations such as distortion or coma.

SLIT & WIRE SET

Set of components for experiments on diffraction by a slit or wire. Essential set to study diffraction phenomenon by a slit or a wire. Babinet's theorem can be checked.

CODE	PRICE
705-003	£1562.84

BASIC STUDENT MICHELSON SET

Set of items for the study of the Michelson interferometer with He-Ne laser. These sets are economical and provide students with a complete approach to interferometry and its adjustments. The use of an interferometer with an adjustable compensation plate permits the use in white light and spectral lamps.

The laser main set can be completed by additional accessories : Spectral source, white source, empty tank, thin plate kit, 2D Ovisio digital detectors...

CODE	PRICE
705-005	£4038.80

FAUNHOFER'S FIGURE SET

Study of diffraction and interferences of laser with various openings, on bench . This is the complete set to study laser diffraction and interference. With the oVisio system included in the kit you can immediately visualize on the computer and observe intensity profiles of different figures.

CODE	PRICE
705-004	£3143.24

BALMER STUDY WITH CCD SPECTROMETER

Study of the Balmer rays with an Hydrogen spectral Lamp and CCD spectrometer sensor. In addition to the the CCD spectrometer, this set contains a spectral source with several gasses (including hydrogen) and permits the measurement of wavelength, the identification of different gazes but also the very important study of Balmer's lines of Hydrogen atom.

CODE	PRICE
705-006	£2282.80

INTRODUCTION TO OPTICS KIT

Classical set for the study of all basic optical principles, on magnetic board. This set enables to carry out geometrical optic experiments with one or several lenses. With a practical manual, this set will allow you to find out mirror or lens focal distance, system magnification and the conjugation law.

The source and component choice gives an interesting luminosity and precision.

CODE	PRICE
705-007	£412.66

DIFFRACTION PRACTICAL

Study of the diffraction of laser with slits and wire, on bench. This experimental kit shows how laser diffraction and laser interferences work with an excellent quality/price ratio.

The various diffraction figures given by the 3 chips (slits, wires, Young's holes, squares, rectangles...) allow a complete study of the phenomenon : from Babinet's theorem to Fraunhofer's figures.

CODE	PRICE
705-009	£834.10

COLOUR DISPERSION PRACTICAL

Study of the dispersion of light with gratings and prisms, on bench. For the study of spectra and the dispersion phenomenon, this set is perfect for illustrating and understanding the fact that light is polychromatic.

You will be able to observe the chromatic dispersion by a prism and a grating. You will also check the linearity of this dispersion, study the bandwidth of coloured filters, study the index and the minimum deviation of a prism or find back the step of a diffraction grating.

CODE	PRICE
705-010	£869.22

SPECTROMETER (ADVANCED)-OPTIMUM LENSE

This instrument is specifically designed for advanced work but is sufficiently robust for individual student use. It is capable of high performance. The main structure is of heavy cast metal with bright plated fittings. The instrument is mounted on a baseboard which fits into a polished hardwood case.

SCALE: 177mm diameter circle is fixed. The table and telescopic movements are completely independent of each other. Both movements can be read to 30sec. of arc by means of double ended verniers. Both rotations have fine adjustment screws. Release of a clamping screw enables coarse adjustment to be made manually.

COLLIMATOR: Mounted on a fixed pillar and fitted with 178mm focus achromatic objective with 32mm clear aperture.

TELESCOPE: Mounted on a movable pillar and fitted with 178mm focus achromatic objective with a 32mm clear aperture. Also fitted is x15 Ramsden eyepiece and a glass cross line graticule.

PRISM TABLE: The table is marked with lines to assist placing the prism with respect to the table levelling screws and has interchangeable clamping units for the prism and a diffraction grating.

PRICE FROM **£355.59**

KEY STAGE **KS3-5**

CODE		PRICE
PH0619	Spectrometer (Student)	£355.59

NEWTON'S RING APPARATUS

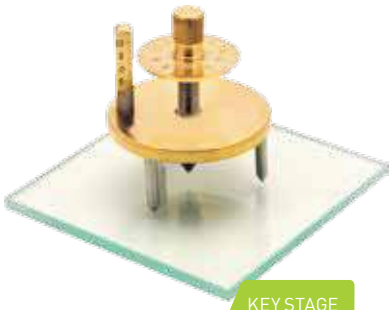
Pair of 60mm diameter optically polished glass plates, one plane and the other plano-convex, mounted together in a metal frame. The pressure between the plates is adjustable by three brass, nickel-plated screws.

KEY STAGE **KS3-5**

CODE	PRICE
PH0584	£16.46

SPHEROMETER WITH BASE

Spherometer for the accurate measurement of the radius of curvature of spherical lenses. Made of brass with a vertical scale of 10-0-10mm and a micrometer scale with 100 divisions.



KEY STAGE **KS3-5**

CODE	PRICE
PH0092	£10.98

NEWTON'S COLOUR DISC

Well finished product used for demonstrating that white light may be composed from all the spectral colours by rotation of the multi coloured disk. Mounted on a metal stand the 180mm diameter disk is driven by a belt with the help of the hand driven wheel.

KEY STAGE **KS3-5**

CODE	PRICE
P582F	£42.80

LENS, 6 ASSTD 50MM DIA. IN WOODEN BOX

A set of six 50mm diameter lenses with ground and polished faces and ground edges. One each of double convex, plano-convex, converging concave-convex, diverging concave-convex, double concave and planoconcave.
Supplied in wooden box.

KEY STAGE KS3-5

CODE	PRICE
P538	£5.49

SPECTROSCOPE - EDULAB - SET 15

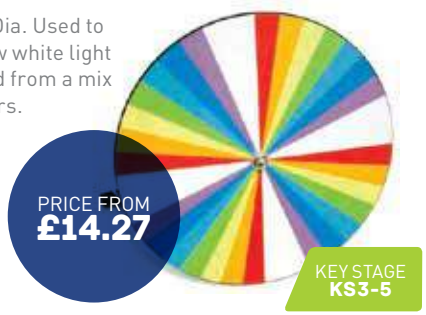
Students will get to see and appreciate the prismatic qualities of sunlight by using this 1" diameter diffraction grating spectroscope.

KEY STAGE KS3-5

CODE		PRICE
3093		£62.78
3091	Individual	£9.12

NEWTON'S COLOUR DISC, HAND SPIN MODEL

Approx 200mm Dia. Used to demonstrate how white light can be composed from a mix of primary colours.



PRICE FROM £14.27

KEY STAGE KS3-5

CODE	PRICE
241-001	£14.27

SPECTROSCOPE,DIRECT VISION (IN WOODEN BOX)

For the rapid examination of spectral composition of white light sources. This instrument gives a brilliant spectrum with a dispersion of approx. 11°. The slit is of variable width and adjusted by rotating the end piece. Supplied in a wooden case. 80 lines per mm.

KEY STAGE KS3-5

CODE	PRICE
P594	£42.80

COLOUR PADDLE

For simple experiments in subtractive colour mixing. 3 Primary Colours and 3 Secondary Colours. Filters riveted by plastic rivet. Dimension 50mm x 73mm approx. L x W.

PRICE FROM £7.81

KEY STAGE KS3-5

CODE	PRICE
241-524	£7.81

DIFFRACTION GRATING

Overall Size 50 x 50mm. Aperture Size 36 x 24mm. Mounted between two glass protecting plates.

KEY STAGE KS3-5

CODE		PRICE
EDU946	Diffraction Grating 80 lines/mm	£13.77
241-508	Diffraction Grating 100 lines	£12.02
EDU947	Diffraction Grating 300 lines/mm	£13.16
EDU948	Diffraction Grating 600 lines/mm	£12.02
EDU949	Diffraction Grating Demonstration Slide	£18.36

POLAROID SHEET

Polaroid sheet mounted in square plastic frame.

CODE	PRICE
241-518	£10.70

SPECTRUM TUBE POWER SUPPLY

PRICE FROM **£185.48**

Polaroid sheet mounted in square plastic frame.

CODE	PRICE
PH1197A	£185.48

SPECTRUM TUBE

Spectrum tube, straight form, 260mm length with 50mm long fine capillary tube. It is recommended for use in conjunction with the Spectrum Tube Holder with Power Supply (code: PH1197A).

CODE		PRICE
PH1196B9	Spectrum Tube - Hydrogen 260mm	£19.76
PH1196B8	Spectrum Tube - Iodine 260mm	£19.76
PH1196B7	Spectrum Tube - Carbon Dioxide 260mm	£19.76
PH1196B6	Spectrum Tube - Argon 260mm	£19.76
PH1196B5	Spectrum Tube - Nitrogen 260mm	£19.76
PH1196B3	Spectrum Tube - Helium 260mm	£19.76
PH1196B2	Spectrum Tube - Neon 260mm	£19.76
PH1196B12	Spectrum Tube - Xenon 260mm	£19.76
PH1196B11	Spectrum Tube - Krypton 260mm	£19.76
PH1196B10	Spectrum Tube - Sulphur 260mm	£19.76
PH1196B1	Spectrum Tube - Oxygen 260mm	£19.76

SODIUM SPECTRAL LAMP

Spectral Lamps.

PRICE FROM **£53.78**

CODE		PRICE
241-500	Sodium Spectral Lamp	£53.78
241-521	Mercury Spectral Lamp	£53.78

HAND HELD UV LAMP

A battery operated ultra violet light source suitable for Forensic Science investigations. Takes 4 x AA cell (not supplied). Fitted with 150mm UV fluorescent tube.

CODE	PRICE
241-523	£15.12

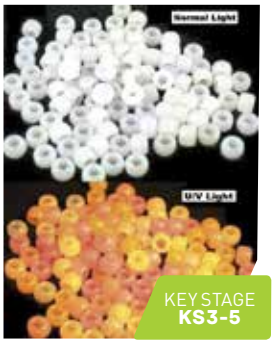
SPECTRAL LAMP POWER SUPPLY WITH LAMP HOLDER

Spectral lamps produce monochromatic light at high intensity. Edu-Lab's spectral lamps have a glass tube with an inner discharge column. The discharge column contains the gas.

KEY STAGE **KS3-5**

CODE	PRICE
241-004	£181.09

U.V. DETECTING BEADS PACK OF 100



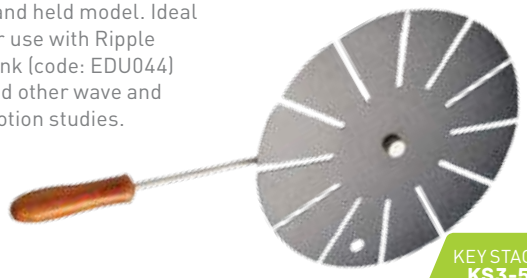
These UV sensitive beads turn from white to varying bright colours when exposed to sunlight or other UV sources.

The beads can be used, for example, to test the effectiveness of UV protection in sunglasses or to create a simple bracelet which can function as a UV detector.

KEY STAGE **KS3-5**

CODE	PRICE
EDU1249	£16.46

STROBOSCOPE (HAND HELD MODEL)



Hand held model. Ideal for use with Ripple Tank (code: EDU044) and other wave and motion studies.

KEY STAGE **KS3-5**

CODE	PRICE
EDU767	£10.43

STROBOSCOPE, XENON - (REVOLUTION CALIBRATION METER) - EDULAB

The Edulab stroboscope is also known as a revolution calibration meter as well as a stroboscopic lamp.
It emits an instantaneous intense Xenon flash which can be synchronized with the speed of a target object.

This procedure permits calculation of the speed of an object that has an unknown movement speed or rotational velocity. In practice, the target object will appear to be moving slowly or stationary, however, in reality it is easily photographed using standard digital cameras.

Used in a wide variety of scientific and industrial applications. It features a rotating encoder to facilitate rapid frequency modulation.

It incorporates a high performance microcontroller as the processing unit and it includes a specific display chip which drives the 7-segment LED to present real-time flashing frequency data.

Operation is simple and convenient with complete instructions supplied.

PRICE FROM **£218.40**

KEY STAGE **KS3-5**

CODE		PRICE
241-002		£218.40
241-547	Stroboscope Xenon (Spare Tube)	£16.46

MAGNETS KIT

Help students understand the force of magnetism with these exciting experiments including classifying magnetic and non-magnetic materials, what attracts and repels, magnetic force through solids, how compasses react to a magnetic field and more. Includes a Teacher's Guide and material for five students.

KEY STAGE KS3-5

CODE	PRICE
4006	£125.55

METAL TESTING STRIPS 50X25MM (SET 12)

A set of twelve metal strips for magnetism experiments. Each strip is stamped with a key letter for easy identification.

The set contains magnetic and non-magnetic metals.

KEY STAGE KS3-5

CODE	PRICE
EDU889	£6.59

METAL DISCS - SET OF 8

Metal discs each stamped with the metal name. Consists of: brass, copper, bronze, nickel, mild steel, stainless steel, zinc and aluminium. 25mm diameter. Set of 8.

KEY STAGE KS3-5

CODE	PRICE
EDU149	£4.66

METAL DISCS - SET OF 16 (8 STAMPED & 8 UNSTAMPED)

Metal discs each stamped with the metal name. Consists of: brass, copper, bronze, nickel, mild steel, stainless steel, zinc and aluminium. 25mm diameter.

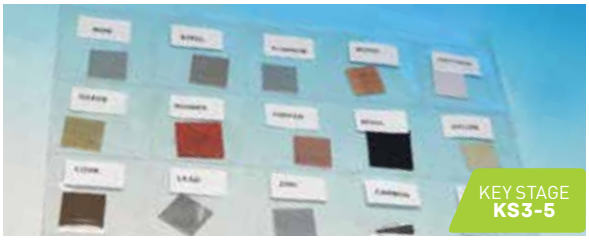
Set of 16 (8 unstamped).

KEY STAGE KS3-5

CODE	PRICE
EDU150	£9.33

MATERIALS COLLECTION FOR MAGNETISM STUDIES

A collection of twenty various magnetic and non-magnetic materials for teaching the principles of magnetism.



KEY STAGE KS3-5

CODE	PRICE
221-003	£16.46

MAGNET ALNICO BARS & KEEPER + BAR CHROME

ALNICO magnets. Dimensions are nominal.
Boxed in pairs with keepers. 13mm or 15mm thick.

KEY STAGE KS3-5

CODE		PRICE
PH0788E	Magnet Alnico Bars & Keeper 150 x 15 x 10 (Pr)	£20.85
PH0786B	Magnet Bar Chrome Steel 50 x 12 x 5 (Pr)	£3.57
PH0786C	Magnet Bar Chrome Steel 75 x 12 x 5 (Pr)	£4.34
PH0786E	Magnet Bar Chrome Steel 150 x 12 x 5 (Pr)	£6.53
PH0786D	Magnet Bar Chrome Steel 100 x 12 x 5 (Pr)	£5.21

MAGNET ALNICO BARS & KEEPER

ALNICO magnets. Dimensions are nominal. Boxed in pairs with keepers. 13mm or 15mm thick.50x15x10mm.

KEY STAGE KS3-5

CODE		PRICE
PH0787A	Magnet Alnico Bars & Keeper 37 x 13 x 10 (Pr)	£4.94
PH0788A	Magnet Alnico Bars & Keeper 37 x 15 x 10 (Pr)	£4.94
PH0787B	Magnet Alnico Bars & Keeper 50 x 13 x 10 (Pr)	£8.73
PH0788B	Magnet Alnico Bars & Keeper 50 x 15 x 10 (Pr)	£8.73
PH0787C	Magnet Alnico Bars & Keeper 75 x 13 x 10 (Pr)	£13.12
PH0788C	Magnet Alnico Bars & Keeper 75 x 15 x 10 (Pr)	£13.12
PH0787D	Magnet Alnico Bars & Keeper 100 x 13 x 10 (Pr)	£15.91
PH0788D	Magnet Alnico Bars & Keeper 100 x 15 x 10 (Pr)	£16.41
PH0787E	Magnet Alnico Bars & Keeper 150 x 13 x 10 (Pr)	£16.74

MAGNETIC ACTIVITY KIT

Consists of 5 anisotropic ferrite magnets, a rod, screw-on caps and washers. Instructions included. Easy-to-use kit demonstrates N & S pole, levitation by repulsion, strength and distance, how to make a stronger magnetic field, magnetic fields through liquids, solids and gases.

KEY STAGE KS3-5

CODE	PRICE
221-001	£31.83

FLOATING MAGNETS - COLOURED

A set of 5 ceramic magnets, of 32mm external diameter, mounted on a 150mm high wooden pole. Illustrates magnetic repulsion forces.

KEY STAGE KS3-5

CODE	PRICE
PH0797A	£4.93

MAGNETISING & DEMAGNETISING COIL

A solenoid wound with insulated copper wire and mounted on a base, complete with switch and 4mm socket terminals. Low voltage, suitable for magnetising and demagnetising ordinary magnets, iron bars, strips etc.

KEY STAGE KS3-5

CODE	PRICE
PH0804	£53.78

MAGNETISING BOX (RE-MAGNETISER)

Re-magnetiser for bar and horseshoe magnets. No electricity required.

KEY STAGE KS3-5

CODE	PRICE
221-800	£31.83

MAGNETIC NEEDLE (JEWEL BEARING) 50MM (SINGLE)

Carbon steel needle with jewel or brass pivot bearing.

KEY STAGE KS3-5

CODE		PRICE
MGND50	50mm (Single)	£2.02
MGND75	75mm (Single)	£2.02

MAGNETIC FIELD APPARATUS

A set of 3 perspex-mounted wire arrangements designed to demonstrate the electromagnetic fields generated by a current passing through a conductor.

KEY STAGE KS3-5

CODE	PRICE
EDU143	£108.65

MAGNETIC NEEDLE, BRASS

Carbon steel needle with jewel or brass pivot bearing.

KEY STAGE KS3-5

CODE		PRICE
P816A	50mm	£1.45
P816B	75mm	£1.73
P816C	100mm	£2.25

MAGNETIC FIELD DEMONSTRATOR (4 PLATES)

PRICE FROM £42.80

Ever tried removing iron filings from a magnet? This is the perfect solution for previously-messy magnetic field line demonstrations, clearly revealing the field lines in 1, 2 or 3 dimensions without the need for loose iron filings. Equally suited for demonstration purposes and students' experiments.

KEY STAGE KS3-5

CODE	PRICE
PH0803	£42.80

MAGNETIC NEEDLE STAND. PLASTIC

Non-magnetic metal pillar with carbon steel point, on stable base, of overall height 110mm.

KEY STAGE KS3-5

CODE	PRICE
P818A	£3.47

MAGNETIC NEEDLE STAND, METAL

Non-magnetic metal pillar with carbon steel point, on stable base, of overall height 110mm.

CODE	PRICE
P818	£4.34

COMPASS, PLOTTING (ONE GLASS FACE) (PK 10)

Dial marked with the cardinal and ordinal points of the compass. Glass faced on one side in aluminium case. 16mm diameter.

CODE	PRICE
PH0820A	£2.18

COMPASS, PLOTTING (TWO GLASS FACE) (PK 10)

Glass faced on both sides, mounted in aluminium ring of 20mm diameter. Provided with a durable plastic case for storage.

CODE	PRICE
PH0822	£4.94

MEASUREMENT IN THE LABORATORY LAB

Study key measuring methods & techniques. Expand the foundational science skills of your class, making them familiar with the basic units of measurement. Your students will master the common measurement skills used in the introductory science laboratory through skill-oriented explorations.

Using comprehensive, curriculum-based investigations, they learn about the metric system, mass, volume, density, gravity, temperature and pH. Through these activities, the class gains a thorough understanding of how to gather information, graph and analyze data, and interpret scientific diagrams. Class size - 40 students. Suitable for KS3.

CODE	PRICE
20-1053	£103.33

RULER WOODEN

Well finished hardwood ruler graduated on both edges in centimetres and millimetres. One edge labelled 0-100cm left to right, the other edge in reverse. Pack of 10

CODE		PRICE
RU06	Ruler, 1 Metre Wooden - cm, mm Division	£3.02
RU08	Ruler, Metric Wooden 0.5metre - cm, large figures	£1.92
RU06/10	Ruler, 1 Metre Wooden cm/mm (Pk10)	£21.40

STOP CLOCK (METAL CASE)

A general purpose stop clock with large start and reset triggers for operation. Housed in a black powder-coated metal case with 100mm dial. Packed in sturdy case with protective foam insert.

CODE	PRICE
STPCLCK	£14.27

CALLIPERS IN-OUT

Steel calipers for external and internal measurement.

CODE	PRICE
PH0082	£2.20

OPISOMETER

For measuring the length of curved lines. Consists of a knurled wheel which runs on a transversely mounted threaded spindle.

CODE	PRICE
PH0094	£5.21

EQUAL ARM BEAM BALANCE

An educational standard, this balance features a durable one-piece base, moulded of high impact styrene with three-point suspension for self-levelling. The beam is aluminium for lightweight sensitivity and pivots from self-aligning genuine agate bearings. Two sliding weights provide for fine adjustment. With a load of 50 grams per pan, the balance has an ultimate sensitivity of 10mg.

CODE	PRICE
3802	£48.06

MICROMETER SCREW GAUGE, LOCK TYPE

Made of nickel-plated brass with ratchet top. Accurately machined stainless steel rod with range 0-25 x 0.01mm. Lock type. For outside measurements up to 25mm. Supplied in plastic case. Precision: 1/100mm.

KEY STAGE **KS3-5**

CODE	PRICE
P86	£19.76

CLEVER CATCH - PHYSICS

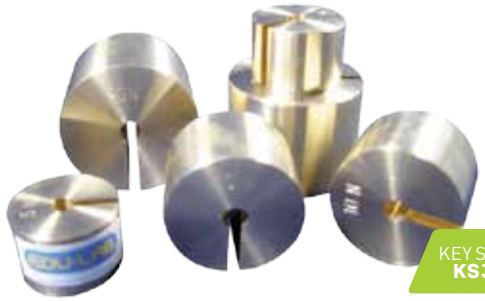
An excellent way for students to learn basic Physics concepts. 100 questions to get them started.

KEY STAGE **KS3-5**

CODE	PRICE
SR-1435	£11.41

NEWTON MASS SET 1N SET

9 x 0.1N slotted brass masses with 1 x 0.1N hanger.



KEY STAGE **KS3-5**

CODE	PRICE
PH0258A-NTN	£9.88

POSTER: INVESTIGATING PHYSICAL SCIENCE (LAMINATED) SET OF 6

Strikingly illustrated and thought-provoking laminated reference charts, featuring detailed illustrations depicting key physical science topics. Also available individually:

- 44-35-1106 - Force and Motion
- 44-35-1126 - Magnetism
- 44-35-1111 - Heat
- 44-35-1131 - Electricity
- 44-35-1121 - Light
- 44-35-1116 - Sound

PRICE FROM **£188.33**

KEY STAGE **KS3-5**

CODE	PRICE
44-35-1136	£188.33

CALLIPER, VERNIER, PLATED STEEL DUAL SCALE 0-15CM (BOXED)

IME type, improved design, plated steel with dual scale, 0-15cm x 0.1mm and 6 x 1/128³. Provided with thumb movement for easy motion of jaws. Supplied in plastic case.

KEY STAGE **KS3-5**

CODE	PRICE
P80	£9.88

PHOTOVOLTAIC BASIC

Photovoltaics (PV) is the direct conversion of light into electrical energy with the help of solar cells. With the leXsolar-Photovoltaic product family, the key fundamentals of this technology and its applications can be understood, along with the exploration of more advanced aspects of photovoltaic technology in a practical context.

CODE	PRICE
502-030	£203.04

H2 BASIC

Fuel cell technology is one of the keys to solving the problem of storing renewable energies. Fuel cells are able to transform stored energy in the form of Hydrogen (H2) back into electrical energy. Apart from the relevance to green energies, the leXsolar-H2 kits also involve basic and applied experiments in the subjects of chemistry and physics, so have cross-curricular relevance.

CODE	PRICE
502-037	£224.99

WIND ENERGY STUDY KIT READY-TO-GO

The Wind Ready-to-go system is geared for maximum portability and utility, with the extension sets Measurements without Meters and Digital Anemometer included, allowing for a broader range of experimental possibilities. The set comes in a handy, sturdy aluminium carry case for portability, with excellent accompanying teaching resources. The kit is equally suited for secondary school students or vocational education.

CODE	PRICE
502-033	£982.26

H2 COMPRENSIVE

With leXsolar-H2 Global, a broad variety of experiments dealing with fuel cell technology can be conducted.

The kit is equipped with a reversible fuel cell combining electrolyser mode and PEM fuel cell mode in one handy and robust unit.

CODE	PRICE
502-040	£328.15

H2 MEDIUM

For students aged 10-18 years, the H2 Intermediate takes a more advanced look at hydrogen fuel cell technology, involving a wide range of experiments. Included is a reversible fuel cell, combining an electrolyser and PEM fuel cell in one neat, robust unit. The electrical load modules (motor and LED) allow for practical and qualitative trials, complemented by high quality teaching resources and lesson plans. Additional equipment (e.g. multimeters or test leads) is required for some studies.

CODE	PRICE
502-038	£301.81

SMARTGRID MEDIUM

SmartGrid is the efficient steering and networking of energy sources, storage and consumers within an intelligently planned grid. 100% usage of renewable energies is only attainable with such a system, and the leXsolar-SmartGrid teaches a holistic understanding of the way this can be achieved using the various technologies available.

CODE	PRICE
502-043	£543.26

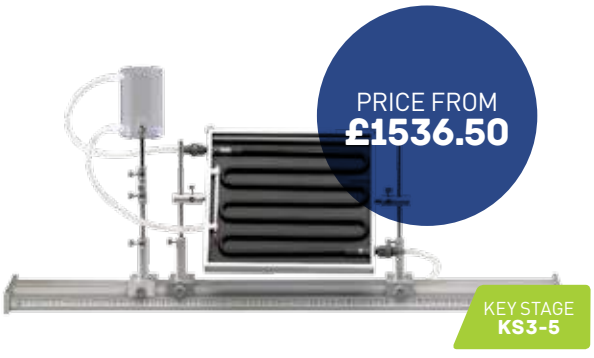
ESAVE READY TO GO

With the growing global demand for energy, fuelled by increasing population and industrialization worldwide, greener energy alone will never meet the energy demands of our planet in the future; the problem needs to be tackled at both ends, by increasing efficiency and reducing wastage on personal and global levels, therefore keeping energy demands as low as reasonably possible. The aim of the leXsolar-Esave kits is to increase an understanding of the various ways we use and waste energy - and how energy wastage can be reduced without drastic reductions in quality of life.

CODE	PRICE
502-041	£982.26

THERMAL ENERGY READY TO GO

The leXsolar-Thermal kits explain the various technologies for renewable energy production using heat energy. Starting with the basics of solar energy, moving through the applications of solar collectors, the experiments extend to heat-pump technology. The Thermal Ready-to-go is both portable, in its handy aluminium carry-case, and comprehensive, due to the large number of included accessories. This kit is ideally suited for students aged 14-19 years.



CODE	PRICE
502-042	£1536.50

MEASUREMENTS WITHOUT METERS

This expansion increases the functionality of the leXsolar-Photovoltaic Advanced and leXsolar- Wind Advanced for students between the ages of 11-15 years. Three energy-consuming modules (motor, buzzer and lamp) allow additional qualitative and emonstrative experiments.

PRICE FROM **£64.75**

KEY STAGE **KS3-5**

CODE	PRICE
502-017	£64.75

WIND ENERGY STUDY KIT COMPREHENSIVE

The leXsolar-Wind range conveys an excellent understanding of the key concepts involved in wind energy, along with the practical applications.

This system teaches all the key fundamentals of wind energy. With the help of curriculum based trials it covers the different topics necessary for understanding the functioning of wind power plants.

PRICE FROM **£547.65**

KEY STAGE **KS3-5**

CODE	PRICE
502-032	£547.65

SOUND SPECTRUM CHART

Did you know that a vibrating guitar string moves the air and produces sound? This unique chart presents ingredients of sound including pitch, tone, pressure and vibration.
An activity guide provides ideas for experimentation.

KEY STAGE **KS3-5**

CODE	PRICE
4101	£27.64

WAVE FORM, HELIX

Steel wire close-wound helix 20mm diameter. Closed length 3 metre extending to approx. 9 metre. Looped ends.

KEY STAGE **KS3-5**

CODE	PRICE
PH0706	£17.56

SLINKY, HELICAL SPRING METAL

Ideal for demonstrating different types of waves. Helical steel coil diameter 75mm.

KEY STAGE **KS3-5**

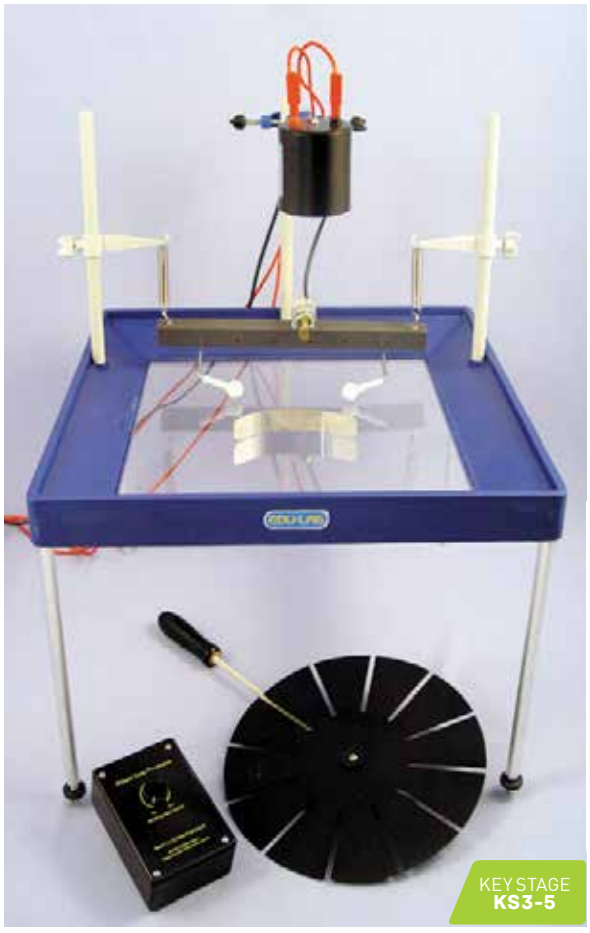
CODE		PRICE
SPHL50	75mm Dia. to 50mm Metal	£3.84
SPHL1000	75mm Dia. to 100mm Metal	£6.04
241-501	Helical Spring 150mm Metal	£8.78

RIPPLE TANK

This economy Ripple Tank System comes as a ready-to-use unit with no external power source required. Comprised of a tough, moulded frame with a large transparent viewing surface. The Ripple Tank light source is a 6V halogen lamp which gives excellent illumination. The tank has sloping sides which minimise noise.

KIT INCLUDES:

- Ripple tank
- 4 Push-fit legs
- Ripple motor, eccentric cam mounted on ripple bar
- 3 Support pillars for supporting the light source and rippler bar
- 2 Motor support springs
- Lamp unit with adjustable arm
- 2 Rippler bar hanging hooks
- Power source for ripple tank
- Hand stroboscope
- Concave perspex plate
- Rectangular perspex plate
- Curved reflector
- 2 Barriers
- Roller Bar
- Neatly compartmentalized box



CODE	PRICE
EDU044	£108.65

RIPPLE TANK - PREMIUM MODEL - EDULAB

This excellent quality Ripple Tank provides a comprehensive demonstration of the general properties of waves.
Wave Propagation Phenomena are projected onto a screen.
Teacher's notes and experiments are provided in a superb manual.

CODE	PRICE
241-400	£587.16

RUBENS TUBE 1 METRE

The Edulab Rubens tube is the perfect way of demonstrating standing waves. The Rubens tube gives a superb visual aid to pupils and students, creating a greater understanding and knowledge of this vital part of the curriculum.
The apparatus comes complete with full instructions and is intended for teacher demonstrations only. Users will need a gas source (Natural or LPG) and a signal generator to run the speaker.

CODE	PRICE
614-020	£192.06

SOUND ENERGY KIT

Students investigate the physics behind sound energy in this kit. These activities include sound wave theory, reflection of sound, force of sound waves and transmission, and many more. Teacher's Guide included.

KEY STAGE **KS3-5**

CODE	PRICE
3983	£125.55

ELECTRIC BELL 75MM DIA. 3-4.5VOLTS

Simple dome, double-gong bell with detachable cover. Threaded metal terminals are provided for easy connection. Diameter approximately 75mm.

KEY STAGE **KS3-5**

CODE	PRICE
PH1030A	£6.57

BELL IN ACRYLIC JAR

To demonstrate part of the nature of sound waves by showing that sound does not exist in a vacuum.

Bell housed in acrylic jar for safety.

Dimensions: 250 x 140mm.

KEY STAGE **KS3-5**

CODE	PRICE
241-507	£60.36

BELL IN VACUUM, 285X215MM

A versatile unit for demonstrating the properties of a vacuum. Comprises a sturdy baseplate with tap, glass bell jar and detachable battery operated bell. Use with hand pump (code: 251-001) or ideally with electric vacuum pump (code: 612-001).

PRICE FROM **£60.36**

KEY STAGE **KS3-5**

CODE	PRICE
241-003	£60.36

SPEED OF SOUND KIT EDULAB

The Edulab Speed of Sound Kit is extremely simple to set up and use, and provides accurate and precise measurements for the speed of sound in air. What's more, the included microsecond timer doubles as a start-stop microsecond or millisecond timer, for use with light gates or mechanical switches in a wide range of other experiments.

The Edulab Speed of Sound Kis comes with two condenser microphones (including leads), to be placed a metre apart and used as start-stop signals detecting the passing sound wave, and suitable tools for generating the correct type of sound.

KEY STAGE **KS3-5**

CODE	PRICE
241-513	£196.45

PUMP PLATE

Robust free-standing pump plate available in three sizes. Supplied with tube for connection to pump and with a stopcock for air regulation on the central pillar. Tripod style base. Suitable for vacuum physics experiments.

KEY STAGE **KS3-5**

CODE		PRICE
P156C	Pump Plate 250mm dia	£53.78
P156B	Pump Plate 200mm dia	£49.39

LOUDSPEAKER UNIT

Simple dome, double-gong bell with detachable cover. Threaded metal terminals are provided for easy connection. Diameter approximately 75mm.

KEY STAGE **KS3-5**

CODE	PRICE
241-531	£27.44

SONOMETER, SIMPLE PATTERN

PRICE FROM **£60.36**

A wooden resonance box 1140mm long, 125mm wide and 100mm high. At one end of the base are two 50N spring balances with hooks and at the other end are two corresponding wrest pins. Also included are three bridges; one large (to span wires) and two small (for the individual wires). Supplied with two steel wires, 30 swg, 1 metre long.

KEY STAGE **KS3-5**

CODE	PRICE
PH0726	£60.36

SONOMETER, 3 WIRE PATTERN

A hollow, wooden, resonance box 1290 x 130 x 110mm, with scales divided in millimetres between fixed bridges over which the wires are stretched. A spring balance reading 100N x 5N is fitted to one end and the tension exerted and measured can be finely adjusted by a wing nut. Another wire passes over a pulley and can be loaded as desired.

PRICE FROM **£64.75**

KEY STAGE **KS3-5**

CODE	PRICE
PH0730	£64.75

WAVE MOTION APPARATUS

For demonstrating the movement of progressive transverse waves.

PRICE FROM **£62.56**

KEY STAGE **KS3-5**

CODE	PRICE
PH0712	£62.56

TUNING FORK STEEL (BOXED SET OF 8)

Best quality steel, plain shank, with frequency marked on each one. Boxed set of 8.

CONSISTS OF ONE EACH OF:

C (256)
D (288)
E (320)
F (341)
G (384)
A (426)
B (480)
C (512)

PRICE FROM **£57.00**

KEY STAGE **KS3-5**

CODE		PRICE
PH0738A	Tuning Fork Steel (Boxed Set of 8)	£46.10
TNFRK6	426hz Note A	£4.39
TNFRK7	480hz Note B	£4.39
TNFRK1	256hz Note C	£4.39
TNFRK8	512hz Note C	£4.39
TNFRK2	288hz Note D	£4.39
TNFRK3	320hz Note E	£4.39
TNFRK4	341hz Note F	£4.39
TNFRK5	384hz Note G	£4.39
TNFRKIR8	Boxed Set 8	£35.12

TUNING FORK (4 X STEEL) ON RESONANCE BOX

For demonstrating the formation of basic major chords. Consists of four forks mounted on a wooden box and having frequency of:

C (256)
E (320)
G (384)
C (512)

PRICE FROM **£45.00**

KEY STAGE **KS3-5**

CODE	PRICE
PH0740A	£45.00

TUNING FORK ON RESONANCE BOX, STEEL. (PAIR)

A pair of steel tuning forks for demonstrating the beat frequencies mounted on individual boxes. One fork is provided with an adjustable mass by means of which frequency may be shifted from the nominal 426.6Hz. When both forks are sounded a clearly audible 'beat' is produced, its rate depending upon the difference in frequency between the forks.

PRICE FROM **£31.83**

KEY STAGE **KS3-5**

CODE	PRICE
PH0742A	£31.83

TUNING FORK ADJUSTABLE

Aluminium tuning fork, adjustable to deliver 7 frequencies (C, D, E, F, G, A, B).

PRICE FROM **£20.85**

KEY STAGE **KS3-5**

CODE	PRICE
720-001	£20.85

RESONANCE APPARATUS WITH BRASS TUBE

This apparatus is used for resonance investigations in air columns and consists of two metal tubes telescoping into each other. The column of air within the tubes may be altered in length from 300mm up to 530mm by moving the outer tube. Fitted on a removable wooden base.

KEY STAGE **KS3-5**

CODE	PRICE
PH0718B	£42.80

VIBRATION GENERATOR

Gives mechanical oscillations when fed by oscillator- AF amplifier. Frequency response for whole of audio spectrum and beyond. Frequency range 30 to 10,000Hz.

PRICE FROM **£66.95**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Coil Impedance:	3Ω
Amplitude Output:	4mm
Max. Electrical Input:	5W
Weight:	1Kg
Dimensions (mm):	100x100x90

CODE	PRICE
241-403	£66.95

ULTRASONIC APPARATUS SET

Demonstrate the wave nature of sound at relatively short wavelength. Investigate reflection interference of sound waves etc. Transmit speech over microphone or set up a voice link with an FM radio. The equipment operates at a frequency of 40KHz giving a wavelength in air of approximately 8.3mm.

Comprising: Ultrasonic's transmitter; Ultrasonic receiver; Ultrasonic slave transmitter.
Mini set with 2 Aluminium reflectors and perforated plate

PRICE FROM **£218.40**

CODE		PRICE
241-535	Ultrasonic Apparatus Set	£328.15
241-534	Ultrasonic Apparatus Mini Set	£218.40

MICROWAVE TRANSMITTER/ RECEIVER

Apparatus for the investigation of transverse waves. Convenient wavelength for the investigation of transverse waves. Plane polarised wave for the transmitter, internally modulated with 1KHz tone, or music, or no modulation. Built in gain control for the receiver, with 30 bar graphs to indicate signal strength, external outputs to data-loggers and external meters. Built in loudspeaker for the receiver, with on /off control. Detailed instruction booklet illustrating various microwave experiments, covering topics of wave reflection, refraction, polarization, interference etc.

Auxilliary input for external simple tones to transmit through microwaves. Probe Detector for non-directional reception of the microwaves.

KEY STAGE **KS3-5**

CODE	PRICE
241-024	£521.31

DOPPLER EFFECT

With Edulab's new addition you can hear the doppler effect with this very useful and simple demonstration.
The apparatus includes the plastic box with sound source that runs on 9 Volt batteries (not included). A strong string is supplied for rotation.

PRICE FROM **£19.76**

KEY STAGE **KS3-5**

CODE	PRICE
712-032	£19.76

FORCED OSCILLATION AND RESONANCE DEMO

Designed to show vibration of an object when repeated impulses are applied, this demonstrator consists of two weights of different natural frequencies, two cams driven by a 6V motor with speed control, and four springs.

The speed control is used to adjust the frequency of applied force for resonance, so a greater degree of variance is possible. Includes manual.

Size. 30 x15 x 45cm (Power source not included!)

PRICE FROM **£86.70**

KEY STAGE **KS3-5**

CODE	PRICE
241-520	£86.70

ULTRASOUND - STARTING KIT

Basic study of the properties of ultrasonic waves : propagation, radar.

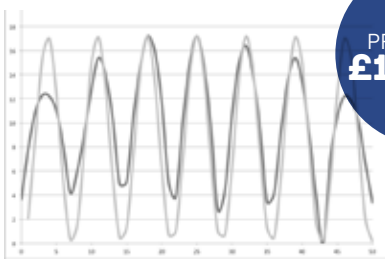
PRICE FROM **£860.44**

KEY STAGE **KS3-5**

CODE	PRICE
705-012	£860.44

INTERFERENCES WITH ULTRASOUNDS

Complete study of the properties of ultrasonic waves : propagation, radar, interferences, diffraction, absorption. The spacing between the two sources is adjustable. Hardware implemented fully exploits the equipment optical benches. In addition to the transducers and electronics, it requires very little hardware specific to the experience. Using an oscilloscope or a multimeter to raise tensions received by the receiver by taking steps with the cross jumper 50cm, or up positions between the extreme voltage obtained. Draw the curve and compared to theory. You can repeat the process by changing the distance inter-sources using the rack.



PRICE FROM **£1009.70**

KEY STAGE **KS3-5**

CODE	PRICE
705-013	£1009.70

MICROWAVE ACCESSORIES SET OF PLATES

Comprising the following all on supporting feet:
2 Aluminium plates, 200mm x280mm (approx.)
1 Aluminium plate, 60mm x280mm (approx.)
1 Perspex plate, 200mm x280mm (approx.)
1 Polarization grille, 200mm x 200mm (approx.)

PRICE FROM **£97.68**

KEY STAGE **KS3-5**

CODE	PRICE
241-503	£97.68

MICROWAVE ACCESSORIES HOLLOW PRISM

Hollow prism made of perspex sheets to be filled with paraffin for microwave experiments. Can be filled with water for optics experiment. Height 21cm and longestside 30cm approximately.

KEY STAGE **KS3-5**

CODE	PRICE
241-505	£53.78

MICROWAVE ACCESSORIES ROTATING PROTRACTOR

For use in microwave experiments to measure the directivity of the microwave transmission.

KEY STAGE **KS3-5**

CODE	PRICE
241-506	£20.85

MICROWAVE ACCESSORIES HOLLOW PLANO-CONVEX LENS

Microwave Accessory, Hollow Plano-convex Lens Comprising a thin moulded plastic dome, 260mm dia.,bonded to a 3mm thick plastic plate 315mm square. When in use the lens is filled with paraffin oil. Mounted in a vertical plane by channel base.

KEY STAGE **KS3-5**

CODE	PRICE
241-504	£86.70

OSCILLOSCOPE DUAL CHANNEL - EDULAB

Dual- channel 20MHz oscilloscope with maximum sensitivity of 5mV/DIV. The time base provides a maximum sweep time of 0.2uS/DIV. When magnified by 10, the sweep speed is 20nS/DIV/ This Oscilloscope employs a 6 inch rectangular type cathode ray tube with red internal graticule.

KEY STAGE **KS3-5**

CODE	PRICE
241-511	£328.15

POLARIZATION PRACTICAL

Study of the polarization of light with laser, on bench. This set allows you to carry out various polarization experiments such as Malus' law checking, to analyze the effects of different objects and plates on polarization, and to find the natural polarization of a source.

Our experiment includes a practical and all necessary sources, components and detectors to achieve a good introduction to this theme.

KEY STAGE **KS3-5**

CODE	PRICE
705-011	£1044.82

SIGNAL GENERATOR AND AMPLIFIER - EDULAB

The Signal generator is a robust instrument and can withstand prolonged short circuit for the output. The earth provided is connected to the physical earth through the power cord; the signal generator output is floating with respect to ground. Do not open the unit as this will make your warranty void.

KEY STAGE **KS3-5**

CODE	PRICE
241-022	£273.28

POWER SUPPLY VARIABLE 0-25V 8.5A

A popular, advanced, continuously-variable power supply unit with LED digital display, the Edu-Lab College Power Supply Unit is ideal for demonstration purposes and for use by students in advanced level courses. It provides a fine and smooth, continuously-variable AC or DC voltage at a combined maximum current of 8.5A. The DC is smoothed by an internal 2200µF capacitor. AC or DC voltage reading is selected by a toggle switch and indicated by a bright green, easy-to-read 12.5mm LED display. Microprocessor tripping circuitry will differentiate between a real short-circuit or a temporary current surge.

KEY STAGE **KS3-5**

CODE	PRICE
605-013	£268.89

POWER SUPPLY, 0-15V STEPPED - EDULAB

The Edulab 0-15V power supply has proved to be extremely popular and the ideal choice for physicists worldwide. It is simply the most advanced power pack available today and with the 5 year warranty it's a safe investment.

This power supply provides stepped voltage of 0-15V in one volt steps for both AC and slightly smoothed DC. A special key lock (all units have identical keys) allows the voltage to be locked to a particular level or to a maximum (ceiling). Long switch lift time means that voltage can be switched safely at full load without serious contact wear. Continuously rated output of 8.5A, AC or DC , or added sum of 8.5A

The set ceiling or locked voltage will be memorized, even if the unit is switched off and on again. Fully protected, secondary by high speed, micro-processor controlled, resettable electronic trip. Over-current is measured and timed for cases of serious overload and slight overload to decide tripping time This avoids over-sensitive tripping in cases of initial heavy current surge, for example when using lamp bulbs.

Slightly smoothed DC (by 2200µF output capacitor) gives practical r.m.s values of 0 -15V at no load.

PRICE FROM **£137.19**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Dimensions (mm):	208x155x115 (W x H x D)
Input Voltage:	230V ±5%
Output Voltage:	0-15V AC at full load

CODE	PRICE
605-055	£137.19
605-056	£163.53

POWER SUPPLY, AC/DC INPUT 220V

AC/DC power supply with cooling fan and built in microprocessor overloading protection.

PRICE FROM **£97.68**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Input:	230V AC, 50Hz
Output:	2-12V AC/DC in 6 steps

CODE	PRICE
605-001	£97.68

POWER SUPPLY, SMOOTHED

This unit is the same as 605-001 but is specially smoothed for electronics applications.

PRICE FROM **£108.65**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Input:	230V AC, 50Hz
Output:	2-12V AC/DC in 6 steps

CODE	PRICE
605-002	£108.65

PRICE FROM **£108.65**

SMOOTHING UNIT

A smoothing unit for reducing ripple from non-regulated power supplies. Maintains a ripple-free output when high currents are drawn.

The unit comprises a lightweight and efficient toroidal 0.1H inductor with a network of 2,200uF capacitors and diodes. With a supply of 12V at 3A, 1% ripple would be typical.

Will work without suffering damage even at reverse polarity.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Dimensions (mm):	2208x155x115 (W x H x D)
Input Voltage:	0 to 35V, absolute maximum 40V
Current Rating:	8A maximum

CODE	PRICE
605-009	£108.65

PRICE FROM **£159.14**

DUAL ±15V POWER SUPPLY

The Edu-Lab dual rail ±15V power supply is a very robust power supply for use with operational amplifier circuitry.

It provides ample current of 1A and is short-circuit proofed. Each power unit is individually trimmed to precisely ±15V. Independent earth connection.

Shrouded output sockets for standard 4mm plugs or shrouded plugs.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Dimensions (mm):	208x155x115 (W x H x D)
Input:	230V ±10%, 50Hz/60Hz
Output:	Dual Rail ±15V, Continuously rated at maximum of 1A

CODE	PRICE
605-010	£159.14

EHT POWER SUPPLY

The adjustable 5KV output is fully isolated and the output is monitored by a digital display. Output current is electronically limited to 2mA and the outputs are also current limited by 100K resistors to avoid larger transient currents. In addition to the 0-5KV outputs, there are further outputs linked by 25MΩ resistors. This provides EHT outputs appropriate for electrostatic experiments with a short circuit current of 60μA.

The switching transformer is specially wound so that the output maintains a stable voltage with time, as opposed to most other commercial brands where the voltage will drop with time. An auxiliary output is provided to drive cathode heaters etc. An Independent earth terminal is available for earthing of any one of the five output sockets.

EHT power supply suitable for driving Teltron tubes and electrostatic experiments. Continuously variable, 0-2.5KV or 0-5KV at a maximum current of 2mA. Two secondary outputs with 25MΩresistors (total 50M for 5KV range). Auxiliary output, 6.3V a.c. at 1A, protected by resettable fuse. Bright 12.5mm green LED display indicating EHT output. Shrouded sockets suitable for standard 4mm plugs or shrouded plugs.

Secondary outputs with 25MΩ safety resistors.
Auxiliary output of 6.3V AC, 1A for cathode heaters, protected by resettable fuse.
Independent Earth Terminal for earthing of any one of the five output sockets.

PRICE FROM **£328.15**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Input:	220V-240V, 50/60 Hz
Output:	0 to 5KV DC, 2mA or 2.5KV DC, 2 mA
Mains Supply:	230V 5% , 50Hz
Fuse:	315mA (L)
Dimensions (mm):	208 x 155 x 115 (W x H x D)
Height:	Including Handle is 187mm

CODE	PRICE
605-006	£328.15

EHT POWER SUPPLY (110V)

The adjustable 5KV output is fully isolated and the output is monitored by a digital display. Output current is electronically limited to 2mA and the outputs are also current limited by 100K resistors to avoid larger transient currents. In addition to the 0-5KV outputs, there are further outputs linked by 25MΩ resistors. This provides EHT outputs appropriate for electrostatic experiments with a short circuit current of 60μA.

The switching transformer is specially wound so that the output maintains a stable voltage with time, as opposed to most other commercial brands where the voltage will drop with time. An auxiliary output is provided to drive cathode heaters etc. An Independent earth terminal is available for earthing of any one of the five output sockets.

EHT power supply suitable for driving Teltron tubes and electrostatic experiments. Continuously variable, 0-2.5KV or 0-5KV at a maximum current of 2mA. Two secondary outputs with 25MΩresistors (total 50M for 5KV range). Auxiliary output, 6.3V a.c. at 1A, protected by resettable fuse. Bright 12.5mm green LED display indicating EHT output. Shrouded sockets suitable for standard 4mm plugs or shrouded plugs.

Secondary outputs with 25MΩ safety resistors.
Auxiliary output of 6.3V AC, 1A for cathode heaters, protected by resettable fuse
Independent Earth Terminal for earthing of any one of the five output sockets.

PRICE FROM **£328.15**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Input:	110V, 50/60 Hz
Output:	0 to 5KV DC, 2mA or 2.5KV DC, 2 mA
Mains Supply:	230V 5% , 50Hz
Fuse:	315mA (L)
Dimensions (mm):	208 x 155 x 115 (W x H x D)
Height:	Including Handle is 187mm

CODE	PRICE
605-015	£328.15

HIGH TENSION POWER SUPPLY

The Edu-Lab High Tension Power supply is designed specifically for thermionic experiments, such as the Teltron double fine beam tube. It can also be used for experiments requiring a high tension supply such as ionization current etc. It provides two independent outputs of 0-35V and 0-350V, 100mA maximum, with continuously adjustable voltages.

Two auxiliary cathode heater outputs are also provided. All outputs are fully isolated from earth. Bright 12.5mm green LED display indicating HT output. Shrouded sockets suitable for standard 4mm plugs or shrouded plugs.

Primary is protected by slow-blow fuse and thermal trips. Two auxiliary output of 6.3V a.c. 1A for cathode heaters, protected by resettable fuse.

Independent Earth Terminal is provided.

PRICE FROM **£268.89**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Input:	220V-240V, 50/60 Hz
Output:	0-35 and 0-350V, fully regulated and maximum current is 100mA
Mains Supply:	230V 5% , 50Hz
Fuse:	1A (L)
Dimensions (mm):	208x155x115 (W x H x D)
Height:	Including Handle is 187mm

CODE	PRICE
605-007	£323.76

JOULEMETER / WATTMETER, DIGITAL - EDULAB

The Edu-Lab Joulemeter/Wattmeter is light, compact, and designed for class demonstration or student use.

The unit can measure energy taken up by a load, either by AC power or DC power, and from 1J to 999,999J or 1mJ to 999,999mJ and can also measure power level of 200mW to 200W. One pair of 4mm sockets is also provided to indicate the instantaneous power. Depending on mW / mJ or W / J range, 1V full scale deflection represents 100mW or 100W respectively.

PRICE FROM **£246.94**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Input:	0 to 15V AC, (0 to 21V DC), absolute maximum 35V DC, 24V AC
Output:	10A AC / DC
Input Frequency:	0 to 500Hz Maximum
Accuracy:	5%, typically better than 3% at full scale
Energy / Power Indications:	6 digits
Power Supply:	220V A.C. 50/60Hz
Dimensions (mm):	208 x 155 x 115 (W x H x D)

CODE	PRICE
211-001	£246.94

MAINS JOULE METER

The mains Joulemeter / Wattmeter is accurate, light and compact. It is designed for class demonstration and also for student use.

The meter measures the energy or power delivered to a mains appliance.Current transformers and sampling voltage transformer isolate the unit from the mains. Determines the energy consumed by domestic appliance. Compare the efficiency of different types of lamp bulbs. Compare power consumption for lamp bulbs at different voltages (variable mains transformer unit required) Analogue outputs for datalogger or oscilloscope. Built in timing function.

1V full-scale instantaneous power indication by a pair of 4mm meter output sockets. Energy Indication by six 7-segment LEDs.

PRICE FROM **£268.89**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Measurement Range:	200W and 2KW full-scale reading for power measurement. 0 to 999,999 J or 0 to 999,999KJ for energy measurement
Resolution:	0.5J/ 0.5W on the 200W range and 0.005KJ/ 0.005KW on the kW range
Maximum Current:	10A, protected by 10A fast blow fuse
Input Impedance:	1Mñ
Accuracy:	3% and typically better than 1%
Linearity:	2% and typically better than 1%
Mains Supply:	230V ±5%, 50Hz
Internal Fuse:	315mA (L)
External Fuse:	10A fast blow (in IEC socket)
Dimensions (mm):	208 x 155 x 115 (W x H x D)
Height:	Including handle is 187mm

CODE	PRICE
614-007	£268.89

ELECTROMETER, DC AMPLIFIER - EDULAB

Used for measurement of small current, small charge or time constant for RC experiments. Rotary switch of extremely high insulation resistance (>500GΩ) is employed to select resistors or capacitors, to discharge the capacitor or leave them open. Typical half times for this unit, for the built in 1nF, 100GΩ or 100nF, 1GΩ RC pairs, are from 67 to 71 seconds against theoretical values of 69.3 seconds. Complete with a UHF male to 4mm plugs lead.

Professional electrometer IC; input leakage current for amplifier guaranteed less than 25fA. Built in moving coil meter, analogue outputs available for dataloggers or external meter. Input resistance over 1TΩ. Selection of 1nF 1% or 100nF 2% capacitors. Selection of 10MΩ 1%, 1GΩ1% or 100GΩ1% resistors. x1 and x10 gain switch provides the decades between the built-in resistors.

Charge or current tabulated on a table on front panel for easy reference, measurement range from 1pA to 100nA, 0.1nC to 100nC.

PRICE FROM **£218.40**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Input:	UHF socket, supplemented by a 4mm socket for negative input
Input Resistors:	0Mñ 1%, 1Gñ 1%, 100Gñ 1%
Input Impedance:	Over 1Tñ
Measurement Ranges:	1pA to 100nA , 0.1nC to 100nC
Power Supply:	9V PP3 Battery, alkaline battery recommended
Dimensions (mm):	208x155x115 (W x H x D)
Gain selection:	x1 or x10 - selected by toggle switch

CODE	PRICE
614-006	£218.40

JOULEMETER, STUDENT DIGITAL

The Edu-Lab Student Joulemeter is designed specifically for student use. The unit can measure energy from 1 joule to 999,999 joules, with accuracy of 3%, but 1% accuracy is typical. Power is by means of a 9V DC mains adaptor included

PRICE FROM **£108.65**

KEY STAGE **KS3-5**

CODE	PRICE
605-014	£108.65

ELECTROMAGNETIC POWER SUPPLY

Low Voltage, high current power supply for uses with Westminster electromagnetic kits, Fleming's apparatus, etc. 1-0-1V nominal a.c., allow students access to a.c. of 1V or 2V d.c ouput is furnished by rectification of 2V a.c (unsmoothed) Short-circuit current is 10A.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Dimensions (mm):	208 x 155 x 115 (W x H x D)
Input Voltage:	230V ±10% 50Hz
Output Voltage:	1-0-1V a.c., 2V d.c nominal

CODE	PRICE
605-008	£108.65

SCALER TIMER - EDULAB

PRICE FROM **£328.15**

General purpose scaler-timer, suitable for radioactivity counting utilising a GM tube and as a general purpose millisecond digital timing device with manual or electronic triggering. 6-digit, bright green LED display. Manual or timed counting of 1,10 or 100 seconds. Press-to-read switch to read the accurate applied voltage to the GM tube. Auto ranging on timing modes.

Built in loudspeaker and switch on the back of the machine allows audible indication of counts when required.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Operation:	Timer / Scaler
Capacity:	999,999 counts or seconds
Input Power:	230V ±5%, 50Hz
Timing Inputs:	Manually switched start/stop; light gate(s) operated start/stop
GM Tube Voltage:	300V to 500V
Fuse:	315mA (L) slow-blow
Dimensions (mm):	208 x 155 x 115 (W x H x D)

CODE	PRICE
281-006	£328.15

MICROVOLTMETER

The Microvoltmeter is an effective and robust replacement for a spot galvanometer with nine ranges from 100µV to 3µV. The input resistance is 10MO/V and is 1K on the 100V range which is considerably better than a spot galvanometer.

The instrument has a large moving coil meter which can be auto-zeroed by a membrane button switch. Input is by way of 4mm sockets or, for very low voltages where a shielded lead is preferred, UHF socket.

PRICE FROM **£159.14**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Measurement:	9 ranges, from 100µV to 3µV
Input Impedance:	10MO per volt, maximum 30MO
Input:	4mm socket or UHF socket, complemented by a 4mm socket for negative input
Power:	PP3 9V battery
Dimensions (mm):	208 x 155 x 115 (W x H x D)

CODE	PRICE
614-009	£159.14

PICOAMMETER

The Picoammeter is designed to measure very small currents and has 10 ranges, selected by a rotary switch, from 100pA to 3µA. The instrument has a large moving coil meter. It can be auto-zeroed by a membrane switch. Input is by way of a UHF socket for shield leads, alternatively 4mm plugs can be plugged into the UHF socket and associated 4mm socket. Input impedance 10MO will not be damaged by voltages up to 5KV.

PRICE FROM **£155.00**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Measurement:	10 ranges, from 100pA to 3µA
Input Voltage:	Up to 5KV
Input Impedance:	10MO
Input:	UHF sockets, complemented by 4mm socket for negative input
Power:	PP3 9V battery
Dimensions (mm):	208 x 155 x 115 (W x H x D)

CODE	PRICE
614-008	£170.11

PRICE FROM **£99.00**

METER, JOULE, MOUNTED ON STAND

A domestic electricity meter adapted to operate on single phase 50Hz, 12V AC up to a maximum current of 8.33A RMS. The meter is mounted on a robust bench stand with 4mm input and output socket terminals.

The aluminium disc rotates once for every 100 joules. Larger readings are indicated by three digits calibrated at 100, 1000 and 10,000 joules per division, respectively.

KEY STAGE **KS3-5**

CODE	PRICE
PH0466A	£108.65

AMMETER

Moving coil, DC only, with 4mm socket terminals.

PRICE FROM **£6.57**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Size (mm):	125 x 80 x 80
Scale Length:	60mm

CODE		PRICE
AMTER1A	0-1A	£6.57
AMTER2A	0-2A	£6.57
AMTER5A	0-5A	£6.57

AMMETER, DUAL RANGE

Moving coil, DC only, with 4mm socket terminals.

PRICE FROM **£13.72**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Size (mm):	125 x 80 x 80
Scale Length:	60mm

CODE		PRICE
PH1074B	0-1 & 0-5A	£13.72
PH1080BB	0-5/15V	£15.31
PH1080B	0 - 1v/5v	£15.01
PH1080BA	0 - 5v/10v	£15.01

AMMETER, SINGLE RANGE

Moving coil, DC only, with 4mm socket terminals.

PRICE FROM **£7.51**

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Size (mm):	125x80x80
Scale Length:	60mm

CODE		PRICE
PH1080AA	0 - 1.5	£7.51
PH1080AD	0 - 10.0	£7.74
PH1080AE	0 - 15.0	£7.74
PH1080AB	0 - 3.0	£7.74
PH1080AF	0 - 30.0	£7.51
PH1080AC	0 - 5.0	£7.74
PH1080AG	0 - 50.0	£7.51
PH1080A	0 - 1	£7.51
PH1080AC6	0-6.0	£7.51

BATTERY CLIP, PP3

A standard PP3 battery clip with 150mm leads. Can be used with PP3 batteries or press stud type battery holders.

KEY STAGE **KS3-5**

CODE	PRICE
231-131	£0.18

BATTERY HOLDER

A range of battery holders to suit AAA and AA batteries. Press stud type are compatible with a standard PP3 battery clip. Tag type allows you to fix your own wires or use crocodile clips to make a connection.

KEY STAGE **KS3-5**

CODE		PRICE
231-116	1 x AA	£0.23
231-117	Flying Leads, 1 x AA	£0.29
231-118	Flying Leads, 2 x AA	£0.29
231-119	Flying Leads, 2 x AAA	£0.29
231-111	Long, 4 x AA	£0.41
231-113	Press Stud, 2 x AA	£0.29
231-112	Short, 4 X AA	£0.42
231-114	Studs, 3 x AA	£0.52
231-115	Tags, 3 x AA	£0.42

BATTERY, ALKALINE

A range of alkaline batteries available in AAA, AA, C, D and PP3 sizes. Alkaline batteries have a higher capacity than zinc chloride types so are better suited to high power applications.

KEY STAGE KS3-5

CODE		PRICE
231-106	AA, Alkaline	£0.23
231-105	AAA, Alkaline	£0.23
231-107	C, Alkaline	£0.93
231-108	D, Alkaline	£0.87

BATTERY, ZINC CARBON

A range of heavy duty zinc chloride batteries available in AAA, AA, C, D and PP3 sizes. AA

KEY STAGE KS3-5

CODE		PRICE
231-101	AA, Zinc Carbon	£0.12
231-100	AAA, Zinc Carbon	£0.12
231-102	C, Zinc Carbon	£0.20
231-103	D, Zinc Carbon	£0.35
231-104	PP3, Zinc Carbon	£0.35

BATTERY, COIN CELL, CR2032

A 3V lithium coin cell with 200mAh capacity. 20mm dia.

KEY STAGE KS3-5

CODE	PRICE
231-110	£0.75

BULB, MES LAMP

A range of standard MES lamps in various voltages.

KEY STAGE KS3-5

CODE		PRICE
231-091	1.5V MES lamp	£0.16
231-094	12V MES lamp	£0.12
231-092	2.5V MES lamp	£0.12
231-093	6V MES lamp	£0.12

BULBHOLDER, MES

Lamp holder for MES type lamps. Screw terminals to allow wires to be easily attached. 10mm fixing centres.

KEY STAGE KS3-5

CODE	PRICE
231-090	£0.27

CELL HOLDER

Provides 1.5,3,4.5 and 6 Volts DC power and has 4mm sockets for safety. Needs 4 D-cell batteries. Supplied without batteries.

KEY STAGE KS3-5

CODE	PRICE
231-045	£10.98

CIRCUITS KIT BULB HOLDER

Spare components for Circuits Kit code 231-036. Components mounted on sturdy panels for ease of use and storage.Supplied without batteries.

KEY STAGE KS3-5

CODE	PRICE
231-038	£4.34

CELL HOLDERS ON BASE

Designed to link together in parallel or series to extend capacity or voltage. Supplied singly.

KEY STAGE KS3-5

CODE		PRICE
231-043	With 4mm terminal 1 x D cell	£3.29

CIRCUITS KIT BUZZER

Spare components for Circuits Kit code 231-036. Components mounted on sturdy panels for ease of use and storage.

KEY STAGE KS3-5

CODE	PRICE
231-041	£2.84

CELL HOLDER

Designed to link together in parallel or series to extend capacity or voltage. Supplied singly. For use with D batteries.

KEY STAGE KS3-5

CODE	PRICE
231-042	£1.10

CIRCUITS KIT CELL HOLDER

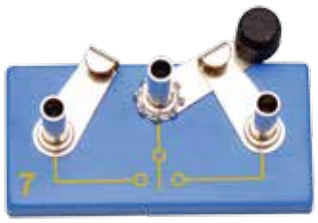
Spare components for Circuits Kit code 231-036. Components mounted on sturdy panels for ease of use and storage.

KEY STAGE KS3-5

CODE	PRICE
231-039	£2.14

CIRCUITS KIT CHANGEOVER SWITCH

Spare components for Circuits Kit code 231-036. Components mounted on sturdy panels for ease of use and storage. Supplied without batteries.

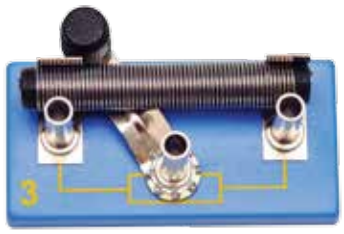


KEY STAGE **KS3-5**

CODE	PRICE
231-073	£2.47

CIRCUITS KIT RHEOSTAT

Spare components for Circuits Kit code 231-036. Components mounted on sturdy panels for ease of use and storage. Supplied without batteries.



CODE	PRICE
231-070	£3.29

CIRCUITS KIT ELECTRODE HOLDER

Spare components for Circuits Kit code 231-036. Components mounted on sturdy panels for ease of use and storage.

KEY STAGE **KS3-5**

CODE	PRICE
231-072	£2.14

CIRCUITS KIT UNIVERSAL CLIP

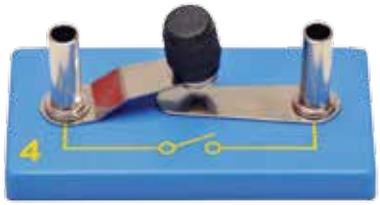
Spare components for Circuits Kit code 231-036. Components mounted on sturdy panels for ease of use and storage.

KEY STAGE **KS3-5**

CODE	PRICE
231-071	£2.74

CIRCUITS KIT PUSH SWITCH

Spare components for Circuits Kit code 231-036. Components mounted on sturdy panels for ease of use and storage.



KEY STAGE **KS3-5**

CODE	PRICE
231-040	£3.29

COMPONENT HOLDER, (PK 8) - EDULAB

Pack of 8 mounted clips to hold components in physics investigations.

KEY STAGE **KS3-5**

CODE	PRICE
231-034	£24.15

CONDUCTIVE PAPER (PK 10)

Suitable for plotting electric fields by means of the equipotential points method. Can also be used for producing home made strip resistors.
Conductive paper sheet 38cm x 53cm.

CODE	PRICE
231-135	£20.65

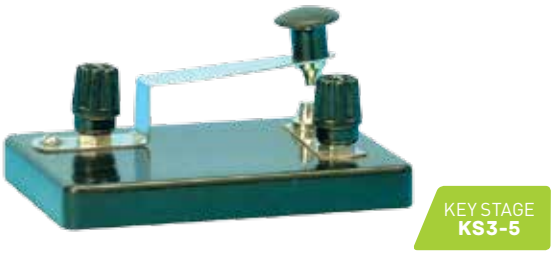
CONDUCTIVE PUTTY

Conducting putty is a useful aid to teaching resistivity and the relationship between length and cross-sectional area on resistance. The kit contains a 60mm long and 20mm in diameter cylinder which has a resistance of approximately 20W. Can readily be connected into an electrical circuit and both length and diameter can easily be altered by 're-moulding' the putty. Approx. 100g.

CODE	PRICE
251-415	£14.08

CONTACT KEY, SINGLE

A single contact key mounted on base. Comprising a plated spring arm with press knob, a contact stud, plated connecting strip and 4mm terminals.



CODE	PRICE
PH0986	£6.53

CROCODILE CLIP

CODE	PRICE
231-501	£0.41

CROCODILE LEADS, (PK 10) ASSORTED COLOURS

460mm leads with a crocodile clip at each end. Available in packs of 10 containing 5 assorted colours or packs of 20 containing red and black.

CODE		PRICE
231-082		£2.25
231-083	Pack 20 (10 Red/10 Black)	£4.77

BASIC UNIVERSAL METER AND ACCESSORIES

The Edulab shunts and multipliers are designed to provide protection due to overloads that commonly occur in practical experiments. The units are robust and are designed for reliability. 4mm sockets are used. The ranges of current and voltage are common to most practical work.

PRICE FROM **£19.00**

KEY STAGE **KS3-5**

CODE		PRICE
281-023	Basic Universal Meter	£53.78
281-025	0-0-1V-5V-10V-50V	£22.00
281-026	0-10V-50V	£22.00
281-019	0-1V-5V	£19.00
281-027	Dual Range 0-5V-10V	£20.85

DEMONSTRATION METER INTERSCALE

Housed in an ABS plastic case 300 x 150 x 300mm with glass front and rear. Moving coil type with accuracy of ±2.5%. Basic sensitivity of meter is 5mA, 100mV f.s.d. The meter can be used to demonstrate the working principle of AC or DC ammeters or voltmeters with the interchangeable plastic scales.

PRICE FROM **£59.27**

KEY STAGE **KS3-5**

CODE	PRICE
PH1116	£59.27

DECADE RESISTANCE BOX 4 DECADES.

This decade resistance substitution box provides 3 decade ranges from 0 to 11,110 ohm with a resolution of 1 ohm. Each decade is selected by a rotary switch. Tapping points are provided across each range to allow the unit to be used as an accurate potential divider. All resistance values are ±2% with a rating of 0.25W maximum per range.

PRICE FROM **£82.31**

KEY STAGE **KS3-5**

CODE	PRICE
DRBOX4	£82.31

DIGITAL METER WITH SHUNTS

This meter has two attachments included, 0-10 DC Amps and 0-20 DC Volts, so it can be used as an ammeter or as a voltmeter. The basic unit has an input impedance of 100kohm. The resolution is 0.01 and accuracy is ± 2%. Supplied with a PP3 battery that gives a useful life of over 1000 hours. Ideal for use with Teltron Helmholtz coils.

PRICE FROM **£51.58**

KEY STAGE **KS3-5**

CODE	PRICE
261-031	£51.58

DEMONSTRATION METER INTERSCALE

For use with PH1116 (pictured is the PH1116 housing containing one of the interchangeable dials). Each dial comprises a laminated plastic panel (315 x 115mm), with a sealed moulded box at one end which contains the shunt or voltage multiplier appropriate to the scale.

PRICE FROM **£9.60**

KEY STAGE **KS3-5**

CODE		PRICE
PH1118I	0 - 10A DC	£9.60
PH1118D3	0 - 10mA DC	£9.60
PH1118A2	0 - 10V AC	£9.60
PH1118G1	0 - 1A DC	£9.60
PH1118B2	0 - 1V DC	£9.60
PH1118B5	0 - 500millivolt	£9.60
PH1118A3	0 - 50mA AC	£9.60
PH1118F3	0 - 5A AC	£9.60
PH1118H	0 - 5A DC	£9.60
PH1118B3	0 - 5V AC	£9.60
PH1118A1	0 - 5V DC	£9.60
PH1118A5	0-100 millivolts DC	£9.60
PH1118D4	0-100mA AC	£9.60
PH1118D1	0-100mA DC	£9.60
PH1118B4	0-10mA AC	£9.60
PH1118D2	0-10V DC	£9.60
PH1118E2	0-15V AC	£9.60
PH1118C2	0-15V DC	£9.60
PH1118E3	0-1A AC	£9.60
PH1118E4	0-300V AC	£9.60
PH1118C4	0-300V DC	£9.60
PH1118F1	0-500mA DC	£9.60
PH1118C1	0-500mA AC	£9.60
PH1118E1	0-50mA DC	£9.60
PH1118C3	0-50V AC	£9.60
PH1118G2	10 -0-10V DC	£9.60
PH1118B1	10-0-10mA DC	£9.60
PH1118A4	2.5-0-2.5mA DC	£9.60
PH1118F2	5-0-5V DC	£9.60

DIGITAL AMMETER EDULAB

KEY STAGE **KS3-5**

CODE	PRICE
614-016	£38.41

DIGITAL VOLTMETER EDULAB

KEY STAGE **KS3-5**

CODE	PRICE
614-017	£38.41

ELECTRIC MOTOR (PK 5)

A low-cost miniature DC motor suitable for many applications including models, robotics and educational demonstration equipment. The two flat sides make the motor ideal for mounting on a PCB. Rotates counter clockwise when viewed from the shaft end. Solder tag termination.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Operating Voltage:	1.5 to 4.5V DC
Diameter:	20mm
Shaft Length:	9mm
Shaft Diameter:	2mm
Weight: Approx:	17g
Width Across Flats:	15mm

CODE	PRICE
EDU765	£5.20

ELECTRICITY KIT CIRCUITS - EDULAB

The Basic Electricity Kit has been designed as a low-cost, attractive and flexible alternative to the circuit-board approach to pupil investigations into simple circuits.
Each component such as a switch, rheostat, bulb holder, etc. is mounted on its own individual plastic panel with 4mm sockets. The panels are then formed into circuits by connecting them together using 4mm stackable leads.
This equipment is suited not just to teaching basic concepts about circuits, for key stage 2 students, but also has applications for further study into key stage 3 areas.
Each kit is supplied in two polystyrene trays which keep the units organised.

CODE	PRICE
231-036	£218.40

ELECTRICITY, ECONOMY KIT

Basic assortment of components suitable for introductory electronics.

KIT CONSISTS OF:

- 10 x Crocodile Leads
- 3 x 1.5V Cell Holders
- 5 x DPDT Slide Switch
- 10 x MES Lampholders
- 10 x MES Bulbs
- 1 x 6V Buzzer with connecting leads
- 1 x 3-6V Electric Motor

CODE	PRICE
EDU1036	£31.83

ELECTRICITY KIT, MICROSCIENCE - EDULAB

This kit provides students working on an individual basis with an opportunity to study the basic principles of electricity.

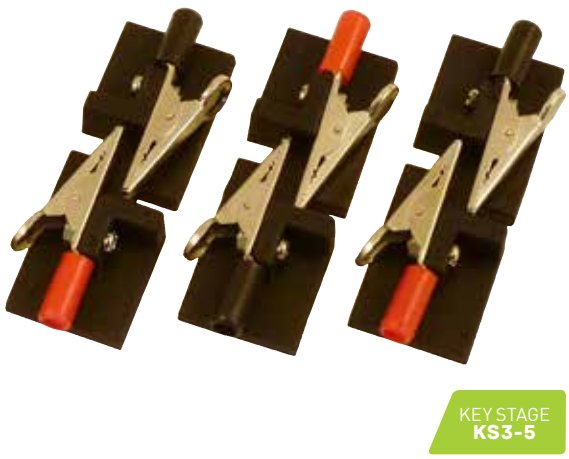
TOPICS COVERED WITH THE KIT INCLUDE:

- Batteries & Current Flow
- Circuits: Direction
- Series & Parallel Circuits
- Magnetic Effects & Chemical Reactions
- Electricity in the Home

CODE	PRICE
310-015	£34.02

ELECTRODE ROD HOLDERS (PK 5)

Plastic strip with 4mm socket terminals and two crocodile clips to hold electrode rods and foils in place during use.



CODE	PRICE
EDU1092	£27.44

GALVANOMETER

High quality moving coil meters. Colour coded with 4mm socket terminals for ease of connection.

KEY STAGE KS3-5

CODE		PRICE
PH1084A	1-0-1mA	£21.95
PH1084C	3.5 - 0 - 3.5mA	£21.95
PH1084D	30-0-30mV	£27.44
PH1084B	35-0-35mV	£27.44

GALVANOMETER 50-0-50MV

High quality moving coil meters. Colour coded with 4mm socket terminals for ease of connection.

KEY STAGE KS3-5

CODE	PRICE
PH1084	£27.44

JOCKEY 100MM WITH INSULATED HANDLE (SINGLE)

For Wheatstone Bridge and Potentiometer work. Insulated handle with plated brass contact and 4mm plug terminal. Overall length: 100mm.

KEY STAGE KS3-5

CODE	PRICE
P1162	£9.88

GALVANOMETER, CENTRE ZERO UNIVERSAL METER

50uA-0-50uA. 1000 ohm movement, moving coil, diode protection against overload up to 12V d.c. The centre zero universal meter (universal galvanometer) is electrically identical to the universal meter. The unit is ideal for use as an indicator in slow a.c.

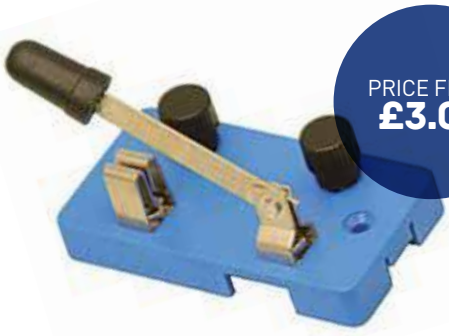
KEY STAGE KS3-5

CODE	PRICE
281-024	£31.83

KNIFE SWITCH - SINGLE & DOUBLE POLE

A range of knife switches mounted on plastic bases, suitable for use in electricity circuits. The poles and blades are made of brass to ensure good electrical connections. Single Pole, Single Throw.

A range of knife switches mounted on plastic bases, suitable for use in electricity circuits. The poles and blades are made of brass to ensure good electrical connections.



PRICE FROM **£3.02**

KEY STAGE KS3-5

CODE		PRICE
PH1000A	Single Pole, Single Throw	£3.02
PH1002B	Double Pole, Double Throw, On Base	£3.02
PH1000B	Single Pole, Double Throw, On Base	£3.02

LAMP HOLDER E-10

Lamp Holder fitted with MES type bulb holder and terminals.

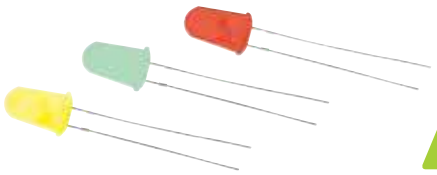
PRICE FROM **£3.84**

KEY STAGE **KS3-5**

CODE	PRICE
231-046	£3.84

LEDS (PK 100)

High quality moving coil meters. Colour coded with 4mm socket terminals for ease of connection.



KEY STAGE **KS3-5**

CODE		PRICE
231-088	LED, 5mm, Blue PK100	£10.32
231-087	LED, 5mm, Green PK100	£4.55
231-089	LED, 5mm, White PK100	£10.37
231-086	LED, 5mm, Yellow PK100	£4.55

MINI MOTOR UNIT

For use with Solar Cell Unit (code: PH1320). A small motor which operates from 1.5 to 4.5V DC.

KEY STAGE **KS3-5**

CODE	PRICE
PH1319	£16.46

MULTIMETER, DIGITAL, STANDARD

KEY STAGE **KS3-5**

CODE	PRICE
614-021	£10.04

MULTIMETER, DIGITAL, ADVANCED

KEY STAGE **KS3-5**

CODE	PRICE
614-022	£21.94

NATIONAL GRID KIT

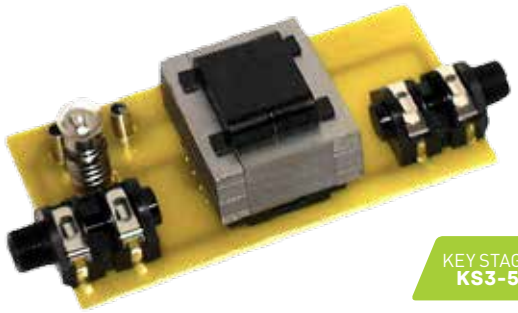
This new kit has been developed to safely demonstrate the need for high voltage transmission. It has the following features: Touchproof, locking high voltage connectors used throughout – it is virtually impossible to get an electric shock. The clear casing lid enables pupils to see how it works and trace the circuit Indicators for low/high voltage. The resistance wires can be connected to either the high or low voltage system for direct comparison of lamp brightness/energy losses. By gripping the insulated cables, students can feel when and where the energy is being lost, mainly as heat. Voltmeter sockets for measuring the high voltage. Comes complete with two boxes (transmit and receive), insulated resistance wires, two mounted SBC lamps and full instructions. Two Pylon kits with glue and instructions available separately (231-134).

KEY STAGE **KS3-5**

CODE	PRICE
231-132	£136.09

NATIONAL GRID SIMULATION MINI

The system comprises two printed circuit boards fitted with step up/step down transformers, 4mm low voltage connectors, "high voltage" jack sockets, 2.5V MES lamps and a set of "HT" leads. The system is classified as Safety Electrical Low Voltage - in other words it does not generate harmful voltages and is safe for pupil use. The system allows the pupil to investigate the effect of stepping up the voltage to transmit power, as used in the National Grid. All it requires are two 4mm plugged leads and a 2V ac power source. Comes complete with a 1.2m long set of transmission cables and full instructions.



KEY STAGE **KS3-5**

CODE	PRICE
231-133	£55.70

POSTER: INVESTIGATING ELECTRICITY (LAMINATED)

Striking illustrations and informative text on key electricity concepts. Learn about the sources of electricity; electrical circuits; power plants; and much more. Graphical depiction combines illustrations with stunning photography and illuminating background text.

PRICE FROM **£35.38**

KEY STAGE **KS3-5**

CODE	PRICE
44-35-1131	£35.38

OHMMETER SERIES TYPE 0-100 OHMS

Designed for measuring resistance in electric circuits. Housed in unbreakable case with clear front cover. Series, 0-1000.

PRICE FROM **£42.80**

KEY STAGE **KS3-5**

CODE	PRICE
PH1106B	£42.80

POTENTIOMETER MODULE

Rotary linear potentiometer mounted on a channel box. Choice of values. Connection made to 4 mm sockets. Protection against student's wrong connection by means of fast blow fuse.

KEY STAGE **KS3-5**

CODE		PRICE
231-139	100, Wire Wound	£24.15
231-145	100K, Carbon Track	£24.15
231-142	10K, Wire Wound	£24.15
231-140	1K	£24.15
231-138	25, Wire Wound	£24.15
231-143	25, Wire Wound	£24.15
231-144	50K, Carbon track	£24.15
231-141	5K, Wire Wound	£24.15

POTENTIOMETER, 1METRE, SINGLE WIRE

New design with protective cover. Wound upon a tube with heavily oxidised resistance wire. Fitted with 4mm safety socket terminals. Resistance ±10% compared to nominal value.

KEY STAGE KS3-5

CODE	PRICE
PH1160A	£42.80

RESISTANCE COIL

Resistance units to add to any circuit for basic electrical experiments. Instead of using simple resistors these blocks provide convenient connections to a resistance by means of 4mm sockets.

KEY STAGE KS3-5

CODE		PRICE
PH1143A	Resistance Coil - 1 Ohm	£5.21
PH1143B	Resistance Coil - 2 Ohm	£5.21
PH1143C	Resistance Coil - 5 Ohm	£5.21
PH1143D	Resistance Coil - 10 Ohm	£5.21
PH1143E	Resistance Coil - 20 Ohm	£5.21
PH1143F	Resistance Coil - 50 Ohm	£5.21
PH1143G	Resistance Coil - 100 Ohm	£5.21
PH1143H	Resistance Coil - 200 Ohm	£5.21

PYLONS KIT

This new kit has been developed to safely demonstrate the need for high voltage transmission. It has the following features: Touchproof, locking high voltage connectors used throughout – it is virtually impossible to get an electric shock. The clear casing lid enables pupils to see how it works and trace the circuit Indicators for low/high voltage. The resistance wires can be connected to either the high or low voltage system for direct comparison of lamp brightness/energy losses. By gripping the insulated cables, students can feel when and where the energy is being lost, mainly as heat. Voltmeter sockets for measuring the high voltage. Comes complete with two boxes (transmit and receive), insulated resistance wires, two mounted SBC lamps and full instructions. Two Pylon kits with glue and instructions available separately.

KEY STAGE KS3-5

CODE	PRICE
231-134	£15.33

RESISTANCE SUBSTITUTION BOX

This switched compact unit contains 12 resistors, with preferred values in the range 100Ω to 470Ω mounted on a printed circuit in a robust black plastic box. Selection is via a rotary switch. External connections are by means of two 4mm yellow terminals, the colour indicating non-polarity. The tolerance of the resistance values is 5%. However, as is quite common, resistances can be closer to their nominal values. All the resistors have a maximum power rating of 1W.

KEY STAGE KS3-5

CODE	PRICE
EDU086	£31.83

SHUNT FOR UNIVERSAL METER AC, TRIPLE RANGE

The Edulab shunts and multipliers are designed to provide protection due to overloads that commonly occur in practical experiments. The units are robust and are designed for reliability. 4mm sockets are used. The ranges of current and voltage are common to most practical work.

PRICE FROM **£24.15**

KEY STAGE **KS3-5**

CODE		PRICE
281-017	0-1-5-10A	£41.71
281-014	0-10mA-50mA-100mA	£42.80
281-016	0-1-10-100mA	£24.15
281-028	+/-3.5mA	£24.15

SIMPLE CIRCUIT MODULE BUZZER

Large light emitting diodes with series resistor of 220ohms for p.d's of upto 6V.

PRICE FROM **£5.49**

KEY STAGE **KS3-5**

CODE	PRICE
231-055	£5.49

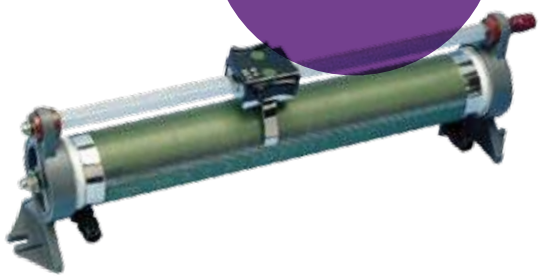
RHEOSTATS

A high quality rheostat offering excellent value for money. Wound with heavily oxidised resistance wire on a vitreous enamel steel tube with the winding, which is supported on robust diecast end stands.

The heavy duty sliding contact is of multi-leaf phosphor bronze, nickel plated for corrosion resistance.

4mm terminal posts are fitted, facilitating external connection with a conventional 4mm plug.

PRICE FROM **£29.00**



KEY STAGE **KS3-5**

CODE		PRICE
ORH0002	Rheostat - 1600 0.3	£31.83
ORH0037	Rheostat - 125 1.8	£31.83
ORH0055	Rheostat - 1325 0.5	£31.83
ORH0135	Rheostat - 135 1.4	£29.63
ORH0016	Rheostat - 16 4.0	£32.38
ORH0125	Rheostat - 2.5 9.0	£28.54
ORH0020	Rheostat - 20 4.5	£45.00
ORH0280	Rheostat - 280 1.3	£31.83
ORH0300	Rheostat - 300 0.9	£24.15
ORH0600	Rheostat - 37 3.2	£27.44
ORH0004	Rheostat - 4.5 9.0	£31.83
ORH1325	Rheostat - 55 2.3	£31.83
ORH1600	Rheostat - 600 0.6	£26.34
ORH0008	Rheostat - 8.5 5.0	£31.83
PH1144D-16	Rheostat 16 ohms 4.2A	£27.44
PH1144D-20	Rheostat-20 ohms 4.2A	£24.15

SIMPLE CIRCUIT MODULE LED BOARD, GREEN

Large light emitting diodes with series resistor of 220ohms for p.d's of up to 6V.

KEY STAGE **KS3-5**

CODE	PRICE
231-049	£5.49

SIMPLE CIRCUIT MODULE MOTOR

Large light emitting diodes with series resistor of 220ohms for p.d's of up to 6V.

KEY STAGE **KS3-5**

CODE	PRICE
231-054	£5.49

SIMPLE CIRCUIT MODULE LIGHT DEPENDENT RESISTOR BOARD

An ORP13 light dependent resistor, fully covered resistor of 10 ohms. In normal room conditions resistance of 250 ohms approx.

KEY STAGE **KS3-5**

CODE	PRICE
231-051	£5.49

SIMPLE CIRCUIT MODULE PUSH SWITCH

Large light emitting diodes with series resistor of 220ohms for p.d's of up to 6V.

KEY STAGE **KS3-5**

CODE	PRICE
231-053	£5.49

SIMPLE CIRCUIT MODULE REED RELAY

Large light emitting diodes with series resistor of 220ohms for p.d's of up to 6V.

PRICE FROM **£5.49**

KEY STAGE **KS3-5**

CODE	PRICE
231-057	£5.49

SIMPLE CIRCUIT MODULE THERMISTOR UNIT

An ORP13 light dependent resistor, fully covered resistor of 10 ohms. In normal room conditions resistance of 250 ohms approx.

PRICE FROM **£5.49**

KEY STAGE **KS3-5**

CODE	PRICE
231-060	£5.49

SIMPLE CIRCUIT MODULE RESISTOR

Large light emitting diodes with series resistor of 220ohms for p.d's of up to 6V.

PRICE FROM **£5.49**

KEY STAGE **KS3-5**

CODE	PRICE
231-050	£5.49

SOLAR CELL UNIT

Solar cell unit comprising a solar cell mounted on a base with 4mm socket terminals for electrical output. When connected to the Mini Motor Unit (code: PH1319).

KEY STAGE **KS3-5**

CODE	PRICE
PH1320	£31.83

SIMPLE CIRCUIT MODULE SINGLE POLE DOUBLE THROW SWITCH

Large light emitting diodes with series resistor of 220ohms for p.d's of up to 6V.

PRICE FROM **£5.49**

KEY STAGE **KS3-5**

CODE	PRICE
231-052	£5.49

STACKABLE PLUG TO MINIATURE SHROUDED CROCODILE CLIP 4MM, 50CM BLACK

500mm test leads fitted with a 4mm stackable connector and a crocodile clip. Available in red or black.

KEY STAGE **KS3-5**

CODE		PRICE
231-079	4mm, 50cm Black	£0.69
231-078	4mm, 50cm Red	£0.69

STACKABLE LEADS

4mm stackable lead. 500mm length.

PRICE FROM **£2.80**

KEY STAGE **KS3-5**

CODE		PRICE
17-0385	Black	£2.80
17-0380	Red	£2.80
17-0386	Yellow	£2.80

STACKABLE TEST LEAD

500mm test leads fitted with a 4mm stackable connector and a crocodile clip. Available in red or black.

PRICE FROM **£0.98**

KEY STAGE **KS3-5**

CODE		PRICE
231-074	2mm Black 100mm	£0.98
231-075	2mm Red 100mm	£0.98

TEST LEAD BLACK 4MM 500MM

500mm banana plug test leads fitted with a 4mm stackable connector at each end. Available in red or black.

PRICE FROM **£0.99**

KEY STAGE **KS3-5**

CODE		PRICE
231-076	Black 4mm 500mm	£0.99
231-077	Red 4mm 500mm	£0.99

SWITCH, TOGGLE, DP.DT. (PK 10)

Rated at 250V, 1.5A A/C.

PRICE FROM **£14.21**

KEY STAGE **KS3-5**

CODE	PRICE
EDU764	£14.21

WHEATSTONE BRIDGE FOUR GAP

This Wheatstone bridge has broad, heavily plated brass strips mounted on a polished hardwood base. Terminals with 4mm sockets are provided. The 24 SWG constantan wire is stretched along the top of a metre scale in mm and cm. Supplied with jockey. Dimensions: 1130 x 80 x 50mm.

PRICE FROM **£38.41**

KEY STAGE **KS3-5**

CODE		PRICE
PH1156B	Wheatstone Bridge Four Gap	£38.41
PH1156A	Wheatstone Bridge Two Gap	£53.78

SWITCHES (ECON) WITH FAHNSTOCK CLIPS. (PK 25)

Economy switch with Fahnstock clips. Pack of 25.

PRICE FROM **£20.85**

KEY STAGE **KS3-5**

CODE	PRICE
EDU731	£20.85

WIRE, BARE COPPER REEL

PRICE FROM **£16.50**

CODE		PRICE
PH1058A	2.00Dia. 14swg 500g Reel	£18.11
PH1058B	1.60Dia. 16swg 500g Reel	£18.65
PH1058C	1.25Dia. 18swg 250g Reel	£10.37
PH1058D	0.90Dia. 20swg 250g Reel	£10.92
PH1058E	0.71Dia. 22swg 250g Reel	£10.87
PH1058F	0.56Dia. 24swg 250g Reel	£10.37
PH1058G	0.45Dia. 26swg 250g Reel	£10.37
PH1058H	0.40Dia. 28swg 250g Reel	£10.37
PH1058I	0.31Dia. 30swg 250g Reel	£12.62
PH1058J	0.28Dia. 32swg 250g Reel	£12.62

WIRE, BARE, EUREKA, CONSTANTAN

CODE		PRICE
PH1066A	16swg 125g	£12.62
PH1066B	18swg 125g	£12.62
PH1066C	20swg 125g	£12.62
PH1066D	22swg 125g	£12.62
PH1066E	24swg 125g	£12.62
PH1066F	26swg 125g	£12.62
PH1066G	28swg 125g	£12.62
PH1066H	30swg 125g	£12.62
PH1066I	32swg 125g	£12.62
PH1066J	34swg 125g	£12.62

WIRE, BARE, NICHROME

CODE		PRICE
PH1064A	18 SWG (Single)	£14.93
PH1064B	20 SWG (Single)	£16.19
PH1064C	22 SWG (Single)	£16.19
PH1064D	24 SWG (Single)	£16.19
PH1064E	26 SWG (Single)	£17.29
PH1064F	28 SWG (Single)	£18.44
PH1064G	30 SWG (Single)	£18.44
PH1064H	32 SWG (Single)	£19.54

ENDURAFLEX TUBING, SQUARE, 8MM BORE 10M ROLL

The new ISG® square tubing is an affordable and resilient product designed to replace the natural rubber tubing.

GUARANTEED TO LAST 10X LONGER THAN STANDARD TUBING!

TECHNICAL SPECIFICATIONS	
Indentation Hardness:	60+/-5 Shore A
Tensile Strength:	7.5 Mpa
Elongation at Break:	300%
Specific Gravity:	1.16±0.05 g/cm3
Tear Strength:	17kN/m
Linear Shrinkage Rate:	3.2~3.6 % @ 200°C
Rebound Resilience	60%
Temperature Range	- 50-200°C
Material	Polymer Blend

CODE	PRICE
153-512	£21.00

303

DATALOGGING RANGE

IN SCIENCE TOGETHER

WELCOME TO THE EDULAB DATA-LOGGING SECTION!

The Edu-Logger® datalogging system has been designed by experts to be the fastest, simplest and most advanced datalogging system available... and it is... GUARANTEED!

THE CATCH
Is it the software? How much does this cost? Do we pay every time there's an upgrade?

NO! ANOTHER GREAT FEATURE OF THE EDU-LOGGER SYSTEM IS THAT WE OFFER THE SOFTWARE ABSOLUTELY FREE. ANY FUTURE UPGRADE ALSO COMES WITH NO CHARGE.

"It all sounds great but there must be a catch... is there?"

The truth is, there's no catch.
What you see is what you get... plus training, workshops,trials and full technical support, but that all comes free too! Don't forget to check out our video library too. It shows short clips of different experiments and ways to use the Edu-Logger system.

Simply go to www.edulab.com/video-library

WE'VE NEVER CHARGED FOR OUR SOFTWARE AND NEVER WILL!

FREE TRIAL

TAKE ADVANTAGE OF OUR FREE TRIAL OFFER

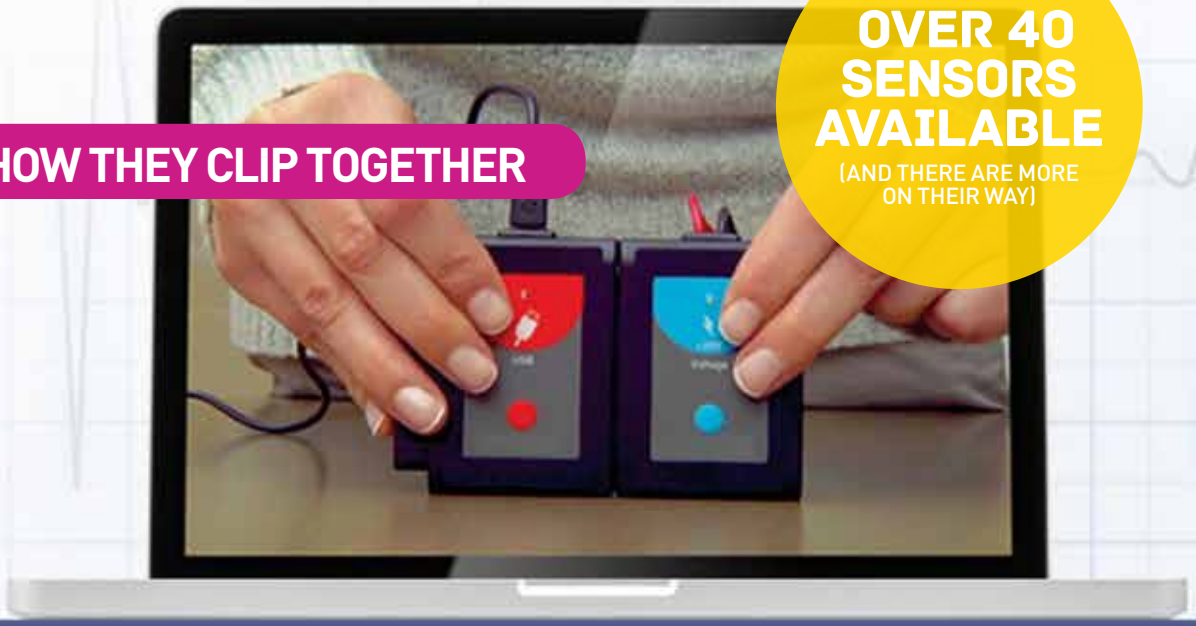
See anything you wish you could try before buying? Just let us know and its very likely we can send you exactly what you need on a free trial for a set amount of time.

THE EDU-LOGGER SENSORS

Unlimited number of sensors can be clipped together in a chain.

OVER 40 SENSORS AVAILABLE
(AND THERE ARE MORE ON THEIR WAY)

HOW THEY CLIP TOGETHER



THE EDU-LOGGER WIFI MODULE

HOW IT WORKS

VOLTAGE LOGGER SENSOR

- Use these together in a lot of experiments. At lower current values use the mA sensor datalogger.

This sensor measures voltages across various resistive, capacitive and inductive components, as well as those of photovoltaic cells, batteries and power supplies.

This sensor can also be used to measure electrode potentials and to investigate the charging and discharging of capacitors. When used in conjunction with the Current sensor the dependence of the current flowing on the applied voltage can be studied in various electric circuits.
This sensor can be used to measure low voltage AC and DC circuits. With its 4 mm plugs it can easily be connected into electric circuits.

It can also measure, using a step-down transformer, the AC voltage of the main supply and receive its frequency 50/60 Hz.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	25 milliseconds to 31 days
Range & Operation modes:	±20 V
ADC Resolution:	15 bit
Accuracy:	1%
Resolution:	0.01 V
Max Sample Rate (S/sec):	3000

CODE	PRICE
900-201	£45.00

CURRENT LOGGER SENSOR

- Use these together in a lot of experiments. At lower current values use the mA sensor datalogger.

This sensor can be used to measure the current in parallel or series of low voltage AC and DC circuits and also investigate the dependence of the current flow through components on the voltage across them. With its 4 mm plugs it can easily be connected into electric circuits.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	50 milliseconds to 31 days
Range & Operation modes:	±2500 mA
ADC Resolution:	15 bit
Accuracy:	1%
Resolution:	1 mA
Max Sample Rate (S/sec):	3000

CODE	PRICE
900-202	£42.80

RESISTANCE LOGGER SENSOR

PRICE FROM **£55.00**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	50 milliseconds to 31 days
Range & Operation modes:	0kΩ to 200kΩ
ADC Resolution:	15 bit
Accuracy:	1%
Resolution:	0 to 10K - 0.001 KΩ, 10K to 60K- 0.01 KΩ, 60K to 200K -0.1 KΩ
Max Sample Rate (S/sec):	3000

CODE	PRICE
900-273	£60.36

CURRENT MA LOGGER SENSOR

PRICE FROM **£50.00**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	50 milliseconds to 31 days
Range & Operation modes:	-250mA to 250mA
ADC Resolution:	15 bit
Accuracy:	1%
Resolution:	0.1 mA
Max Sample Rate (S/sec):	3000

CODE	PRICE
900-274	£54.88

LIGHT GATE LOGGER SENSOR

This sensor can be used to study various kinds of motion. With five modes of operation, time, velocity or acceleration can be measured with one or two photo gates and associated timing cards, as well as showing pictorially the status (digital 1 or 0) of the voltage output of the photo gate as timing cards pass through it. The modes of operation are selected by clicking on the relevant picture. The measured values can be displayed digitally or graphically.

THE SENSOR HAS FIVE MODES OF OPERATIONS:
1) Time and Velocity mode
2) Acceleration with single photo-gate
3) Acceleration with two photo-gates
4) Velocity and Momentum with two photo-gates
5) Status graph mode
6) Delta T
7) Time between gates

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	-
Range & Operation modes:	Single timing card with one photo gate Double timing card with one photo gate Single timing card with two photo gates Digital status with one photo gate
ADC Resolution:	16 bit digital
Accuracy:	100 µS
Resolution:	100 µS
Max Sample Rate (S/sec):	10,000

CODE	PRICE
900-209	£49.39

FORCE LOGGER SENSOR

This sensor can measure the mass to weight relationship and study how different pulley systems affect the effort needed to lift weights. It can also be used to measure push/pull forces and impacts.

The force sensor is contained in a metal box. There is a hook at the bottom of the box that can be connected to various pulling loads. A simple bumper (for push/impact measurements) could be made and attached using a bolt which is placed through a length of plastic tubing.
The sensor can be hung from a universal laboratory stand via a rod through the hole in its box.

This sensor can be operated either facing upwards, downwards or at any intermediate (including horizontal) position.

SENSOR ZEROING:
Connect the sensor to a voltage source (USB module, Display unit or Battery module). To zero the reading, just press the sensor's push-button for about 3 seconds.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	50 ms to 31 days
Range & Operation modes:	±10 N & ±50 N
ADC Resolution:	16 bit
Resolution:	0.02
Max Sample Rate (S/sec):	3000

CODE	PRICE
900-211	£108.65

ACCELERATION LOGGER SENSOR

- Can be used with force-motion and dynamics kit (EDU801B) and linear air track (LINSET) to show acceleration as well as with, for examples springs to show simple harmonic motion.

This logger sensor includes a 3D (three dimensions) acceleration sensor, but only one dimension acceleration can be displayed at a time.

This sensor measures at the same time acceleration in three dimensions. Each dimension results can be displayed separately.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

PRICE FROM **£108.65**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	Acc-x -80 to 80 m/s² Acc-y -80 to 80 m/s² Acc-z -80 to 80 m/s²
ADC Resolution:	10 bit
Resolution:	0.15 m/s²
Max Sample Rate (S/sec):	3000

CODE	PRICE
900-237	£108.65

MOTION LOGGER SENSOR

- Vast array of uses e.g. in dynamics to show distance displacement graphs.

This sensor uses an ultrasonic transducer to transmit an ultrasonic wave and measure the time of the echo return. In this way, the sensor measures the distance to an article located against it.

Using the sensor's software, it is able to calculate also the item velocity and acceleration.

THE SENSOR HAS THREE MODES OF OPERATIONS:
Distance, Velocity and Acceleration.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	Distance: 0.25 to 6 m Velocity: ± 10 m/s Acceleration: ± 100 m/s²
ADC Resolution:	13 bit
Resolution:	1 mm 0.02 m/s 0.08 m/s²
Max Sample Rate (S/sec):	100

CODE	PRICE
900-223	£108.65

LIGHT LOGGER SENSOR

- This sensor also has uses in biology especially with regard to photosynthesis.

This sensor is very versatile with applications in many areas of the natural sciences. It can be used to study photosynthesis in Biology, to study light-emitting chemical reactions in Chemistry, to study the effect of changing voltage on a light-bulb's output in Physics and more. With three ranges, it can be used in low light environments such as in a classroom, or high light environments as in daylight outdoors. It measures Illumination.

With both fast and slow modes, it can be used to measure fast light changes such as those produced by light bulbs connected to an AC supply, as well as the near steady levels outside on a sunny day. The light sensor in located in a plastic box just behind an access hole.

PRICE FROM **£60.36**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	50 milliseconds to 31 days
Range & Operation modes:	Illumination: 0 to 1,000 lx Illumination: 0 to 6,000 lx Illumination 0 to 150000 lx
ADC Resolution:	16 bit
Resolution:	1 lx,21x, 61x
Max Sample Rate (S/sec):	3000

CODE	PRICE
900-204	£60.36

SOUND LOGGER SENSOR

- Will give intensity of sound as well as wave forms.

This sensor has two modes of operation. In slow mode it can be used to measure sound-pressure level in decibels. In fast mode it can be used to compare different sources of sound, their waveforms can also be displayed.

It can be used to determine the frequencies of tuning forks and wind-chimes and to calibrate simple electronic signal generators. With two sound sensors the velocity of propagation of sound in various media can be determined by timing a pulse travelling between them.

The sound sensor is located in a plastic box accessible to the atmosphere via a hole in its side.

PRICE FROM **£53.78**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS2-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	25 second to 31 days
Range & Operation modes:	Level: 40 to 110 dB Signal: 0 to 4096
ADC Resolution:	±2 dB 1
Accuracy:	±2 dB +1
Resolution:	0.1 dB & 1
Max Sample Rate (S/sec):	100 & 10,000

CODE	PRICE
900-212	£53.78

TEMPERATURE LOGGER SENSOR

- This has a vast range of uses in both chemistry and biology as well as physics.

This is one of the most versatile sensors. It can be used in Biology to monitor ecological systems, to study photosynthesis or to study the effect of temperature on enzymes; in Chemistry, to study exothermic or endothermic reactions, and in Physics to study heat/energy transfer. The sensitive element is within a 180 mm long, 3.2 mm diameter stainless steel tube.

This sensor can be used for temperature measurements in solids, liquids or gases.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	-40 °C to 140 °C
ADC Resolution:	12 bit
Accuracy:	±1 °C
Resolution:	0.1 °C
Max Sample Rate (S/sec):	100

CODE	PRICE
900-203	£38.41

FORCE PLATE LOGGER SENSOR

- Use to show impulse values.

This sensor measures heavy weights or forces. Handles can be connected to its plate for measuring pulling forces.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	–800 to +2000 N
ADC Resolution:	16 bit
Accuracy:	1 N
Resolution:	0.1 °C
Max Sample Rate (S/sec):	100

CODE	PRICE
900-235	£268.89

PRESSURE LOGGER SENSOR

- Can be also be used in chemistry and biology where changes in pressure are involved.

This sensor can be used to monitor chemical reactions that involve gases and to investigate both Boyle's Law and Gay-lussac's Law for ideal gases.

It can also prove useful in studies of weather phenomena.

The pressure sensor is located in a plastic box. The sensing part is connected to a small tube for connection to pressure sources such as a syringe via an adapter.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 7 **(atm)** 0 to 100 **(psi)** 0 to 700 **(kPa)** 0 to 7 **(bar)**
ADC Resolution:	13 bit
Accuracy:	±1% 20 °C-30 °C
Resolution:	0.01 **(atm)** 0.1 **(psi)** 0.1 **(kPa)** 0.01 **(bar)**
Max Sample Rate (S/sec):	100

CODE	PRICE
900-210	£86.70

MAGNETIC FIELD LOGGER SENSOR

- Use with magnets and electromagnetism and induced fields.

This is a very sensitive magnetic fields sensor. It can measure a very low level of magnetic fields such as the magnetic field of the Earth.

The logger sensor has one range and measures magnetic fields in milli Tesla (mT).

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	50 ms to 31 days
Range & Operation modes:	±10 mT
ADC Resolution:	16 bit
Resolution:	0.001 mT
Max Sample Rate (S/sec):	3000

CODE	PRICE
900-224	£64.75

ELECTROSTATIC CHARGE SENSOR

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS5

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	+5.000 nC +20.000 nC +100.000 nC +500.0 mV +2000 mV +10,000 mV
ADC Resolution:	16 bit
Resolution:	1 pC 10 pC 100 pC 0.1 mV 1 mV 1 mV
Max Sample Rate (S/sec):	100

CODE	PRICE
900-263	£115.24

- Very useful if used along with Faraday's pails or equivalent.

"This Edu-Logger sensor measures electrostatic charges. It can be seen as a highly sensitive electroscope indicating whether a charge is positive or negative. Other uses are: to explore the nature of static charge, to measure both charge and voltage, to measure charge by induction, quantify the charge on a capacitor or discover the charge distribution on a conducting sphere.

As with all Edu-Logger Sensors this must be used with the Edulogger USB module or the Wi-Fi module."

ROTARY MOTION LOGGER SENSOR

This sensor measures angles, rotation speeds or rotation acceleration. It has a pulley connected to its shaft to measure the pulley rotation.

This sensor has four modes of operation: angles, rev/s, rad/s², rad/s.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS5

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0°-360° ±345 Rad/s ±32,222 Rad/s² ±55 Rev/s
ADC Resolution:	16 bit
Resolution:	0.08° 0.6 Rad/s 11 Rad/s² 0.02 Rev
Max Sample Rate (S/sec):	100

CODE	PRICE
900-236	£163.53

PRICE FROM **£214.01**

INFRARED THERMOMETER LOGGER SENSOR

- Very useful when monitoring how surfaces radiate heat.

This sensor measures temperature remotely using an infrared high accurate sensor.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS2-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	–30 °C to 382 °C
ADC Resolution:	13 bit
Resolution:	0.1 °C
Max Sample Rate (S/sec):	100

CODE	PRICE
900-245	£214.01

SURFACE TEMPERATURE LOGGER SENSOR

- Use along with infrared logger.

This logger sensor is very similar to the temperature sensor 900-203, without the stainless steel tube.

The sensor can be put on any surface and also in water.

THIS SENSOR HAS TWO MODES OF OPERATION:
Celsius and Fahrenheit.

PRICE FROM **£31.83**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	–40 °C to 140 °C
ADC Resolution:	12 bit
Resolution:	0.1 °C
Max Sample Rate (S/sec):	100

CODE	PRICE
900-243	£31.83

WIDE-RANGE TEMPERATURE LOGGER SENSOR

This sensor is based on a thermocouple that enables measuring very high temperature levels, even the temperature of a flame, as well as very low temperature levels.

THIS SENSOR HAS TWO MODES OF OPERATION:
Celsius and Fahrenheit.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

PRICE FROM **£82.31**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	–200 °C to 1200 °C
ADC Resolution:	15 bit
Resolution:	0.1 °C
Max Sample Rate (S/sec):	100

CODE	PRICE
900-244	£82.31

OXYGEN LOGGER SENSOR

- In biology use to investigate respiration and photosynthesis. In chemistry any experiment where oxygen is produced.

This sensor can be used to make measurements of the level of free-oxygen in air or dissolved oxygen in water.
The free-oxygen in air mode is used to measure changes in oxygen levels during combustion or in reactions that produce oxygen (hydrogen peroxide decomposition).

The Dissolvedoxygen mode is useful in the study of photosynthesis. The oxygen sensor is designed for use both in the school laboratory and in the field. It employs easy-to-use polarographic (Clark) technology and replaceable membranes are available for it.

The electrode itself is constructed of Delrin® for durability. With its integral thermistor, it provides dependable temperature-compensated measurements. The thermistor is housed in stainless steel and sealed on the electrode's outer wall providing fast, accurate readings.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-5**

PRICE FROM **£196.45**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 25% (in air) 0 to 125% (dissolved)
ADC Resolution:	13 bit
Resolution:	0.1% 0.01%
Max Sample Rate (S/sec):	100

CODE	PRICE
900-205	£196.45

PH LOGGER SENSOR

- Can be used alone to give pH readings and with drop counter in titrations.

This sensor can be used to measure the static pH values of common liquids (water, milk, soft drinks, vinegar, etc.) as well as the changing values in titrations or experiments such as those looking at the effect of antacids. The pH sensor is designed for long life in a variety of general purpose situations.

Its sealed reference system and gel fill make it easy to use and maintain. With an epoxy body it is a durable electrode for use both in the laboratory and in the field.

Sensor Calibration: This sensor gives a fast response across the full pH range and can be calibrated with any standard buffer solution. The sensor should be connected to a voltage source (the USB module plugged into a computer , Edu-Loggers's™ Display unit or Battery module). Insert the sensor into a pH = 7 buffer and press the sensor's push button for about 3 seconds. The reading is calibrated to 7.

Ideal storage for probe is pH3 buffer solution.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 14
ADC Resolution:	15 bit
Resolution:	0.01 pH
Max Sample Rate (S/sec):	100

CODE	PRICE
900-206	£82.31

HUMIDITY LOGGER SENSOR

- Can be used along with temperature sensor to show homeostasis. Also has uses in chemistry e.g. combustion and biology photosynthesis.

This sensor measures relative humidity. It can be used to record variations of the weather conditions and the biological effect on organisms such as seedlings and insects.

It can also be used to measure humidity changes in closed containers with a disinfectant such as silica gel. It is located in a plastic box with exposure of the sensor being through a hole in the side.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 100% RH
ADC Resolution:	16 bit digital
Accuracy:	±5% RH
Resolution:	0.1%
Max Sample Rate (S/sec):	100

CODE	PRICE
900-207	£71.34

CO^2 LOGGER SENSOR

This logger sensor is based on an electromechanical reaction between CO^2 gas and the sensor.

The result of the electromechanical reaction is voltage, measured by the logger sensor. The measurement units are ppm (parts of CO^2 per million of air).

PLEASE NOTE - THE SENSOR MUST BE CALIBRATED BEFORE EVERY USE ACCORDING TO THE FOLLOWING SIMPLE PROCEDURE:

Connect the sensor to the PC through a USB module or to a battery module.

Wait for two minutes to warm the sensor and press the pushbutton on the CO^2 logger sensor for 3 seconds.
A bottle adapted to the sensor is supplied.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	350 to 10,000 ppm
ADC Resolution:	14 bit
Resolution:	1 ppm
Max Sample Rate (S/sec):	100

CODE	PRICE
900-230	£240.35

COLORIMETER LOGGER SENSOR

- For rate investigations.

The colorimeter measures transmittance and absorbance of red, green and blue light components projected on a solution. It has an opening for a special square solution cuvette.

The colorimeter turns on 4 different lights (Red, Green, Blue & Orange) in known values and measures the received light that passes through the solution.

This sensor has two modes of operation: absorbence and transmittance.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	Red, Green, Blue & Orange 0 to 4 absorbance
ADC Resolution:	14 bit
Resolution:	0.01 %T 0.01abs
Max Sample Rate (S/sec):	100

CODE	PRICE
900-229	£119.63

CONDUCTIVITY LOGGER SENSOR

This logger sensor is based on a probe with two flat electrodes with known surface area and distance between them. A signal is supplied to the electrodes and by testing the signal behaviour, the conductivity of the solution is calculated.

THE LOGGER SENSOR HAS THREE RANGES FOR DISPLAYING THE SOLUTION CONDUCTIVITY:
µs/cm – micro Siemens per centimetre
mg/L – milligram per Litre
ppm – part per million

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0-20000 µs/cm 0-18000 mg/L 0-18000 ppm
ADC Resolution:	15 bit
Resolution:	0-2000 µs/cm - 0.1 µs/cm Over 2000 - 1 µs/cm 0-1000 mg/L - 0.1 mg/L 100 Over 1000 - 1 mg/L 0-1000 ppm - 0.1 ppm Over 1000 - 1 ppm
Max Sample Rate (S/sec):	100 slow & 3000 fast

CODE	PRICE
900-225	£108.65

CALCIUM LOGGER SENSOR

The Edu-Logger Calcium Sensor enables measurements of ionic calcium (Ca2+) concentration in aqueous samples.

This measurement is very important when evaluating water quality. It can also be used to determine calcium magnesium by EDTA titration.

As with all Edu-Logger Sensors this must be used with the Edulogger USB module or the Wi-Fi module.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-5**

CODE	PRICE
900-256	£383.03

CHLORIDE LOGGER SENSOR

The Edu-Logger chloride sensor is used to measure the concentration of chloride ions (Cl-) in aqueous samples. This measurement can be an indication of the salinity of water samples.

The sensor can be used to study samples of drinking water with different degrees of chlorination. As with all Edu-Logger Sensors this must be used with the Edulogger USB module or the Wi-Fi module.

PRICE FROM **£383.03**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-6**

CODE	PRICE
900-257	£383.03

DROP COUNTER LOGGER SENSOR

- Use along with pH sensor for titration curves.

This sensor enables to count automatically drops and bubbles. It is perfect for titrations. Combined with the pH sensor it gives a very nice titration curve.

PRICE FROM **£97.68**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	-
Range & Operation modes:	0 to 6,500 drops 0 to 6,500 X drop vol. in ml
ADC Resolution:	12 bit
Resolution:	1 Drop
Max Sample Rate (S/sec):	100

CODE	PRICE
900-233	£97.68

HEART RATE AND PULSE LOGGER SENSOR

- All items on this page can be used together to monitor changes in the body during exercise.

This sensor can be used to monitor and compare pulse rates under various exercise and rest conditions and to compare the "normal' and "after exercise" pulse rates. Additionally, it can show how blood volume/flow rates in the finger or ear lobe vary with time.

The sensor has two modes of operation: measuring the BPM (Bits Per Minute) of the heart rate or displaying the analog arbitrary value of the measured signal.

The electrodes are both plethysmograph-based and so record changes in blood volume/flow. The sensor consists of an infrared LED transmitter and a matched infrared phototransistor receiver. For best results, the sensor should be kept away from direct sunlight and high intensity lights.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	30 to 240 BPM 0 to 1024 Analog Values
ADC Resolution:	10 bit
Accuracy:	1
Resolution:	2
Max Sample Rate (S/sec):	100

CODE	PRICE
900-208	£82.31

SPIROMETER LOGGER SENSOR

- All items on this page can be used together to monitor changes in the body during exercise.

The Spirometer enables measuring the volume of our lungs. The sensor includes a tube through which it measures the air flow that passes through it. The volume (in litres) is calculated by the software area calculation function.

The tube has a narrow part in its centre and it measures the flow rate by measuring the pressure difference between the two parts of the tube.

PLEASE NOTE: Disposable laminated papers are included with the sensor. A paper must be rolled and put in the tube before using it and exhaling through it.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	±10 L/s
ADC Resolution:	14 bit
Resolution:	0.2 L/s
Max Sample Rate (S/sec):	100

CODE	PRICE
900-226	£108.65

EKG LOGGER SENSOR

- All items on this page can be used together to monitor changes in the body during exercise.

This sensor enables to measure the electrocardiogram. It does not use disposable electrodes.

PRICE FROM **£152.55**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 4092 Arbitrary units
ADC Resolution:	12 bit
Resolution:	1
Max Sample Rate (S/sec):	100

CODE	PRICE
900-228	£152.55

THE EDU-LOGGER SOFTWARE EXTRACTS THE FOLLOWING FROM THE BLOOD PRESSURE GRAPH:

a) The Systolic blood pressure
b) The Diastolic blood pressure
c) The MAP (Mean Arterial Pressure)
d) The heart rate

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 250 mm Hg 0 to 250 Arb 0 to 250 mm Hg + Arb
ADC Resolution:	13 bit
Resolution:	0.24 mm Hg 0.1 Arb 0.24 mm Hg
Max Sample Rate (S/sec):	100

CODE	PRICE
900-232	£115.24

BLOOD PRESSURE SENSOR

- All items on this page can be used together to monitor changes in the body during exercise.

The sensor measures the air pressure in the pressure cuff wrapped around the tested person's arm. Heartbeats affect the blood pressure. That is the reason for the difference between the systolic and diastolic pressure of the tested person.

THE SENSOR HAS THREE RANGES:

1. The average pressure in the pressure cuff in mm Hg.
2. The pressure beats with no units.
3. The sum of the two above signals.

PRICE FROM **£115.24**

RESPIRATION LOGGER SENSOR

This sensor comes with a belt. It measures the air pressure in the belt which changes according to the breathing of the subject.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-5

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 6100 arb
ADC Resolution:	13 bit
Resolution:	1
Max Sample Rate (S/sec):	100

CODE	PRICE
900-255	£137.19

CHLORIDE LOGGER SENSOR

The Edu-Logger chloride sensor is used to measure the concentration of chloride ions (Cl-) in aqueous samples. This measurement can be an indication of the salinity of water samples.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-5

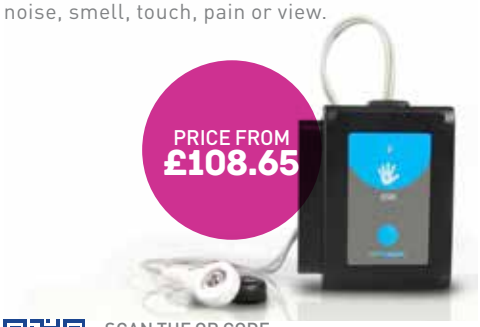
TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 6100 arb0 to 6,500 X drop vol. in ml
ADC Resolution:	13 bit
Resolution:	1
Max Sample Rate (S/sec):	100

CODE	PRICE
900-257	£383.03

GALVANIC SKIN RESPONSE (GSR) LOGGER SENSOR

- Use along with sound or light sensor to measure reaction times.

The Galvanic Skin Response (GSR) logger sensor measures the conductivity of our skin, especially between our hand fingers. The conductivity of our skin changes according to unconscious emotion effects such as sudden noise, smell, touch, pain or view.



SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-5

CODE	PRICE
900-227	£108.65

HAND DYNAMOMETER LOGGER SENSOR

- Use along with sound or light sensor to measure reaction times.

This Edu-Logger sensor comes with a hand held unit with a built in strain gauge. The sensor measures the pressing force on the hand held unit. As with all Edu-Logger Sensors this must be used with the Edulogger USB module or the Wi-Fi module.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-5

CODE	PRICE
900-267	£159.14

WI-FI MODULE - EDU-LOGGER

- The Wifi module can also be used as a USB interface.

The Edu-Logger WiFi module is without doubt one of the most advanced and innovating elements of the Edu-Logger datalogging system. Measurements with Edu-Logger sensors can be performed through any device which uses the Wi-Fi technology, such as iPads® and Tablets with Android, PC computers with Windows / Linux or Macintosh with OS.

These can all communicate with the Wi-Fi adaptor to begin a unique experience of data acquisition. There is no need for any application download or software installation to take advantage of all the power of Edu-Logger sensors through the Wi-Fi module. Experiments can be performed and controlled by one central device and other devices can connect to display the results.

This sensor can also be plugged into the USB socket on any PC/Tablet and be used as an alternative for the Edu-logger USB module

COMPATIBLE WITH

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **ALL**

PRICE FROM **£218.40**

OPERATIONAL INSTRUCTIONS
How to change the Edulogger Wi-FI Module from Wi-Fi to USB mode.
Simply press three times on the Wi-Fi module button. The orange LED should light up. You can now connect the USB cable using the standard USB input on your PC and the input on the top of the module.
To return to Wi-Fi mode press the button three times and the blue/green LED should turn on.
How to release control on the Wi-Fi module without using the program.
Hold the Wi-Fi button down continuously until all three LEDs are lit up. This resets the module and allow control to be taken by another user.

CODE	PRICE
900-268	£218.40

USB MODULE

This Edu-Logger module enables a fast connection of the sensors to the computer. It operates with OSX, XP, Vista and Windows7. The USB module is the first in a chain of sensors connected to a USB port of the computer. It provides both power from the computer to the sensors and communication between the computer and the sensors.

The connection to the computer is done by using a standard USB – mini USB connecting cable (camera type). This cable is provided with the USB module.

PRICE FROM **£42.80**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **ALL**

CODE	PRICE
900-213	£42.80

BATTERY MODULE

The Battery module supplies power to a sensor, or chain of sensors, operating in the Off-Line mode, and to sensors connected to an RF Communication module. The Battery module is rechargeable and can be recharged by connecting it to a computer's USB socket via the USB module cable. The Battery module has a LED and a pushbutton switch. The LED indicates whether the battery is charged enough or not when pressing the pushbutton. The Edu-Logger battery module can be fully charged in 3 hours using the USB connection to a computer.

PRICE FROM **£42.80**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **ALL**

CODE	PRICE
900-215	£42.80

VIEW MODULE

The display module can be connected to any chain of logger sensors working off-line with a battery module.

The module automatically searches for the connected sensors and displays one of them digitally. Scrolling for displaying the reading of another sensor is done by pressing the pushbutton switch on the display module.

PRICE FROM **£82.31**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **ALL**

CODE	PRICE
900-272	£82.31

GRAPHIC DISPLAY UNIT

The Graphic Display unit (GDU) is used to run experiments without a PC. The GDU displays the sensor's measurements in digital and graphical forms. It can also be used to program the sensor's experiment setup as well as viewing the input from up to five sensors at a time.

This unit has a user-friendly design with a color graphic display and touch screen.

PRICE FROM **£141.58**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **ALL**

CODE	PRICE
900-214	£141.58

RF MODULE

The RF Communication module allows remote operation of a single sensor or a chain of sensors. The remote single sensor or chain is connected to an RF Communication module and to a Battery Module which powers them all. Another RF Communication module should be connected directly to the Monitor Display Unit, or to the computer via the USB module. More than two units can be used to cater for more chains of sensors or more independent sensors. The computer does not need to have either Bluetooth™ or Wi-Fi™ incorporated. Everything required is built into the RF Communication Module.

PRICE FROM **£42.80**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **ALL**

CODE	PRICE
900-216	£42.80

PICKET GATE FOR PHOTOGATE

PRICE FROM **£7.51**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

CODE	PRICE
900-270	£7.51

PULLEY ATTACHMENT FOR PHOTOGATE

PRICE FROM **£13.86**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-5**

CODE	PRICE
900-269	£13.86

STORAGE TRAY FOR DATALOGGER KIT

PRICE FROM **£18.65**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **ALL**

CODE	PRICE
900-217	£18.65

SALINITY LOGGER SENSOR

- These sensor-dataloggers can be used to monitor abiotic factors in field studies. Some have uses in other areas. For example, the turbidity sensor can be used to monitor changes in opacity when solids are formed in chemical reactions. The UV sensors can be used to measure the efficacy of sunscreens.

THIS SENSOR ENABLES MEASUREMENTS OF THE SALT CONTENT IN A SOLUTION IN THREE RANGES:
%, mg/L, ppm.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0.0000 to 6.4000 % 0 to 64,000 ppm 0 to 64,000 mg/L
ADC Resolution:	16 bit
Resolution:	0.0064 % 64 ppm 64 mg/L
Max Sample Rate (S/sec):	100

CODE	PRICE
900-238	£104.26

SOIL MOISTURE LOGGER SENSOR

- These sensor-dataloggers can be used to monitor abiotic factors in field studies. Some have uses in other areas. For example, the turbidity sensor can be used to monitor changes in opacity when solids are formed in chemical reactions. The UV sensors can be used to measure the efficacy of sunscreens.

This logger sensor is based on measuring the vacuum pressure in a tensiometer. A tensiometer is a closed tube with a special ceramic part in its end. The tensiometer is filled with water and put in the soil. If the soil is dry, water goes out by diffusion through the ceramic holes and vacuum pressure is created in the tensiometer. When we wet the soil, the vacuum in the tensiometer pulls water into the tensiometer and the vacuum decreases.

This is why soil moisture is measured in pressure level.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	-20 to 50 cBar -20 to 50 kPascal
ADC Resolution:	13 bit
Resolution:	0.01 cBar 0.01 kPascal
Max Sample Rate (S/sec):	100

CODE	PRICE
900-239	£104.26

This sensor measures atmospheric barometric pressure.

BAROMETER LOGGER SENSOR

- These sensor-dataloggers can be used to monitor abiotic factors in field studies. Some have uses in other areas. For example, the turbidity sensor can be used to monitor changes in opacity when solids are formed in chemical reactions. The UV sensors can be used to measure the efficacy of sunscreens.

THIS SENSOR HAS FIVE COMMON RANGES FOR DISPLAYING ATMOSPHERIC PRESSURE:
kPa – Kilo Pascal
Atm – Atmospheres
mm Hg - Millimetres of Mercury
in Hg – Inches of Mercury

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-6

PRICE FROM £82.31

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	80 to 106 kPa 0.80 to 1.00 Atm 23.60 to 31.30 in Hg –380 to 1950 m 600 to 795 mm Hg
ADC Resolution:	15 bit
Accuracy:	1%
Resolution:	0.1 kPa 0.01 Atm 0.01 in Hg 0.1 m 0.7 mm Hg
Max Sample Rate (S/sec):	100

CODE	PRICE
900-231	£82.31

This sensor measures water flow. It includes a rotation wheel that rotates when water flows through it.

The sensor has inlet and outlet pipes. The wheel floats on a bearing and is not connected mechanically to anything else. Its speed is measured by magnetic field changes.

FLOW RATE LOGGER SENSOR

- These sensor-dataloggers can be used to monitor abiotic factors in field studies. Some have uses in other areas. For example, the turbidity sensor can be used to monitor changes in opacity when solids are formed in chemical reactions. The UV sensors can be used to measure the efficacy of sunscreens.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-6

PRICE FROM £141.58

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second - 31 days
Range & Operation modes:	0 to 4.7 m/s
ADC Resolution:	16 bit
Resolution:	0.0001 m/s
Max Sample Rate (S/sec):	100

CODE	PRICE
900-234	£141.58

TURBIDITY LOGGER SENSOR

- These sensor-dataloggers can be used to monitor abiotic factors in field studies. Some have uses in other areas. For example, the turbidity sensor can be used to monitor changes in opacity when solids are formed in chemical reactions. The UV sensors can be used to measure the efficacy of sunscreens.

This sensor measures the reflected light that enters into a cuvette containing a solution. As the solution turbidity is higher, more light is reflected and measured by the light sensor, located perpendicular to the light source.

The turbidity measurement units are Nephelometric Turbidity Units (NTU).

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-6

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 200 NTU
ADC Resolution:	10 bit
Resolution:	1.1 NTU
Max Sample Rate (S/sec):	100

CODE	PRICE
900-241	£126.21

UVB LOGGER SENSOR

- These sensor-dataloggers can be used to monitor abiotic factors in field studies. Some have uses in other areas. For example, the turbidity sensor can be used to monitor changes in opacity when solids are formed in chemical reactions. The UV sensors can be used to measure the efficacy of sunscreens.

There are different wavelengths of ultraviolet (UV) light.

The UVB wavelength range is 280-320 nm, which is 2% of the total UV radiation.

The UVB radiation affects the vitamin generation in the human body, the immune suppression, skin cancer and cataract. The intensity of this light is measured in mW/m² (milli Watts per square meter).

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-6

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 1500 mW/m²
ADC Resolution:	14 bit
Resolution:	0.1 mW/m²
Max Sample Rate (S/sec):	100

CODE	PRICE
900-240	£108.65

There are different wavelengths of ultraviolet (UV) light. The UVA wavelength range is 320-370 nm, which is 98% of the total UV radiation.

The UVA radiation affects the photo aging and photo chemical smog.

The intensity of this light is measured in mW/m² (milli Watts per square meter).

UVA LOGGER SENSOR

- These sensor-dataloggers can be used to monitor abiotic factors in field studies. Some have uses in other areas. For example, the turbidity sensor can be used to monitor changes in opacity when solids are formed in chemical reactions. The UV sensors can be used to measure the efficacy of sunscreens.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

PRICE FROM **£108.65**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 50,000 mW/m²
ADC Resolution:	14 bit
Resolution:	4 mW/m²
Max Sample Rate (S/sec):	100

CODE	PRICE
900-242	£108.65

The Edu-Logger GPS position logger sensor determines its latitude, longitude, altitude and horizontal velocity anywhere on earth through signals received from the Global Positioning System. It can be used by itself or together with other Edu-Logger sensors to perform outdoor experiments in environmental science, physics and more.Unlike other Edu-logger sensors the GPS sensor can be plugged directly into the PC without the use of a USB module.

GPS POSITION SENSOR

- These sensor-dataloggers can be used to monitor abiotic factors in field studies. Some have uses in other areas. For example, the turbidity sensor can be used to monitor changes in opacity when solids are formed in chemical reactions. The UV sensors can be used to measure the efficacy of sunscreens.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

PRICE FROM **£142.68**

TECHNICAL SPECIFICATIONS	
Position Accuracy:	10 m, 2D RMS, 5 m, RMS with WAAS Enabled
Velocity Accuracy:	0.1 m/s
Maximum Sample Rate:	1 Hz
Time to First Fix:	42 s, Cold Start 38 s, Warm Start 1 s, Hot Start
Channels:	20

CODE	PRICE
900-261	£142.68

PRICE FROM **£93.29**

DEW POINT SENSOR

This Edu-Logger sensor measures temperature and humidity in a volume and gives the temperature below which the water vapor in that volume of air (at a constant barometric pressure) condenses into liquid water (the dew point).

As with all Edu-Logger Sensors this must be used with the Edulogger USB module or the Wi-Fi module.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	CELSIUS	FAHRENHEIT
Range and Operation Modes:	-114.0 to 109.0 °c	-182.0 to 2.28 °c
ADC Resolution	12 bit	
Resolution:	0.1 °C	0.2 °F
Max Sample Rate (S/sec):	100	

CODE	PRICE
900-262	£93.29

PRICE FROM **£383.03**

NITRATE LOGGER SENSOR

The Edu-Logger nitrate sensor can be used to measure the concentration of nitrate ions (NO3-) in aqueous samples. Nitrates are used in fertilizers and can contaminate water. Also, untreated human sewage can be a source of nitrate contamination.

All this can be studied with the nitrate sensor. Nitrate measurements can also be very relevant to study the nitrogen cycle in general and to relate this cycle to plants and algae.

As with all Edu-Logger Sensors this must be used with the Edulogger USB module or the Wi-Fi module.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

CODE	PRICE
900-259	£383.03

AMMONIUM LOGGER SENSOR

The Edu-Logger Ammonium sensor can be used to measure the concentration of ammonium ions (NH4+) in aqueous samples. The sensor can be used to evaluate the degree of contamination of water due to the use of fertilizers. Ammonium measurements can also be very relevant to study the nitrogen cycle in general and to relate this cycle to plants and algae.

As with all Edu-Logger Sensors this must be used with the Edulogger USB module or the Wi-Fi module.

PRICE FROM **£383.03**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

CODE	PRICE
900-258	£383.03

ANEMOMETER

The Edu-Logger anemometer sensor enables measurements of the wind velocity.

Combined with temperature, relative humidity, dew point and barometric pressure sensors, it can be used to make very interesting weather measurement.

As with all Edu-Logger Sensors this must be used with the Edulogger USB module or the Wi-Fi module.

PRICE FROM **£128.96**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	MPH	KM/HR
Range and Operation Modes:	0-75 mph	0-120 km/hr
ADC Resolution	16 bit	
Resolution:	0.1 mph	0.1 km/hr
Max Sample Rate (S/sec):	100	

CODE	PRICE
900-260	£128.96

LET'S GET STRAIGHT TO THE 'MELTING' POINT...

The ISG® Melting Point Apparatus is economic and easy-use. It uses a precise thermistor control system giving a resolution on the display of 0.1°C. The device is designed to simultaneously measure two samples. The internal LED light source, together with the magnified lens and tilt rear feet enables a broader and clearer view of samples.The measurement ranges from ambient to 300°C. The device unit has two heating speeds to make measurement much quicker and convenient.

MEASURE TWO SAMPLES AT ONCE

TWO HEATING SPEEDS

GREAT VALUE FROM ONLY £599.00

MAGNIFIED LENS
Magnified lens allows more clarity when sample viewing, giving the user clarity and increasing accuracy on testing.

DOUBLE UP
Simultaneously measure two samples at once.

FULLY DIGITAL LED DISPLAY
0.1°C Resolution display, with a 4 digit LED. Also features indication lights for the heat settings of slow, fast and heating option.

UNIQUE TEMPERATURE MEASUREMENT RANGE
Full measurement range from ambient to 300°C.

TWO FULLY ADJUSTABLE HEATING SPEEDS
Two heating speeds to allow fast and precise results.

333

LABWARE RANGE

IN SCIENCE TOGETHER

BALANCE, PRECISION 1200G X 0.01G

This ISG® precision balance is a high performance unit which has been designed for efficiency, convenience and speed of use. This unit has double case structure for maximum reliability and stability.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

TECHNICAL SPECIFICATIONS	
Capacity;	1200g
Resolution:	0.01g
Repeatability:	0.003g
Linearity:	plus/minus 0.03
Pan Dia.meter:	160mm

CODE	PRICE
153-100	£301.81

BALANCE, PRECISION 3100G X 0.01G

This ISG® balance have been designed to be robust with a solid structure and guaranteed reliability. The small footprint and the ability to use the integrated rechargeable battery allows these balances to be versatile and moved around the lab at will.

Operates with both mains power and rechargeable battery (included).
LCD screen with backlight.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Capacity;	3100g
Resolution:	0.01g
Repeatability:	Ø - 130 mm
Linearity:	plus/minus 0.03
Pan Dia.meter:	160mm

CODE	PRICE
153-103	£384.13

BALANCE, PRECISION 310G X 0.001G

This ISG® precision balance is a high performance unit which has been designed for efficiency, convenience and speed of use. This unit has double case structure for maximum reliability and stability.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

TECHNICAL SPECIFICATIONS	
Weighing Range;	310g
Readability:	0.001g
Reproducibility:	0.0006g
Linearity:	± 0.003g
Pan Dia.meter:	Ø 80mm

CODE	PRICE
153-101	£384.13

BALANCE, PRECISION 420G X 0.001G, INTERNAL CALIBRATION

This ISG® balance has been designed for performance and convenience. This unit has a double casing structure for stability and reliability. The internal calibration increases ease of use and speeds up processing. This balance includes a 3 door draught shield to increase accuracy and repeatability.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Capacity;	420g
Resolution:	0.001
Repeatability:	0.0003
Linearity:	plus/minus 0.003
Pan Dia.meter:	110mm

CODE	PRICE
153-104	£587.16

FULL SPEC
ON PAGE 00

CHECK OUT OUR ISG® SPECIMEN CONTAINERS RANGE

Sterile specimen containers made from Non-Cytotoxic polypropylene. Ideal for specimen collection, storage and transportation. Ridged lid and bottom of container ensures easy opening even when wearing gloves! These containers are graduated on three sides for all-round easy viewing.

SPECIMEN CONTAINER - STERILE

KEY STAGE **KS3-6**

CODE	DESCRIPTION
153-549	Specimen Container, Sterile 70ml PP - ISG® (Pk600)
153-550	Specimen Container, Sterile 120ml PP - ISG® (Pk300)

SPECIMEN CONTAINER - CLEAN ROOM

KEY STAGE **KS3-6**

CODE	DESCRIPTION
153-551	Specimen Container, Clean Room 250ml, PP - ISG® (Pk150)
153-552	Specimen Container, Clean Room 500ml, PP - ISG® (Pk150)

BALANCE, ANALYTICAL 200G X 0.0001G, INTERNAL CALIBRATION

The ISG® Analytical precision balance with a capacity of 220g and Resolution of 0.0001g This balance features Internal calibration and a LCD screen with backlight. It also combines elegance with highly reliable measuring performance, has a double case structure and ergonomic keypad. Many integrated advanced features make this balance perfect for use in laboratory, research departments, formulation and quality control applications.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

TECHNICAL SPECIFICATIONS	
Capacity;	220g
Resolution:	0.0001g
Internal Calibration:	Yes
Pan Dia.meter:	Ø 80 mm

CODE	PRICE
153-105	£900.00

BALANCE, SCOUT PRO

The Ohaus Scout Pro is designed for use in laboratory, industrial or education applications and continues the tradition set by the Ohaus Scout and Scout II balances. Featuring easy-to-use two-button operation, a high-contrast LCD display, multiple weighing units, four application modes, and the option of either RS232 or USB connectivity, the Scout Pro is the portable balance for your needs. Furthermore, each of our Scout Pro balances is available with an auxiliary LCD for demonstration purposes (codes: 602-067 to 602-076).

TECHNICAL SPECIFICATIONS	
Tare Range:	To Capacity By Subtraction
Over Range Capacity:	Capacity +90d
Stabilization Time:	3 seconds
Operating Temp. Range:	10° to 40°C
Power Requirements:	AC Adapter (included) or 4 AA Batteries (not included)
Display:	High Contrast LCD with 6 digits 15mm high
Shipping Dimensions W x H x D:	25.4 x 10.2 x 30.5cm
Shipping Weight (kg):	1.8

CODE		PRICE
602-006	400g x 0.01g	£274.38
602-008	600g x 0.1g	£135.96
602-009	2000g x 0.1g	£252.43
602-010	4000g x 0.1g	£323.76
602-011	6000g x 1g	£158.20

BALANCE, CL SERIES

The OHAUS CL Compact Scale is lightweight and portable. Applications can include quality control, formulation, soil sampling, jewellery, postal weighing and dietary weighing.

Easy operation with 2 clearly marked buttons, low battery indicator and auto shut-off feature to conserve battery life. Mechanical and software overload protection to protect weighing cell from damage.

KEY STAGE **KS3-5**

TECHNICAL SPECIFICATIONS	
Weighing Units:	g, lb:oz, ozt, dwt
Zero Range:	To capacity by subtraction
Stabilization Time:	3 seconds
Optimum Operating Temperature:	18°-25°C
Power Requirements:	3 x AA alkaline batteries (included) or AC adapter (optional)
Calibration:	User calibration from keypad
Scale Dimensions WxHxD (mm) :	140 x 40 x 200
Net Weight (g):	400

CODE		PRICE
602-093	200 x 0.1g	£38.06
602-094	2000 x 1g	£38.41
602-095	5000g x 1g	£40.33

BALANCE, SINGLE PAN, TRIPLE BEAM

This single pan, triple beam balance (with 200g capacity uncalibrated tare beam) has been specially designed to handle weighing solids and powder. The balance has three notched and tiered beams with centre readings and sliding indicator masses. The three beams are calibrated 500 x 100g, 100 x 10g and 10 x 0.1g - providing sensitivity of 0.1g up to a total of 610g. The capacity can be increased up to 2,610g by using supplementary masses. Spring loaded zero adjust compensator and magnetic damping are provided for fast setting and reading.

KEY STAGE **KS3-4**

CODE	PRICE
CH0024A	£86.70

LEVER ARM BALANCE, DUAL RANGE

A direct reading, single pan balance with its scale in the form of a quadrant. The arc scale is graduated in dual ranges of 0-250 x 1g and 0-1000 x 5g which can be set using the weight arm provided. Cast aluminium frame with all steel parts chrome plated. Levelling screw for zero adjustment.

KEY STAGE **KS3-5**

CODE	PRICE
P16	£31.83

CENTRIFUGE, HIGH SPEED 24 X 1.5/2ML - ISG®

The ISG® high speed micro-centrifuge is widely used for specimen preparation in molecular and cellular biology. The ISG centrifuge can also be used in high end research applications such as sedimentation of cells and viruses and separation of sub-cellular organelles.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS4-6

TECHNICAL SPECIFICATIONS	
Max. Speed [rpm]:	15000rpm (200-15000rpm), increment: 10rpm
Max. RCF [×g]:	21380×g, increment:10×g
Speed Accuracy [rpm]:	±20 rpm 5ml × 18 0.2ml/0.5ml/1.5ml/2ml × 24
Rotor Capacity:	30sec-99min-HOLD (Continuous operation)
Driving Motor:	Brushless DC motor

CODE	PRICE
153-000	£1645.15

The ISG® micro-centrifuge features a 24 x 1.5/2.0ml rotor made from high strength aluminum which is fully autoclavable. The rotor has an anti-sample overflow which ensures tubes do not leak during the process and cause microbial contamination.Four different rotors are available and smaller 0.5/0.2ml tubes can be used with adapters. The high quality cast casing gives stability, reliability and noise reduction throughout the process. The centrifuge will spin from 200 – 15000rpm and can be controlled in 10rpm increments.

CENTRIFUGE, MICRO - ISG®

The ISG® Micro centrifuge is ideal for your laboratory if you are looking to do the following; DNA extraction and concentration, quick spin downs, microfiltration and cell separation.

This ISG® Micro centrifuge runs to a maximum of 7000rpm and has a noise level of less than 45db. The multiple rubber feet on the base are designed to keep the ISG centrifuge stable while in use. Also supplied with 2 interchangeable rotors suited for 2ml and PCR tubes. Lid colour may vary.

PRICE FROM **£145.97**

KEY STAGE KS4-6

CODE	PRICE
153-001	£145.97

CENTRIFUGE, CLINICAL, 8 X MAX 15ML

Although this ISG® centrifuge is competitively priced to suit education budgets it has been designed to be used in Medical and University research laboratories. Some of the main uses include separation of serum, plasma, urea and blood samples. With a speed range of 300-4500rpm and a maximum rotor capability of 8 x 15ml tubes the ISG® clinical centrifuge allows precise control of time and speed ensuring an efficient separation process. The ISG® centrifuge also has 15ml cell culture tubes and a full line of collection tubes which is ideal for a clinical laboratory. The stable design and noise level of less than 56dB allows the ISG® centrifuge to work without becoming a disturbance in your laboratory. The centrifuge's CPU controls all operating parameters including speed and time settings. Operation of the centrifuge can be timed from 30 seconds to 99 minutes or can be run in continuous mode. Timing will only commence when the set speed is reached ensuring that the separation time is highly accurate. The ISG® centrifuge breaks gently to preserve separation and not damage samples.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Max. Speed [rpm]:	300-4500, increment: 100
Max. RCF [×g]:	2490×g, increment: 100×g
Speed Accuracy [rpm]:	±20
Rotor Capacity:	30sec-99min-HOLD (Continuous operation)
Driving Motor:	Brushless DC motor
Safety Devices:	Autolock lid when centrifuge is spinning

CODE	PRICE
153-003	£547.65

CENTRIFUGE, HIGH SPEED REFRIGERATED 24 X1.5/2.0ML

The high speed refrigerated centrifuge from ISG® is commonly used in industrial laboratories, university research and medical labs, biochemistry, cellular and molecular biology, clinical labs and blood donation centres. The applications suited to this centrifuge include; separation of cells and viruses, separation of sub-cellular organelles and the isolation of macromolecules such as DNA, RNA, proteins and lipids.

The ISG® centrifuge has a pre-cooling setting which allows the chamber to be cooled and kept at a steady pre-set temperature. A powerful cooling system quickly cools the chamber to 2°C after just 7 minutes and continuously holds this temperature even when the centrifuge is at maximum speed. The ISG® centrifuge's unique cooling system ensures the rotor temperature never rises more than 10°C even after a full hour of use. The lid remains closed when the centrifuge has finished to maintain the temperature of the chamber. An alarm will sound to notify you that the centrifuge has finished operating.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

CODE	PRICE
153-004	£3949.9

CENTRIFUGE, HIGH SPEED, 12 X 1.5/2ML

The ISG® high speed mini centrifuge is commonly used in chemical and physical analysis, clinical labs and in University and Industrial research laboratories. Some of the research applications the ISG® laboratory centrifuge is used for include: sedimentation of cells and viruses, separation of sub-cellular organelles and the isolation of macromolecules such as DNA, RNA, Proteins and Lipids.

The ISG® laboratory centrifuge is a high powered unit producing a centrifugal force of 15100xg and a max speed of 15000rpm. Although this centrifuge has been designed primarily for 1.5/2.0ml tubes it can be converted to take 0.5, 0.2ml tubes and PCR strips through using some simple adaptors.

KEY STAGE **KS4-6**

CODE	PRICE
153-002	£872.51

HAND CENTRIFUGE (4 TUBE)

A single speed hand driven centrifuge consisting of a die casted parts and a steel pinion and worm drive.

The centrifuge is fitted with screw clamps to lock it to the bench bench. Suitable for 4 x 15 ml centifuge tubes.

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Weight (kg):	0.65
Length (cm):	16
Width (cm):	15
Height (cm):	29

CODE	PRICE
722-001	£19.76

TUBE, CENTRIFUGE CONICAL BASE 15ML RACKED (PK500)

The ISG® 15ml conical bottom sterile centrifuge tubes and supplied in foam racks of 50 tubes for easy storage. They are made from ultra-clear polypropylene to ensure clear vision of samples. The cap is made from HDPE (High Density Polyethylene) and has an excellent leakproof seal. The tubes have black graduations with a white marking strip for labelling. Information regarding graduation ranges, test performances and certifications please check the technical information.

PRICE FROM **£64.75**

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Sterility:	EO (Ethylene Oxide)
Bottom Graduation Range:	0.1 – 1ml
Bottom Graduation Interval:	0.1ml
Tube Graduation Range:	1.5 – 14.5ml
Tube Graduation Interval:	0.5ml
Autoclavable:	121°C
Freezable:	- 45°C
Maximum RCF:	10,000xg
Dimensions:	17mm x 118mm
Test Performance:	Dnase/Rnase - free Non-pyrogenic <0.25 EU/ml FDA registered
Inner Pack Quantities:	50
Outer Carton:	500

CODE	PRICE
153-560	£64.75

TUBE, CENTRIFUGE CONICAL BASE 50ML FOAM RACKED (PK500)

The ISG® 50ml conical bottom centrifuge tubes and supplied in foam racks of 25 tubes for easy storage. They are made from ultra-clear polypropylene to ensure clear vision of samples. The cap is made from HDPE (High Density Polyethylene) and has an excellent leakproof seal. The tubes have black graduations with a white marking strip for labelling. Information regarding graduation ranges, test performances and certifications please check the technical information.

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Sterility:	EO (Ethylene Oxide)
Bottom Graduation Range:	5 – 47.5ml
Bottom Graduation Interval:	2.5ml
Autoclavable:	121°C
Freezable:	- 45°C
Maximum RCF:	9,500xg
Dimensions:	29mm x 115mm
Test Performance:	Dnase/Rnase - free Non-pyrogenic <0.25 EU/ml FDA registered

CODE	PRICE
153-561	£109.75

TUBE, MICRO CENTRIFUGE 1.5ML (PK500)

Bean (Phaseolus vulgaris). Size approx. 340x340x260mm.

CODE	PRICE
153-559	£14.27

COLORIMETER LOGGER SENSOR

The colorimeter measures transmittance and absorbance of red, green and blue light components projected on a solution. It has an opening for a special square solution cuvette.

The colorimeter turns on 4 different lights (Red, Green, Blue & Orange) in known values and measures the received light that passes through the solution.

This sensor has two modes of operation: absorbence and transmittance.

- For rate investigations.

PRICE FROM **£119.63**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS5-6**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	Red, Green, Blue & Orange 0 to 4 absorbance
ADC Resolution:	14 bit
Resolution:	0.01 %T 0.01abs
Max Sample Rate (S/sec):	100

CODE	PRICE
900-229	£119.63

COLORIMETER CO7500

The Biochrom WPA CO7500 colorimeter is a value for money instrument that has been designed for use in educational establishments such as schools and colleges. It is compact, lightweight and ergonomically designed to withstand student use! This makes it ideal for use in busy teaching laboratories. The large display is easy to read and the instrument is simple to both set up and use, giving rapid results. The samples can be measured in either standard or semi micro 10mm pathlength cuvettes or in 16mm Dia.meter test tubes (adapters for 10/12 mm test tubes are available).

PRICE FROM **£433.51**

KEY STAGE **KS5-6**

CODE		PRICE
612-038		£433.51
612-039	Spare Filter	£94.88

SPECTROPHOTOMETER WPA S800 SPECTRAWAVE

The Biochrom WPA S800 visible spectrophotometer is compact, lightweight and ergonomically designed. It is ideal for student use with a large display that is easy to read. It is simple to set up and use giving rapid results. Accepts standard 10mm pathlength cuvettes or a test tube adaptor set is available for use with 10, 12 and 16 mm tubes. Measures Absorbance, % Transmission and Concentration as well as being able to output absorbance time plots directly to chart recorder.

PRICE FROM **£1,449.00**

KEY STAGE **KS5-6**

CODE		PRICE
609-001		£1590.28
612-041	Cuvettes	£46.59

FLASK, CONICAL (SINGLE)

A conical, borosilicate glass Erlenmeyer flask with a narrow neck. Class B.

KEY STAGE **KS3-6**

CODE		PRICE
FL0702	50ml (Single)	£0.99
FL0703	100ml (Single)	£1.09
FL0705	250ml (Single)	£1.64
FL0707	500ml (Single)	£2.47
FL0708	1000ml (Single)	£4.12

BUCHNER FUNNELS

Borosilicate glass pipette dropping bottle with glass dropper, high density polythene stopper with dust-proof head and vinyl teat. Both stopper and teat are resistant to acids and alkalis.

KEY STAGE **KS2-6**

CODE		PRICE
EDU677A	30ml Clear (Pk6)	£53.78
EDU677B	60ml Clear (Pk6)	£18.93
EDU679A	125ml Clear (Pk6)	£19.59
EDU680A	30ml Amber (Pk6)	£20.58
EDU681B	60ml Amber (Pk 6)	£18.66
EDU682A	125ml Amber (Pk6)	£29.58

PRICE FROM **£49.00**

DROPPER BOTTLE, 10 ML (PK100)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale.

KEY STAGE **KS2-6**

TECHNICAL SPECIFICATIONS
Durable polypropylene material
Leakproof lids
Removable droppers
Dishwasher proof
Can be used repeatedly
Excellent value for money

CODE	PRICE
310-025	£49.00

FLASK STAND

Polypropylene, stackable stand can be steam autoclaved. Will hold round bottom flask up to 10 litre capacity.

KEY STAGE KS3-6

CODE	PRICE
CH0417	£15.37

DROPPER BOTTLE TRAY

Plastic tray with divider for dropper bottle storage. Holds 10 x 30ml dropper bottles. Removable divider.

Size: 208 x 85 x 35mm (L x W x D)

KEY STAGE KS2-6

CODE	PRICE
704-0001	£16.46

CUVETTES, GLASS PACK OF 4

KEY STAGE KS5-6

CODE	PRICE
612-035	£18.60

CUVETTE CLEANING SOLUTION

KEY STAGE KS5-6

CODE	PRICE
612-037	£27.44

FILTER FUNNEL, BOROSILICATE GLASS

Borosilicate glass funnel, with typical long-stem construction. Unaffected by acids, alkalis etc.

PRICE FROM **£18.00**

KEY STAGE **KS2-6**

CODE		PRICE
726-029	35mm (Pk10)	£19.76
726-030	45mm (Pk10)	£21.40
726-001	55mm (Pk10)	£23.60
726-031	75mm (Pk10)	£25.52
726-032	100mm (Pk10)	£31.83
726-002	150mm (Pk10)	£95.00

BUCHNER FILTER FLASK

Excellent quality flask made from borosilicate glass.

PRICE FROM **£3.41**

KEY STAGE **KS5-6**

CODE		PRICE
726-013	100ml 19/26	£3.41
726-014	100ml 24/29	£3.98
726-015	250ml 24/29	£5.43
726-016	500ml 24/29	£6.87
726-017	1000ml 24/29	£10.98

BUCHNER BUNGS

For use with Buchner Funnels as an alternative to boring a large hole in a rubber bung. Can be used as a seal between the filter flask and the Buchner Funnel. It is worth noting that the funnel stem will not form the seal, but the main body will Packs of 10.

PRICE FROM **£42.75**

KEY STAGE **KS2-6**

CODE		PRICE
776-041	(Black) 42 x 27mm	£64.75
776-042	(Black) 20 x 14mm	£42.80
776-043	(Black) 33 x 24mm (Pk10)	£86.70
776-044	Buchner Bungs	£98.78

PUMP, FILTER BORO GLASS

Made from chemical resistant borosilicate glass, this apparatus can be used to create a moderate vacuum when connected to a water supply.

PRICE FROM **£20.85**

KEY STAGE **KS4-6**

CODE		PRICE
CH0397C		£20.85
CH0397B	Nickel plated brass	£28.54

SYRINGE DISPOSABLE PLASTIC 60X1.0ML (PK10)

KEY STAGE KS3-6

CODE	PRICE
772-009	£ 10.87

FUNNEL, THISTLE 25MM DIA.

Thistle funnel, neutral glass, stout walled. 250mm length.

KEY STAGE KS3-4

CODE	PRICE
CH0488B	£2.09

FUNNEL, BUCHNER (SINGLE)

Borosilicate glass pipette dropping bottle with glass dropper, high density polythene stopper with dust-proof head and vinyl teat. Both stopper and teat are resistant to acids and alkalis.

KEY STAGE KS5-6

CODE		PRICE
CH0462A	35mm (Single)	£2.14
CH0462B	50mm (Single)	£2.74
CH0462C	60mm (Single)	£3.24
CH0462D	75mm (Single)	£3.84
CH0462E	100mm (Single)	£4.34
CH0462F	125mm (Single)	£5.43
CH0462G	150mm (Single)	£7.63
CH0462H	200mm (Single)	£14.21
CH0462J	300mm (Single)	£108.65

DROPPER BOTTLE, 10 ML (PK100)

Equipment specifically designed or selected for use in microscale applications, with all the usual attendant benefits of conducting science on a smaller scale. For a list of the most common microscience spares please see below. This is not a comprehensive list, as we`re always adding to our microscience range, so if there`s anything you need but don`t see here then please enquire - if we don`t already have it we might soon start making it!

KEY STAGE KS2-6

TECHNICAL SPECIFICATIONS
Durable polypropylene material
Leakproof lids
Removable droppers
Dishwasher proof
Can be used repeatedly
Excellent value for money

CODE	PRICE
310-025	£53.78

FUNNEL, POLYPROPYLENE, (50, 75, 100DIA.) (SET 3)

Polypropylene, filter type, plain with long stem, unaffected by acids and alkali etc.

CODE		PRICE
C454SET	(50,75,100Dia.) (Set 3)	£2.74

FUNNEL, POLYPROPYLENE SET, (5 X 75MM + 5 X 95MM) (PK10)

Polypropylene, filter type, plain with long stem, unaffected by acids and alkali etc.

CODE	PRICE
616-022	£5.00

FUNNEL, HDPE

Funnels designed for multipurpose use.

Make filling of carboys, drums and barrels very convenient. Handles make for ease of use.

CODE		PRICE
726-023	20cm	£3.84
726-024	25cm	£4.34

FUNNEL, POLYPROPYLENE (PK10)

Polypropylene, filter type, plain with long stem, unaffected by acids and alkali etc.

CODE		PRICE
EDU212	55mm Dia. (Pk10)	£1.65
616-020	75mm Dia. (Pk10)	£2.95
EDU742	65mm Dia. (Pk10)	£2.14
EDU743	95mm Dia. (Pk10)	£6.31

FUNNEL STAND, DOUBLE

Polished wood base with clamping screws. Rods are approx. 460mm x 16mm Dia.

CODE	PRICE
CH0689B	£13.72

FUNNEL STAND

Polished wood base with clamping screws. Rods are approx. 460mm x 16mm Dia.

PRICE FROM **£12.07**

KEY STAGE **KS3-5**

CODE		PRICE
CH0689A	55mm Dia. (Pk10)	£12.07

FLASK, ROUND BOTTOM

Borosilicate glass round bottom flask, narrow neck with rim. DIN 12347.

KEY STAGE **KS3-6**

CODE		PRICE
FL1501	50ml	£4.12
FL1502	100ml	£3.57
FL1503	250ml	£3.84
FL1504	500ml	£4.94

FILTER PAPER

A good quality paper for general purpose use with medium retention and flowrate. 100 Circles/Pack.

PRICE FROM **£1.85**

KEY STAGE **KS2-6**

CODE		PRICE
FLP125	100 Circles/Pack 125mm Dia.	£2.47
FLP150	100 Circles/Pack 150mm Dia.	£4.88
FLP110	100 Circles/Pack 110mm Dia.	£2.03
FLP090	100 Circles/Pack 90mm Dia.	£1.85

TEST TUBE, BOROSILICATE

Borosilicate glass, standard wall thickness. With rim.

PRICE FROM **£26.34**

KEY STAGE **KS2-6**

CODE		PRICE
EDU1014	125x16 (Pk100)	£30.73
EDU1015	150x24 (Pk100)	£47.00
EDU1016	150x24 (Pk50)	£26.34

COMBUSTION TUBE

Borosilicate glass, open both ends, for oxidisation and reduction of chemical substances. Length 30 cm.

KEY STAGE KS2-6

CODE		PRICE
708-014	17mm, 11mm bore	£1.37
708-015	17mm, 11mm bore	£1.65
708-016	22mm, 17mm bore	£1.10

COMBUSTION BOAT 85X10X10MM

KEY STAGE KS2-6

CODE	PRICE
708-013	£4.94

ABSORPTION TUBE GLASS

Heavy walled borosilicate glass, U-form, with connector tubes of approximately 6mm Dia.meter.

KEY STAGE KS2-6

CODE		PRICE
AST125	125 x 15 (Pk2)	£4.94
AST150	150 x 20 (Pk2)	£5.43

FLASK, CONICAL WIDE NECK

A conical, borosilicate glass Erlenmeyer flask with a neck. Class B.

KEY STAGE KS2-6

CODE		PRICE
726-018	100ml	£2.18
726-019	250ml	£2.14
726-020	500ml	£2.74
726-021	1000ml	£5.43
726-022	2000ml	£10.43

BEAKER, BOROSILICATE SQUAT (SINGLE)

Borosilicate glass, low form with spout. Graduated by 50ml increments. These beakers are equivalent to leading brands in quality, durability and heat resistance.

KEY STAGE KS2-6

CODE		PRICE
BK0104	50ml (Single)	£1.09
BK0105	100ml (Single)	£0.54
BK0107	250ml (Single)	£1.09
BK0108	400ml (Single)	£1.59
BK0110	600ml (Single)	£1.37
BK0112	1000ml (Single)	£3.28

DEFLAGRATING SPOON

Steel cup and rod held in a dished aluminium cap.

PRICE FROM **£2.18**

KEY STAGE **KS2-5**

TECHNICAL SPECIFICATIONS	
Length:	350mm
Cap:	90mm
Cup:	18mm

CODE		PRICE
DFSPNA	(Pk20)	£29.00
612-019	(Single)	£2.18

BEAKER, POLYPROPYLENE, SQUAT

A range of polypropylene beakers having excellent clarity and very good chemical resistance. The products are autoclavable up to 130°C, have raised graduations on the outer surface and an excellent easy-pour tapered spout.

PRICE FROM **£2.75**

KEY STAGE **KS2-6**

CODE		PRICE
616-007	50ml (Pk10)	£5.45
BEAK0100	100ml (Pk10)	£3.02
616-009	250ml (Pk10)	£9.95
616-010	500ml (Pk5)	£8.99
616-012	2000ml (Pk5)	£12.02
BEAK1000	1000ml (Pk5)	£22.50
616-004	Beaker Set of 4 (50, 100, 250, 500ml)	£0.61
616-005	Set of 10 (5 x 100ml & 5 x 250ml)	£8.95

GAS JAR, GLASS (PK10)

Cylindrical, clear glass, ground flange and heavy foot. Supplied without covers.

KEY STAGE **KS2-5**

CODE		PRICE
C494A	150 x 50mm Dia. (Pk10)	£43.90
C494B	200 x 50mm Dia. (Pk10)	£46.10
C494C	250 x 50mm Dia. (Pk10)	£48.29
C494D	300 x 50mm Dia. (Pk10)	£49.39

GAS JAR COVERS

Circular sheet glass, ground one side.

KEY STAGE **KS2-6**

CODE		PRICE
CH0496A	50mm (Pk10)	£3.02
CH0496B	65mm (Pk10)	£3.24
CH0496C	75mm (Pk10)	£3.57
CH0496D	90mm (Pk10)	£4.34
CH0496E	100mm (Pk10)	£4.34

BEEHIVE SHELVES

Made of porcelain, glazed both inside and out. For use in pneumatic troughs for gas collection.

PRICE FROM **£2.58**

KEY STAGE **KS2-6**

CODE		PRICE
BHSHL07	75mm	£2.58
BHSHL10	100mm	£2.69

HOTPLATE & MAGNETIC STIRRER - ISG®

The ISG® Hotplate and Magnetic stirrer is made of stainless steel with a ceramic to coating resist corrosion. It also has a separated safety circuit which will automatically stop heating when temperature reaches 350 degrees. The variable speed motor is designed to stay at a constant speed even during change in load.

High magnetic adhesion ensures that the stirrer bar stays stable at the bottom of the container. The ISG® Hotplate Stirrer features an enclosed assembly with protection class IP42 and a DC brushless motor which guarantees long product life.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Dimension of Work Plate:	135mm
Work Plate Material:	Stainless steel with ceramic coated
Motor Type:	DC brushless motor
Motor rating Input [W]:	18
Motor rating Output [W]:	10
Power [W]:	530
Voltage [VAC]:	200-240
Frequency [Hz]:	50/60
Stirring Positions:	1
Speed Range [rpm]:	0-1500
Safety Temperature [°C]:	350
Temperature Display:	Scale
Dimension [W x D x H]:	160×280×85mm
Weight [kg]:	2.8

CODE	PRICE
153-005	£185.48

HOTPLATE & MAGNETIC STIRRER - ISG®

This ISG® Hot plate stirrer heats to 340° and is widely used in chemical synthesis, physical and chemical analysis, bio-pharmaceuticals and other fields. PID temperature technology controls heating process ensuring that target temperature is reached quickly and control and accuracy is enhanced. The ISG® hotplate casing is made from moulded stainless steel. The hotplate is ceramic coated to resist corrosion and increase heating consistency. This hotplate model is suitable for external temperature sensor which displays and controls the actual liquid temperature.

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Plate Dimensions:	130 x 130mm
Stirrer Speed:	30 to 1500 rpm
Max. Plate Temperature:	+340°C
Heater Power:	530W
Stirring Capacity:	20 litres
Dimension [W x D x H]:	155x270x55mm
Net Weight:	2.3kg
Electrical Supply:	240v
Socket:	To fit temperature controller
Speed Accuracy:	+/- 1%
Digital Display:	Yes
Hotplate Temperature:	Up to 340°C
Temp setting Accuracy:	+/- 1C
Speed Accuracy:	+/- 1%

CODE	PRICE
153-006	£317.18

BLOCK HEATER, REACTION VESSEL

Red quarter pie, 11 holes 4 ml reaction vessel Ø15.2mm 20mm depth, used with MS135.1 and MS 135.8,suitable for MS-H-Pro,MS-H-Pro+,MS-H550-Pro and MS7-H550-S.

KEY STAGE **KS4-6**

CODE		PRICE
153-017	4ml	£64.75
153-021	8ml	£64.75
153-022	16ml	£64.75
153-018	20ml	£64.75
153-019	30ml	£64.75
153-020	40ml	£64.75

BLOCK HEATER, FLASK, ROUND BOTTOM - ISG®

Reaction block for 50ml round bottom flask (one flask capacity), suitable for MS-H-Pro,MS-H-Pro+ and MS-H280-Pro.

KEY STAGE **KS4-6**

CODE		PRICE
153-023	50ml	£120.73
153-024	100ml	£120.73
153-025	250ml	£120.73
153-026	500ml	£120.73

ENDURAFLEX TUBING, SQUARE, 8MM BORE 10M ROLL

The new ISG® square tubing is an affordable and resilient product designed to replace the natural rubber tubing.

GUARANTEED TO LAST 10X LONGER THAN STANDARD TUBING!

- 10X — LASTS 10 TIMES LONGER
- FLEXIBLE NON-KINK
- LPG GAS — LPG & NATURAL GAS APPROVED
- £ — COST EFFECTIVE SOLUTION

KEY STAGE **KS2-6**

TECHNICAL SPECIFICATIONS	
Indentation Hardness:	60+/-5 Shore A
Tensile Strength:	7.5 Mpa
Elongation at Break:	300%
Specific Gravity:	1.16±0.05 g/cm3
Tear Strength:	17kN/m
Linear Shrinkage Rate:	3.2~3.6 % @ 200°C
Rebound Resilience	60%
Temperature Range	- 50-200°C
Material	Polymer Blend

CODE	PRICE
153-512	£21.00

NANOHEAT HOTPLATE WITH WATERBATH

The NanoHeat® Waterbath's compact design enables it to be easily moved and transported. The electronic control ensures reliable bath temperature with +/- 1ºC ariance.

The temperature adjusts at 1ºC intervals. It is easy to set up and carry out multiple experiments simultaneously at different temperatures with several water baths.

Its flexible usage allows it to be used separately from the bath container for heating purposes. Operation is from an LED display touch screen allowing easy temperature selection.

PRICE FROM **£493.88**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Electrical Rating:	220-240V AC, 50/60Hz
Output Rating:	1200W
Dimension [W x D x H]:	200 (W) x 230 (D) x 156 (H)mm
Weight [kg]:	2.2kg

CODE		PRICE
603-065		£493.88
607-027	(European Version)	£493.88

NANOHEAT HOTPLATE, BASIC

The NanoHeat® laboratory Hotplate is a world first. This elegant and compact unit has been developed using highly efficient heating technology. NanoHeat® Hotplates have a high performance 60 second warm up time.

They have 3 heating levels and multiple warming options for general use. The hot plates are operated using an LED display touch screen and a timer countdown, with a safety lock function and high temperature warning indication. The non-corrosive glass ceramic surface is easy to clean. Both glass and ceramic utensils can be used.

Their compact and lightweight design makes them easy to transport and store.

TEMPERATURES FOR MODES 1,2 & 3:

MODE 1 = 180 degrees
MODE 2 = 270 degrees
MODE 3 = 360 degrees

PRICE FROM **£217.31**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Electrical Rating:	220-240V, 1200W, 50/60Hz
Dimensions:	200 (W) x 230(L) x 30(H)mm
Weight:	1.15kg

CODE		PRICE
607-020		£217.31
607-026	(European Version)	£217.31

NANOHEAT HOTPLATE, ADVANCED

This elegant and compact unit has been developed using highly efficient heating technology. ISG® NanoHeat® Hotplates have a high performance 50 second warm up time. They have 3 heating levels and multiple warming options for general use. The hot plates are operated using an LED display touch screen and a timer countdown, with a safety lock function and high temperature warning indication. The non-corrosive glass ceramic surface is easy to clean. Both glass and ceramic utensils can be used. Their compact and lightweight design makes them easy to transport and store.

The Advanced model of the ISG® Hotplate has all the above features which are included with the basic model. In addition to the above it includes an external probe. Using this probe the following operation modes can be used in most experiments: High accuracy temperature control in +/- 1°C, Warming setting in 1°C intervals, Temperature indications with an accuracy of 0.5°C

The temperature range is from 0-360°C. Using the innovative nano-technology this hotplate can heat from 0-300°C in under a minute!

TEMPERATURES FOR MODES 1, 2, 3 & 4:

MODE 1 = 180 degrees
MODE 2 = 270 degrees
MODE 3 = 360 degrees
MODE 4 = 90 degrees in 1 degree increments

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Electrical Rating:	220-240V, 1200W, 50/60Hz
Dimension [W x D x H]:	200 (W) x 230 (D) x 30 (H) mm
Weight [kg]:	1.15

CODE		PRICE
607-021		£217.31
607-025	(European Version)	£433.51

HEATING MANTLE

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Case construction:	Steel, with chemical resistant coating Thermal
Insulation:	Moulded silica powder
Heating Element:	Nichrome wire
Mantle:	Woven glass fibre mat
Element Temperature:	Up to 450°C (Max)
Weight [kg]:	1.15
Power Supply:	220V AC. 80W

CODE		PRICE
611-003	100ml	£145.97
611-004	250ml	£152.55
611-005	500ml	£175.60

BECELEC 2 ELECTRIC BURNER

The new Becelec 2 Electric Burner offers a unique replacement option to conventional gas bunsen burners. The high power heater combined with a reflective internal stainless steel bowl produces a concentrated stream of heat comparable with that of existing gas-powered bunsen burners. The wire safety guard included adds to the safety aspect of this burner.

KEY STAGE **KS2-6**

TECHNICAL SPECIFICATIONS	
Dimension [W x D x H]:	310 (W) x 200 (D) x 110 (H) mm
Power:	500 watt
Temperature Range:	37 to 920° C
Weight [kg]:	1.7 Kg
Dia.meter of Heating Area:	130mm

CODE	PRICE
612-014	£203.04

PRICE FROM **£543.26**

OVEN

The GENLAB General Purpose Ovens are a range of highly efficient, reliable, cost effective units to suit most drying, warming and general laboratory applications.

- Easy clean powder-coated body
- Aluminium coated mild steel chamber
- Direct reading thermostat
- Safety overheat thermostat
- Full two year warranty

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Temperature Range:	40 to 250°C
Fluctuation:	±0.75°C
Interior Dimensions:	See below
Capacity:	6L, 18L, 30L, 40L, 50L, 75L

CODE		PRICE
610-001	6 litre (150 x 230 x 190mm)	£543.26
610-002	50 litre (330 x 490 x 330mm)	£740.81
610-004	30 litre (240 x 360 x 350mm)	£598.14

PRICE FROM **£653.01**

DRYING/WARMING CABINET

The GENLAB Drying/Warming Cabinets are suitable for drying a range of items such as glassware and instruments, and for any general purpose warming applications.

- Easy-clean powder coated body
- Thermostat control for set temperature
- Toughened glass doors, sliding
- Full two-year warranty
- Three shelves

KEY STAGE **KS4-6**

TECHNICAL SPECIFICATIONS	
Temperature Range:	50°C above ambient
Fluctuation:	±0.75°C
Interior Dimensions:	See below
Capacity:	125L, 250L, 100L, 200L

CODE		PRICE
610-007	125 litre (430 x 720 x 400mm)	£653.01
610-008	250 litre (520 x 980 x 480mm)	£960.31
610-009	Insulated 100 litre (400 x 670 x 370mm)	£872.51
610-010	Insulated 200 litre (490 x 930 x 450mm)	£1266.95

INCUBATOR WITH VISIBILITY DOOR

The GENLAB General Purpose Ovens are a range of highly efficient, reliable, cost effective units to suit most drying, warming and general laboratory applications.

- Easy clean powder-coated body
- Direct reading thermostat
- Safety overheat thermostat
- Aluminium coated mild steel chamber
- Full two year warranty
- Visibility door
- Two shelves

KEY STAGE KS4-6

PRICE FROM £631.06

TECHNICAL SPECIFICATIONS	
Temperature Range:	Ambient +5°C to 60°C
Fluctuation:	±0.25°C @ 37°C
Interior Dimensions:	See below
Capacity:	18L, 30L, 40L, 50L, 75L

CODE		PRICE
610-012	18 litre (260 x 260 x 270mm)	£631.06
610-014	30 litre (240 x 360 x 350mm)	£653.01
610-016	40 litre (320 x 360 x 350mm)	£762.76
610-018	50 litre (330 x 490 x 330mm)	£762.76
610-020	75 litre (330 x 490 x 450mm)	£872.51

AUTOCLAVE, CLASSIC MEDIA, INTERLOCK, EXTENDED & STANDARD

The Prestige Medical Classic MeDia. autoclave offers a safe method of sterilising meDia. in the school laboratory.

With an interlock lid for safety, it ensures the unit cannot be opened until the temperature inside has fallen to a safer level, preventing vessels/glassware exploding or liquid leaking. With a one-touch button operation you can set and forget, with no supervision necessary.

This model has been specifically designed to provide the most suitable working conditions (temperature, pressure and cycle time) for sterilising meDia. and is ideal for educational use.

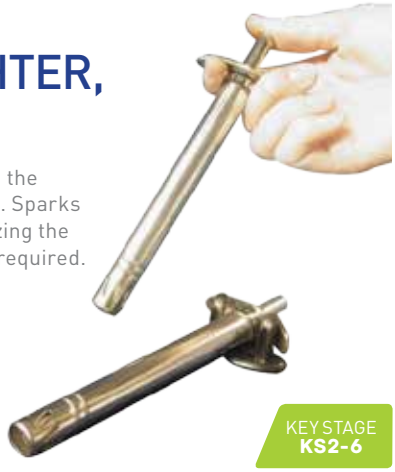
PRICE FROM £1086.53

KEY STAGE KS4-6

CODE		PRICE
261-045	Extended	£1495.63
261-044	Standard	£1086.53

GAS LIGHTER, PIEZO

Suitable for igniting the common fuel gases. Sparks produced by squeezing the handle. No battery required.



KEY STAGE KS2-6

CODE	PRICE
EDU080	£6.53

BUNSEN BURNER TUBING 600/900MM (PK10)

High quality tubing for secure connection of bunsen burners to gas taps. Silicon rubber, with reinforced ends.

KEY STAGE KS3-6

CODE		PRICE
704-016	600mm (Pk10)	£43.35
704-017	900mm (Pk10)	£53.78

HEATER IMMERSION 12V 50W

A sheathed miniature heater specially designed for use with metal block calorimeters. Electrical connection is via 300mm leads with heat resisting insulation and 4mm terminals. 12V, 50W.

Length 15cm, 1.2cm Dia.meter.

KEY STAGE KS4-6

CODE	PRICE
732-002	£27.44

BUNSEN BURNER, TECLU, 125 X 13MM HXD

LPG burner with conical mixing section, screwed air regulator and gas control needle. It gives a very hot flame suitable for glasswork and soldering. Burner tube height x Dia.meter (125 x 13mm). Connector Dia.meter 9mm. Base Dia.meter 80mm.

PRICE FROM **£20.85**

KEY STAGE KS3-5

CODE	PRICE
CH0096	£20.85

BUNSEN BURNER, SEMI MICRO NATURAL GAS

Suitable for natural gas with air regulator. Burner tube height x Dia.meter (100 x 5.5 mm). Connector Dia.meter 9mm (OD).

PRICE FROM **£10.43**

KEY STAGE KS5-6

CODE	PRICE
CH0099	£10.43

BUNSEN BURNER, NATURAL GAS 145MM - EDULAB

The Edulab nickel-plated bunsen burner with rotatable air regulator.

The burner is mounted on an enamelled pressed-steel base with a cylindrical riffled connector. Packed in a sturdy Edulab presentation case for storage and shipping.

The bunsen burner has well finished metal surfaces and conforms to all UK safety standards.

PRICE FROM **£8.23**

KEY STAGE **KS2-5**

CODE	PRICE
EDU078	£8.23

BUNSEN BURNER, LPG 11MM

Nickel-plated burner tube with rotatable air regulator, mounted on an enamelled pressed-steel base with a cylindrical riffled connector.

Height 125mm, base Dia. meter 80mm, 8mm inlet. Packed in a sturdy presentation case for storage and shipping.

Metal surfaces well finished. Conforms to safety standards.

PRICE FROM **£8.77**

KEY STAGE **KS3-5**

CODE	PRICE
EDU1080	£8.77

BUNSEN BURNER, LPG 8MM INLET 13MM DIA. 125MM HEIGHT

Nickel-plated burner tube with rotatable air regulator, mounted on an enamelled pressed-steel base with a cylindrical riffled connector.

Height 145mm, base Dia. meter 80mm, 8mm inlet. Packed in a sturdy presentation case for storage and shipping.

Metal surfaces well finished. Conforms to safety standards.

PRICE FROM **£8.23**

KEY STAGE **KS3-5**

CODE	PRICE
EDU101	£8.23

BUNSEN BURNER, NATURAL GAS 11MM

Nickel-plated burner tube with rotatable air regulator, mounted on an enamelled pressed-steel base with a cylindrical riffled connector.

Height 125mm, base Dia. meter 80mm, 8mm inlet. Packed in a sturdy presentation case for storage and shipping.

Metal surfaces well finished. Conforms to safety standards.

PRICE FROM **£8.77**

KEY STAGE **KS3-5**

CODE	PRICE
EDU1081	£8.77

BUNSEN BURNER, SPIRIT LAMP, STAINLESS STEEL

Stainless steel spirit lamp with woven wick in holder and screw-on cap.

KEY STAGE **KS4-5**

CODE	PRICE
CH0535B	£5.43

BUNSEN BURNER, SPIRIT WITH WICK (GLASS)

Glass spirit lamp with metal wick holder and spare wick. Complete with plastic cap. 80ml capacity.

KEY STAGE **KS3-6**

CODE	PRICE
C532	£3.28

BENCH MATS (PK10)

Calcium silicate, asbestos-free bench mats with well-finished edges. Packed in sturdy cartons.

KEY STAGE **KS3-6**

CODE		PRICE
EDU1008	150 x 150mm (Pk10)	£5.87
EDU1009	230 x 230mm (Pk10)	£7.63
EDU1010	300 x 300mm (Pk10)	£12.57

GAUZE WIRE

Square, with flat circular ceramic centre. Extra strong quality, well finished edges for safety. Packed in neat shelf cartons with inner protection and drying agent.

KEY STAGE **KS3-6**

CODE		PRICE
GUZCR150	150 x 150 Ceramic Centre (Pk10)	£7.13
GUZPL125	125 x 125 Plain (Pk10)	£5.49
GUZCR125	125 x 125 Ceramic Centre (Pk10)	£6.53
GUZPL150	150 x 150 Plain (Pk10)	£6.59

TRIPOD CAST IRON

200mm tall with cast-iron triangular top, splayed steel legs and rubber feet.

KEY STAGE **KS3-6**

CODE		PRICE
C645A	200 x 125mm	£4.39
C645B	200 x 150mm	£4.39

TRIPOD, CIRCULAR, 95MM DIA. 70MM HIGH

Black circular tripod stand with 95mm diameter and height 70mm. Used with spirit lamps. Supplied without lamp.

KEY STAGE **KS3-6**

CODE	PRICE
CH0643	£4.39

TONGS, CRUCIBLE MILD STEEL BOWED (PK10)

General purpose tongs with corrugated jaws, used for the handling of hot apparatus.

KEY STAGE **KS3-6**

CODE		PRICE
TBMS150	150mm (Pk10)	£16.46
TBMS200	200mm (Pk10)	£19.76
TSMS150	150mm (Pk10)	£17.29
TSMS200	200mm (Pk10)	£16.46
TBSS200	200mm (Pk10)	£31.83
TSSS150	150mm (Pk10)	£35.12
TSSS200	200mm (Pk10)	£35.12

TEST TUBE HOLDER, WIRE

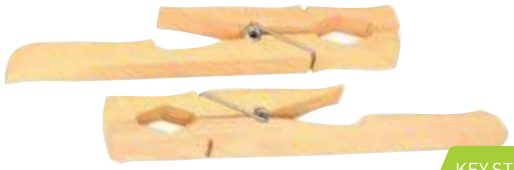
Plated, sprung steel wire test tube holder with finger grips. The jaws will accept tubes up to 40mm Dia. and their alignment is maintained by a steel wire collar. Overall length: 16cm.

KEY STAGE **KS3-6**

CODE	PRICE
CH0730	£6.15

TEST TUBE HOLDER (PEG TYPE)

Peg-type holder with spring for closing jaws. 180mm length, accepts tubes 11-19mm diameter.



KEY STAGE **KS3-6**

CODE	PRICE
CH0726A	£4.94

TEST TUBE HOLDERS

Aluminium test tube holder with sliding collar and wooden handle. Accepts tubes 15-25mm diameter.

KEY STAGE **KS3-6**

CODE	PRICE
CH0727	£38.41

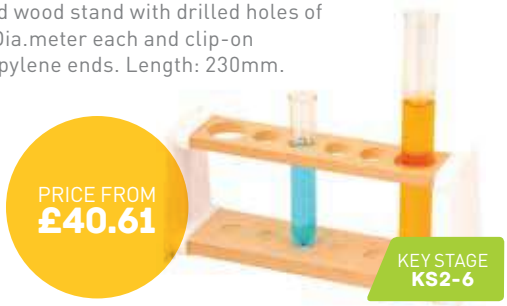
TEST TUBE HOLDER

Test tube holder with strong spring clip with a strip of metal in wooden handle. To accept tubes 15 - 25mm Dia.meter.

CODE	PRICE
TTFR	£36.22

TEST TUBE RACK 6HOLE X 20MM (PK10)

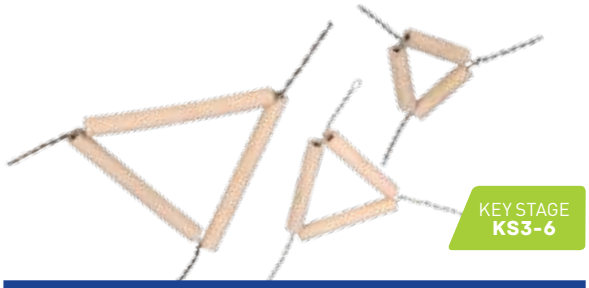
Polished wood stand with drilled holes of 20mm Dia.meter each and clip-on polypropylene ends. Length: 230mm.



CODE	PRICE
EDU762	£40.61

CLAY PIPE TRIANGLE

Clay pipe tubes on thick iron wire.



CODE		PRICE
C530C	60mm (Pk10)	£3.51
C530D	75mm (Pk10)	£6.57
C530B	50mm (Pk10)	£4.39

TEST TUBE RACK 12H 20MM (PK10)

Polished wood stand with drilled holes of 20mm Dia.meter each and clip-on polypropylene ends.

CODE	PRICE
EDU763	£59.27

TEST TUBE BASKET

This rack is made from polypropylene which is autoclavable.

The rack is non corrosive and makes for easy handling and storage.

CODE		PRICE
776-033	14 x12 x 11cm	£3.29
776-034	16 x 16 x 16cm	£3.84

TEST TUBE RACK, Z TYPE, STACKABLE. (PK10)

Z shape made from 18-gauge aluminium sheet, anodised, with three tiers. Has an overall height of 75mm and length of 200mm.

This stand has 5 holes of 28mm, 6 holes of 20mm and 8 holes of 13mm Dia.meter.

CODE	PRICE
EDU160	£28.54

TEST TUBE RACK 6HX25MM DIA. POLYPROP. WITH PEGS (PK10)

White polypropylene autoclavable rack with six 25mm Dia. meter holes. Rack ends supported by columns. Designed with six vertical pins for drying test tubes. Length: 235mm, Height: 90mm.

CODE	PRICE
CH0694B	£26.34

TEST TUBE RACK WIRE COATED

Test Tube Rack Coated wire test tube racks.

CODE		PRICE
776-016	12h, 16mm	£6.86
776-015	12h, 25mm	£10.96

TEST TUBE RACK 6H (2X30.4X20) POLYPROP END (PK10)

Constructed from wooden shelves which slot together with polypropylene ends. Six holes in the top section accept two 30mm Dia.meter tubes and four 20mm Dia.meter tubes. Height: 110mm.

CODE	PRICE
CH0702/Pk10	£52.68

TEST TUBE STAND PLASTIC 6H

Polythene, autoclavable, with two parallel rows of holes along its length - 6 holes of 30mm Dia.meter and 6 holes of 15mm Dia.meter.

CODE	PRICE
CH0696	£4.94

PESTLE & MORTAR (UNGLAZED)

Porcelain with unglazed grinding surface.

PRICE FROM **£2.18**

KEY STAGE **KS2-6**

CODE		PRICE
PM80	80mm Dia. 50ml volume	£2.18
PM90	90mm Dia. 50ml Volume	£2.47
PM100	100mm Dia. 175ml volume	£3.29
PM130	130mm Dia. 300ml volume	£3.57
PM150	150mm Dia. 500ml volume	£5.49

CRUCIBLE STAINLESS STEEL CAPACITY

Stainless steel crucibles can be re-used,unlike procelain which are single use. Material can be recycled. Can be dropped with no risk of fracturing or breaking. 0.7mm thick.

PRICE FROM **£8.78**

KEY STAGE **KS3-6**

CODE		PRICE
708-006	30ml, Dia. 40mm	£8.78
708-008	70ml, Dia. 50mm	£13.17
708-011	To Fit Dia. 40mm	£4.94
708-012	To Fit Dia. 50mm	£6.53

CRUCIBLE WITH LID

Porcelain crucibles with lid, glazed inside and outside except base.

PRICE FROM **£1.10**

KEY STAGE **KS3-6**

CODE		PRICE
C74A	15ml/40mm	£1.10
C74B	25ml/46mm	£1.15

TONGS, BEAKER

Stainless steel, silicone-covered jaws can hold any beaker from 250ml to 1500ml. 360mm in length with a jaw width of 70mm.

PRICE FROM **£46.10**

KEY STAGE **KS3-6**

CODE	PRICE
CH0738B	£46.10

TONGS, FLASK, SAFETY

Stainless steel, with cork lined rectangular jaws giving an extremely firm grip on flasks of any size from 100 to 2000ml.

KEY STAGE **KS3-6**

CODE	PRICE
CH0739	£42.80

EVAPORATING BASIN

Porcelain evaporating basin with spout, round bottom, glazed inside and outside except underside of base.

KEY STAGE KS3-6

CODE		PRICE
716-001	60mm Capacity 40ml	£0.88
EVAP80	80ml No Lid (Pk20)	£21.68
ED0503	100ml (Pk10)	£32.93
C72G	100ml Round Bottom, Spout. (Pk20)	£37.44

WOOD SPLINTS (PK1000)

Constructed from wooden shelves which slot together with polypropylene ends. Six holes in the top section accept two 30mm Dia.meter tubes and four 20mm Dia. meter tubes. Height: 110mm.

KEY STAGE KS3-6

CODE	PRICE
EDU740	£4.72

BOSSHEAD, WITH PLASTIC WHEEL TURNERS

Doublehead, die-cast bossheads to hold rods of 5-20mm. Plastic clamping screws for tightness.

KEY STAGE KS2-6

CODE		PRICE
BOSS2	Coated Aluminium	£5.87

BOSSHEAD, METAL, 16MM DIA. (PK20)

For use with retort stand rods. Die-cast alloy accepts rods up to 16.5mm Dia.meter at right angles to each other. Finished in high-quality blue coating. Metal edges well finished for safe use.

KEY STAGE KS2-6

CODE	PRICE
CH0663B	£38.41

BOSSHEAD, SWIVEL, 16MM DIA. (PK5)

Zinc, die-cast, to hold rods up to 16mm. Two rods can be fitted at any angle.

KEY STAGE KS2-6

CODE	PRICE
CH0666	£38.41

THERMOMETER WATERPROOF ELECTRONIC TEST

Waterproof Electronic Test Thermometer with max/min memory function and 120mm stainless steel probe. Switchable between centigrade and fahrenheit. Supplied complete with battery, pocket case and clip.

KEY STAGE **KS2-6**

TECHNICAL SPECIFICATIONS	
Temperature Range:	-50 to +150°C
Divisions:	0.1°C
Weight:	33g
Dimensions:	200 x 20 x 15mm

CODE	PRICE
776-032	£9.66

THERMOMETER, ELECTRONIC, MAX/MIN

Versatile max/min electronic thermometer with memory. Instant and accurate reading for a wide range of applications.

KEY STAGE **KS2-6**

TECHNICAL SPECIFICATIONS	
Temperature Range:	(Indoor) 0° to 50°C; (Outdoor) -50° to 70°C
Resolution:	0.1°C
Size:	100 x 75 x 18mm

CODE	PRICE
EDU1020	£16.41

THIELE TUBE

Borosilicate glass, for determining the melting point of organic compounds.

PRICE FROM **£9.88**

KEY STAGE **KS2-6**

TECHNICAL SPECIFICATIONS	
Dia.meter of Tube:	25mm
Length:	150mm

CODE	PRICE
CH0884	£9.88

TRIPOD STAINLESS STEEL 200MM X 125 (PK10)

200mm tall with cast-iron triangular top, steel legs and rubber feet. 125mm side-length.

PRICE FROM **£37.32**

KEY STAGE **KS2-6**

CODE	PRICE
TRSTD200	£37.32

WATCH GLASS

Clear, polished glass with ground edge.

KEY STAGE **KS2-6**

CODE		PRICE
CH0554A	50mm (Pk10)	£3.02
CH0554B	60mm (Pk10)	£3.18
CH0554C	75mm (Pk10)	£3.29
CH0554	80mm (Pk10)	£4.04
CH0554D	90mm (Pk10)	£4.62
CH0554E	100mm (Pk10)	£5.76
CH0554F	125mm (Pk10)	£11.49
CH0554G	150mm (Pk10)	£14.93

TUBE MELTING POINT TYPE (PK100)

Capillary melting point tube, borosilicate glass, wall thickness 0.2mm. Pack of 100.

PRICE FROM **£34.00**

KEY STAGE **KS2-6**

CODE	PRICE
CH0882	£0.77

WICK PACK FOR STAINLESS STEEL BURNER (FLAT TYPE) (PK10)

PRICE FROM **£6.59**

KEY STAGE **KS2-6**

CODE	PRICE
704-011	£6.59

BRUSH, BEAKER

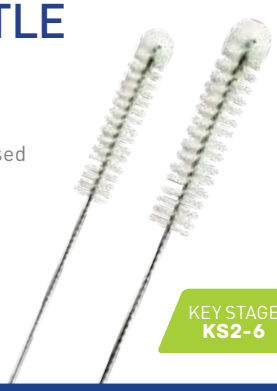
Bristles on 40cm long wooden handle.
Head size: 65 x 45 x 150mm.

KEY STAGE **KS2-6**

CODE		PRICE
CH0214A	Bristle (Pk10)	£16.46
CH0214B	Nylon (Pk10)	£16.46

BRUSH, BRISTLE TEST TUBE

Test tube brush, head size 50 x 19mm (L x D), on galvanised wire, overall length 230mm.



KEY STAGE **KS2-6**

CODE		PRICE
CH0210A	(Pk10)	£3.29
CH0204A	Fan Shape, Size 10-12mm Dia. (Pk10)	£4.39
CH0204B	Fan Shape, Size 16-25mm Dia. (Pk10)	£4.34

BRUSH, BURETTE BRISTLE

Burette brush on galvanised steel wire handle. High quality materials used for durability.

PRICE FROM **£11.00**

KEY STAGE **KS2-6**

TECHNICAL SPECIFICATIONS			
Bristle	For Burette Capacity (ml)	Head Dia.meter (mm)	Total Length (mm)
CH0217A	25	16	610
CH0217B	50	19	760
CH0217C	100	25	916
Nylon	For Burette Capacity (ml)	Head Dia.meter (mm)	Total Length (mm)
CH0217D	25	16	610
CH0217E	50	19	760
CH0217F	100	25	915

CODE		PRICE
CH0217A	For Burette Size 25 (Pk10)	£12.07
CH0217B	For Burette Size 50 (Pk10)	£9.82
CH0217C	For Burette Size 100 (Pk10)	£16.46
CH0217D	For Burette Size 25 (Pk10)	£16.46
CH0217E	For Burette Size 50 (Pk10)	£16.46
CH0217F	For Burette Size 100 (Pk10)	£16.46

BRUSH, CYLINDER, BRISTLE (PK10)

Brush head widens towards the end, with a slightly fanned tip.
On galvanised wire handle. Dia. meter 50-100mm.
Suitable for Erlenmeyer flasks, cylinders and beakers.

KEY STAGE **KS2-6**

CODE		PRICE
CH0220A	(Pk10)	£19.21

BRUSH, FLASK

For round bottom flasks up to 100mm Dia.
On galvanised wire handle. Overall length: 480mm.

PRICE FROM **£27.44**

KEY STAGE **KS2-6**

CODE		PRICE
CH0216A	Bristle (Pk10)	£27.44
CH0210B	Nylon (Pk10)	£7.63

BRUSH, NYLON TEST TUBE (PK10)

Test tube brush, head size 50 x 19mm (L x D), on galvanised wire, overall length 230mm.

PRICE FROM **£18.66**

KEY STAGE **KS2-6**

CODE	PRICE
CH0220A	£18.66

BRUSH, TEST TUBE BRISTLE COTTON TIP

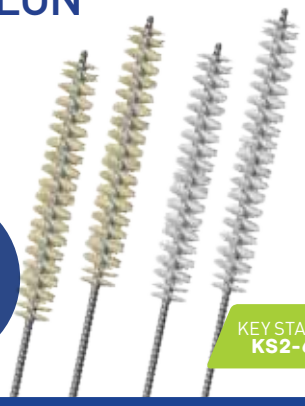
Test tube brush with fluffed cotton yarn tip on galvanised steel wire handle.

KEY STAGE **KS2-6**

CODE		PRICE
CH0206A	For Burette Size 25 (Pk10)	£9.88
CH0206B	For Burette Size 50 (Pk10)	£9.88
CH0206C	For Burette Size 100 (Pk10)	£9.88
CH0206D	For Burette Size 25 (Pk10)	£9.88

BRUSH, NYLON TEST TUBE

Test tube brush with fanned tip on galvanized steel wire handle.



PRICE FROM **£3.84**

KEY STAGE **KS2-6**

CODE		PRICE
CH0204C	Fan shape, size 10-12mm Dia. (Pk10)	£3.84
CH0204D	Fan shape, size 16-25mm Dia. (Pk10)	£4.12

BRUSH, CYLINDER, NYLON

Brush head widens towards the end, with a slightly fanned tip . On galvanised wire handle. Dia. meter 50-100mm. Suitable for Erlenmeyer flasks, cylinders and beakers.

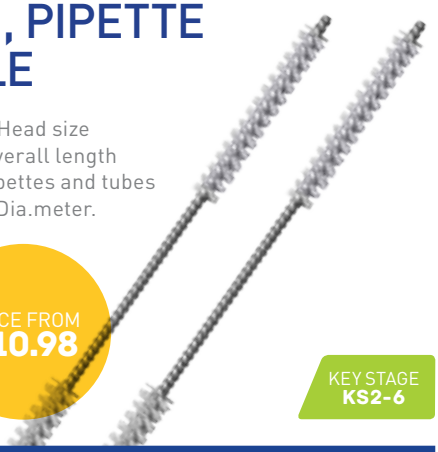
PRICE FROM **£18.66**

KEY STAGE **KS2-6**

CODE	PRICE
CH0220B	£18.66

BRUSH, PIPETTE BRISTLE

Pipette brush. Head size 125 x 10mm. Overall length 700mm. For pipettes and tubes from 8-12 mm Dia.meter.



PRICE FROM **£10.98**

KEY STAGE **KS2-6**

CODE	PRICE
CH0218A	£10.98

BRUSH, PIPETTE, NYLON

Pipette brush. Head size 125 x 10mm. Overall length 700mm. For pipettes and tubes from 8-12 mm Dia.meter.

PRICE FROM **£12.07**

KEY STAGE **KS2-6**

CODE	PRICE
CH0218B	£12.07

CHROMATOGRAPHY PAPER 20X20 (PK100)

PRICE FROM **£37.32**

KEY STAGE **KS2-6**

CODE	PRICE
708-017	£37.32

DRAINING RACK

For drying test tubes, PVC coated.

PRICE FROM **£38.41**

KEY STAGE **KS2-6**

CODE	PRICE
704-002	£38.41

CHROMATOGRAPHY PLATES, TLC, PRE-COATED, SILICA, 'POLYGRAM'

KEY STAGE **KS2-6**

CODE	PRICE
708-018	£62.04

JACK, LABORATORY

Screw operated, scissor-action mechanism. Strong, stable support for laboratory equipment.

PRICE FROM **£42.80**

KEY STAGE **KS2-6**

TECHNICAL SPECIFICATIONS	
Minimum Height:	60mm
Maximum Elevation:	250mm
Top Plate:	150 x 135mm
Maximum Load:	25kg

CODE	PRICE
CH0642	£42.80

PETRI DISH RACK

Clear acrylic with white polycarbonate posts. This handy rack will hold 60 Petri dishes of 90mm Dia.meter. Useful during inoculation, incubation and storage.

KEY STAGE **KS2-6**

CODE	PRICE
CH0376	£48.29

CLAMP G

Drop-forged clamp finished with resistant coating.

KEY STAGE KS2-6

CODE		PRICE
EDU870	75mm	£4.12
EDU885	100mm	£8.23

RETORT CLAMP, 3 PRONG, ALLOY, RUBBER JAWS

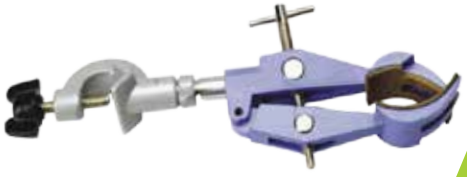
Made with rubber lined, diecast jaws. Clamping rod operates through swivels mounted neatly in the jaws. Mounted on a 135mm rod of 8mm Dia.meter. Jaw capacity 90mm and overall length 250mm.

KEY STAGE KS2-6

CODE	PRICE
CLMP3P	£5.49

RETORT CLAMP WITH BOSSHEAD, CORK JAWS

Diecast alloy clamp retort with cork-lined jaws and bosshead which accommodates rods up to 15mm Dia.



KEY STAGE KS2-6

CODE	PRICE
CH0687	£6.59

RETORT CLAMP, ALUM ROD. CORK JAWS

Four prong, cork jaw clamp finished in high quality blue coating. The clamp accepts articles from 2 - 90mm Dia. meter. Rod length 145mm. The design of the jaw ensures a firm grip at all angles of opening. The cork liners are well secured to the jaws of the clamp. Overall length: 245mm.

KEY STAGE KS2-6

CODE	PRICE
CLMPCRK	£5.43

RETORT CLAMP WITH BOSSHEAD, RUBBER JAWS

Diecast alloy clamp retort with rubber-lined jaws and bosshead which accommodates rods up to 15mm Dia.

KEY STAGE KS2-6

CODE	PRICE
CH0688	£6.59

RETORT RING

Mild steel, plated retort ring with 8mm Dia. stem. Stem Length: 140mm.

KEY STAGE KS2-6

CODE		PRICE
CH0668A	50mm Dia.	£5.43
CH0668B	70mm Dia.	£3.29
CH0668C	100mm Dia.	£8.78
CH0668D	150mm Dia.	£3.84

RETORT RING,CLOSED WITH BOSSHEAD

Strong circular mild steel ring with 8mm Dia. meter stem. Open boss fitted with thumb screw to accept rods from 8mm to 12.5mm Dia.meter.

KEY STAGE **KS2-6**

CODE		PRICE
CH0672A	50mm Dia.	£4.94
CH0672B	75mm Dia.	£5.43

RETORT STAND BASE

A sturdy cast-iron base, finished in blue/black, with a tapped hole to accept a rod with 10 x 1.5mm metric thread.

KEY STAGE **KS2-6**

CODE		PRICE
BASE160T	160 x 100mm	£5.43
BASE200T	200 x 125mm	£8.44
BASE250T	250 x 160mm	£13.16

RETORT ROD, MILD STEEL

With 10* x 1.5mm metric thread.

KEY STAGE **KS2-6**

CODE		PRICE
RDAL0500	10x1.5mm - 500mm	£4.34
RDMS0500	10x1.5mm - 500mm	£2.95
RDMS0600	10x1.5mm - 600mm	£3.84
RDMS0750	10x1.5mm - 750mm	£4.66

RETORT STAND BASE A CAST IRON

Cast-iron, finished in blue coating with tapped hole 10 x 1.5mm metric thread. Length of side 200mm.

KEY STAGE **KS2-6**

CODE	PRICE
EDU729	£14.26

RETORT ROD, ALUMINIUM ALLOY

With 10* x 1.5mm metric thread.

KEY STAGE **KS2-6**

CODE		PRICE
RDAL1000	10 x 1.5mm - 1000mm	£6.04
RDAL0600	10 x 1.5mm - 600mm length	£5.32
RDAL0750	10 x 1.5mm - 750mm length	£5.76

RETORT STAND BASE H

Accepts rods 8-12mm Dia.

Size: 200 x 200mm.
Weight: 3kg.
(Plastic End Caps)

KEY STAGE **KS2-6**

CODE	PRICE
EDU730	£25.24

RUBBER TEATS 2ML (PK10)

For use with dropper pipettes etc.

PRICE FROM **£3.62**

KEY STAGE **KS2-6**

CODE	PRICE
C232	£3.30

SCALE PAN, BAKELITE/BRASS

75mm Dia.meter with suspension cords and hook.

KEY STAGE **KS2-6**

CODE		PRICE
PH0303A	Brass	£8.78
PH0303B	Bakelite	£3.29

SPATULA, NUFFIELD 140MM (PK10)

Well finished and polished stainless steel spatula, with one end flat and the other end spoon form.

KEY STAGE **KS2-6**

CODE		PRICE
SPNUF140/Pk10	140mm (Pk10)	£8.51

SPATULA CHATTAWAY

Chattaway type one end flat stainless steel and the other end canted up. Polished finish.

KEY STAGE **KS2-6**

CODE		PRICE
SPCHT150/Pk10	150mm (Pk10)	£18.60
SPCHT200/Pk10	200mm (Pk10)	£19.70

SPATULA SPOON END

Well finished and polished stainless steel spatula, with one end flat and the other end spoon form.

KEY STAGE **KS2-6**

CODE		PRICE
EDU084/Pk10	150mm (Pk10)	£14.27
EDU085/Pk10	200mm (Pk10)	£15.37
EDU085A	300mm (Pk10)	£16.46

SPATULA TRULLA (PK10)

Trulla spatula, stainless steel, double ended with trowel-shaped scoops for handling large quantities of material.

Width: 15mm.

KEY STAGE KS2-6

CODE	PRICE
SPTRUL175	£10.87

SYRINGE, GROUND GLASS, 100ML

Ground glass, volume graduated to 100ml in 5ml increments

KEY STAGE KS2-6

CODE	PRICE
251-402	£20.80

SPOTTING TILES, PLASTIC 12 CAVITY (PK10)

PRICE FROM £13.72

KEY STAGE KS2-6

CODE	PRICE
EDU770	£13.72

TALLY COUNTER

Hand operated, counts up to to 9999, with reset button.

KEY STAGE KS2-6

CODE	PRICE
776-010	£7.68

SYRINGE CLAMP

Holder for 100ml gas syringe (code: 251-402). Dimensions: 150x30x60.

KEY STAGE KS2-6

CODE	PRICE
719-001	£20.85

RUBBER TEAT

Rubber bulb teats for use with dropper pipettes.

PRICE FROM £10.43

KEY STAGE KS2-6

CODE	PRICE
CH0232B	£10.43

TEAT, RUBBER, PEAR SHAPED (PK20)

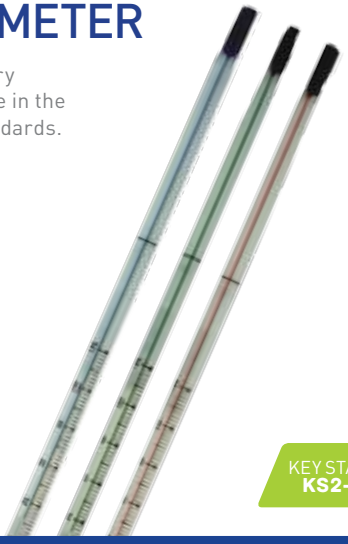
Rubber, pear-shaped teats for use with pipettes etc.

KEY STAGE KS2-6

CODE		PRICE
CH0230B	10ml (Pk20)	£10.43
CH0230C	15ml (Pk20)	£10.43

THERMOMETER

Brannan™ laboratory thermometer, made in the UK to exacting standards.



KEY STAGE KS2-6

CODE		PRICE
776-023	300mm -10/50C x 0.5div 76mm imm. Red fill	£2.14
776-024	300mm -10/110C x 1.0div 76mm imm. Green fill	£1.53
776-025	300mm -10/150C x 1.0div 76mm imm. Red fill	£2.14
776-026	150mm -10/110C x 1.0div Total imm. Red fill	£1.85
776-027	300mm -10/110C x 1.0div 76mm imm Red fill	£1.64
776-028	150mm -10/110C x 1.0div Total imm. Blue fill	£2.74
776-029	300mm -10/110C x 1.0div 76mm imm. Blue fill	£2.69
776-030	200mm-10/110Cx1.0div partial immersion PVC coate	£4.38
776-031	300mm -10/110C 76mm imm. Green fill 'Uncalibrated'	£1.30

THERMOMETER LO TOX 305MM

These new Brannan™ laboratory thermometers utilise LO-tox™ , an organic filling specifically chosen to achieve a wide temperature span and provide the lowest practical levels of hazard.

KEY STAGE KS2-6

CODE		PRICE
776-018	Lo Tox 305mm -10/50C x 0.5div 76mm imm. Blue fill	£3.25
776-019	Lo Tox 305mm -20/110C x 1.0div 76mm imm. Blue fill	£2.91
776-020	Lo Tox 305mm -20/150C x 1.0div 76mm imm. Blue fill	£2.92
776-021	Lo Tox 405mm-10/260C x 1.0div 76mm imm. Blue fill	£3.69
776-022	Lo Tox 305mm -10/330C x 2.0div76mm imm. Brown fill	£3.82

THERMOMETER STAND

Aluminium stand, holds 18 thermometers.

PRICE FROM **£21.90**

KEY STAGE KS2-6

CODE	PRICE
772-002	£21.90

MASS, WEIGHING SET ON TRAY

A combined set of accurate steel and brass weights that are housed in a sturdy blue moulded tray. Provides for weighing objects from 10g to 1990g in 10g increments. 3 steel weights and 6 brass weights.

CONTENTS: 1 EACH OF:
1kg, 500g, 200g, 50g, 20g; 2 each of - 100g & 10g; 1 Moulded Tray.

KEY STAGE **KS3-5**

CODE	PRICE
EDU769	£31.83

MASS, BRASS, SMALL FORM HANGER ONLY

Small form slotted masses and hangers.

KEY STAGE **KS3-5**

CODE		PRICE
MHB100G	Small Form Hanger Only, 100g	£3.51
MHB020G	Small Form Hanger Only, 20g	£1.81
MHB050G	Small Form Hanger Only, 50g	£2.47
MHB010G	Small Form Hanger Only, 10g	£1.26

MASS, CAST ALLOY, SLOTTED MASS

Flat masses, with large central hole and small slot to prevent masses sliding off hanger. Manufactured from cast alloy, accuracy 1%.

KEY STAGE **KS3-5**

CODE		PRICE
EDU877	Cast Alloy, Slotted, 10g (Pk3)	£2.63
EDU878	Cast Alloy, Slotted, 20g (Pk3)	£3.24
EDU879	Cast Alloy, Slotted, 50g (Pk3)	£7.13
EDU903	Cast Alloy, Slotted, 100g (Pk5)	£9.88
EDU880	Cast Alloy, Small Form Hanger 50g (Pk3)	£7.41
EDU902A	Cast Alloy, Small Form Hanger 100g (Pk5)	£19.21

MASS,CAST ALLOY,SET 9X100G+ HANGER

Small format cast alloy mass & hanger set.

KEY STAGE **KS3-5**

CODE		PRICE
EDU905	Set 9 x 100g+Hanger 1000g (Single)	£15.91
EDU905A	Set 9 x 100g+Hanger 1000g (Pack of 4)	£30.25
EDU904	Set 9 x 10g+Hanger 100g (Single)	£9.60
EDU904A	Set 9 x 10g+Hanger 100g (Pack of 4)	£5.28
P260	Set Incl. 20g Hanger +4 x 20g Mass	£6.53

BRASS, SLOTTED MASS

Small form slotted masses and hangers.

CODE		PRICE
MB001	Brass, Slotted Mass 1g	£0.76
MB002	Brass, Slotted Mass 2g	£0.81
MB005	Brass, Slotted Mass 5g	£0.76
MB010	Brass, Slotted Mass 10g	£0.87
MB020	Brass, Slotted Mass 20g	£0.98
MB050	Brass, Slotted Mass 50g	£1.91
MB100	Brass, Slotted Mass 100g	£2.51
P262	Set Incl. Hanger 250g	£10.92
EDU087	Set Incl. Hanger 9x10g with 10g Hanger	£7.67
EDU088	Set Incl. Hanger 500g	£20.85
EDU089	Set Incl. Hanger 1000g	£35.12
EDU1025	Set Incl. Hanger 438g	£16.46

MASS, WEIGHING SET BRASS

Polished brass weights in hardwood case with hinged lid and divided compartments. Nickel-silver and aluminium fractions.

CODE		PRICE
PH0034A	1mg-100gm	£27.44
PH0034D	1mg-1000gm	£53.78
PH0034E	1mg-2000gm	£108.65

MASS, HEXAGONAL WITH RING

Small form slotted masses and hangers.

CODE		PRICE
HEX50	50g	£2.20
HEX100	100g	£3.02
HEX200	200g	£4.12
HEX500	500g	£6.31
HEX1000	1000g	£7.68
HEX2000	2000g	£20.85
HEX5000	5000g	£42.80

MASS, LARGE FORMAT, CAST, HANGER

Large format slotted mass.

CODE		PRICE
EDU771	100g	£3.29
EDU772	200g	£4.39
EDU773	500g	£6.04
EDU774	1kg	£9.60
EDU775	2kg	£13.17
EDU776	5kg	£20.85
EDU778	0.5kg	£7.63
EDU779	1kg	£15.91

MEASURING CYLINDER, GLASS

Graduated borosilicate glass cylinder with spout, tall form with rounded base.

Blue graduations. Class B.

KEY STAGE **KS2-5**

CODE		PRICE
CY0401	5ml	£1.65
CY0402	10ml	£1.81
CY0403	25ml	£1.87
CY0404	50ml	£2.09
CY0405	100ml	£2.69
CY0406	250ml	£3.72
CY0407	500ml	£4.34
CY0408	1000ml	£12.35
CY0409	2000ml	£21.68

MEASURING CYLINDER SETS

A range of polypropylene measuring cylinders having excellent clarity and good chemical resistance. The products are autoclavable up to 130°C. These cylinders have raised graduations on the outer surface with an excellent easy-pour tapered spout.

KEY STAGE **KS2-5**

CODE		PRICE
EDU1039	Set of 5 (10, 25, 50, 100, 250ml)	£10.43
EDU1078	Set of 4 (10, 50, 100, 1000ml)	£13.72
EDU1033	Set of 6 (25, 50, 100, 250, 500, 1ltr)	£20.85
616-031	Set of 6 (10, 25, 50, 100, 250, 500ml)	£9.95
616-024	Set of 5 (50, 100, 250, 500, 1ltr)	£4.18

MEASURING CYLINDER, POLYPROPYLENE

Polypropylene measuring cylinders having excellent clarity and good chemical resistance. Autoclavable up to 130°C. These cylinders have raised graduations on the outer surface with an excellent easy-pour tapered spout.

KEY STAGE **KS2-5**

CODE		PRICE
MCYL0010	10ml (Pk10)	£9.60
616-037	250ml (Pk5)	£11.75
616-038	500ml (Pk5)	£17.00
MCYL0100	100ml (Pk5)	£7.63
616-034	25ml (Pk10)	£1.93
MCYL0050	50ml (Pk10)	£10.7
MCYL1000	1000ml (Pk5)	£37.32
MCYL2000	2000ml (Pk2)	£19.76

MEASURING CYLINDER, TPX

Crystal clear autoclavable, graduated measuring cylinder. The cylinder is made from clear TPX for easy volume reading.

The cylinder has a hexagonal base which provides excellent stability.

KEY STAGE **KS2-5**

CODE		PRICE
748-005	TPX 25ml	£2.74
748-006	TPX 50ml	£3.57
748-007	TPX 100ml	£5.49
748-008	TPX 250ml	£9.82
748-009	TPX 500ml	£13.17
748-010	TPX 1000ml	£20.85

MEASURING JUG

Polypropylene measuring jugs having excellent clarity and good chemical resistance. The products are autoclavable up to 130°C. The jugs have raised graduations on the outer surface and an excellent easy-pour tapered spout.

KEY STAGE **KS2-5**

CODE		PRICE
616-043	Measuring Jug 250ml (Pk10)	£2.24
616-044	Measuring Jug 500ml (Pk10)	£15.00
616-045	Measuring Jug 1000ml (Pk5)	£7.05

DRAINING BASKET 400 X 400X 100MM

Made from polypropylene which is autoclavable.

PRICE FROM **£16.46**

KEY STAGE **KS4-6**

CODE	PRICE
712-030	£16.46

MEASURING JUG SET

A range of polypropylene measuring jugs having excellent clarity and good chemical resistance. The products are autoclavable up to 130°C. The jugs have raised graduations on the outer surface and an excellent easy-pour tapered spout.

KEY STAGE **KS2-5**

CODE		PRICE
616-049	Set of 4 (250, 500, 1, 2ltr)	£2.09
616-048	Set of 3 (250, 500, 1000)	£4.95

REAGENT BOTTLE WIDE NECK

KEY STAGE **KS4-6**

CODE		PRICE
704-049	60ml Pack Of 10	£3.29
704-050	Wide Neck 125ml Pack Of 10	£5.43
704-051	Wide Neck 250ml Pack Of 10	£9.88
704-053	Wide Neck 1000ml Pack Of 5	£10.92

REAGENT BOTTLE, AMBER GLASS, PLASTIC STOPPER

Amber Glass Reagent Bottles Narrow mouth, amber glass with interchangeable dust-proof plastic stopper.

PRICE FROM **£5.61**

KEY STAGE **KS3-6**

CODE		PRICE
704-032	50ml	£5.61
704-029	100ml	£4.38
704-031	250ml	£4.94
704-033	500ml	£8.23
704-030	1000ml	£12.07

MINI-STIRRER ROUND BASE

This series of magnetic stirrers are compact, lightweight and low-cost, yet include our Speedsafe® technology for greater control of stirring speed and motor protection.

KEY STAGE **KS4-6**

CODE		PRICE
607-008	Mini-stirrer Round Base, Light Blue	£108.65

REAGENT BOTTLE, CLEAR GLASS

Dia.mond shaped.
Colour: White.
Dimensions: 120 x 100mm.

PRICE FROM **£2.20**

KEY STAGE **KS3-6**

CODE		PRICE
704-021	30ml	£3.24
704-022	R60ml	£2.20
704-023	125ml	£4.28
704-024	250ml	£4.34
704-025	500ml	£4.34
704-026	1000ml	£8.73

CORK BORER SET

Nickel plated brass. Variety of sizes, each with a cutting edge at bottom and handle at top. Complete with cleaning rod. Grip is good for easy use. Pipes are of a thick gauge material.

KEY STAGE **KS3-5**

CODE		PRICE
C322A	1- 6 range 4-10	£28.48
C322B	4-12 range 4-18	£49.39

CORK BORER SHARPENER

Plated metal cone with polished wooden handle. Hinged cutter blade slotted to accept cutting blades. The edge is cut to the correct angle by depressing blade using thumb pressure.

KEY STAGE **KS4-6**

CODE	PRICE
C324	£10.42

RUBBER STOPPER ONE HOLE

Rubber Stoppers Constructed from high-quality, chemical resistant rubber. Stated dimensions are Dia.1 x Dia. 2 x L, respectively.

KEY STAGE **KS3-5**

CODE		PRICE
CH0316	(Mixed Bag 50)	£20.85
CH0314B/1H	11x14x24 (Pk10)	£1.32
RS13	13x16x24 (Pk10)	£1.48
RS15	1 Hole 15x18x24 (Pk10)	£1.71
CH0314E/1H	17x20x26 (Pk10)	£2.14
CH0314F/1H	18x21x26 (Pk10)	£2.30
RS19	19x22.5x28 (Pk10)	£2.80
RS21	21x24.5x28 (Pk10)	£2.74
RS23	23x25.5x28 (Pk10)	£4.12
CH0314J/1H	25x28.5x28 (Pk10)	£4.44
CH0314K/1H	27x21x32 (Pk10)	£3.62
RS28	28x33x32 (Pk10)	£1.81
CH0314L/1H	29x33x32 (Pk10)	£5.76
RS31	31x36x35 (Pk10)	£7.74
CH0314N/1H	33x38.5x38.5 (Pk10)	£9.60
CH0314A/1H	9x11.5x20 (Pk10)	£1.32

RUBBER STOPPER NO HOLE

Rubber Stoppers Constructed from high-quality, chemical resistant rubber. Stated dimensions are Dia.1 x Dia. 2 x L, respectively.

KEY STAGE **KS3-5**

CODE		PRICE
CH0314A	9x11.5x20 (Pk10)	£0.99
CH0315	(Mixed Bag 50)	£20.85
CH0314B	11x14x24 (Pk10)	£0.99
C314-13	13x16x14 (Pk10)	£1.42
C314-15	15x18x24 (Pk10)	£1.48
CH0314E	17x20x26 (Pk10)	£1.81
CH0314F	18x21x26 (Pk10)	£1.48
C314-19	19x22.5x28 (Pk10)	£2.69
C314-21	21x24.5x28 (Pk10)	£2.73
CH0314I	23x25.5x28 (Pk10)	£3.62
CH0314J	25x28.5x28 (Pk10)	£4.12
CH0314K	27x31x32 (Pk10)	£4.61
CH0314L	29x33x32 (Pk10)	£5.10
C314-31	31x36x35 (Pk10)	£6.91
CH0314N	33x38.5x38.5 (Pk10)	£9.60
CH0314A/1H	9x11.5x20 (Pk10)	£1.32

Rubber Stoppers Constructed from high-quality, chemical resistant rubber. Stated dimensions are Dia.1 x Dia. 2 x L, respectively.

KEY STAGE **KS3-5**

CODE		PRICE
CH0317	(Mixed Bag 50)	£20.85
CH0314F/2H	18x21x26 (Pk10)	£2.47
CH0314H/2H	21x24.5x28 (Pk10)	£2.74
CH0314I/2H	23x25.5x28 (Pk10)	£1.81
CH0314J/2H	25x28.5x28 (Pk10)	£2.14
CH0314K/2H	27x31x32 (Pk10)	£5.10
CH0314L/2H	29x33x32 (Pk10)	£5.43
CH0314M/2H	31x36x35 (Pk10)	£7.41
CH0314N/2H	33x38.5x38.5 (Pk10)	£9.38
CH0314C/2H	2 Hole Size 13 (Pk10)	£0.99

RUBBER STOPPER TWO HOLE

PRICE FROM **£2.47**

NANOHEAT MAGNETIC STIRRER

The NanoHeat® Magnetic Stirrer is a 2-in-1 design allowing it to be more flexible in usage. The stirrer drive uses a ND Servo Motor and has a speed range of 0-1250 rpm with a smoothed speed control. The compact and light weight design makes it easy to transport and store. (Hotplate not included - supplied separately).

PRICE FROM **£170.11**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Electrical Rating:	220-240V AC, 50/60Hz
Dimension [W x D x H]:	200(W) x 268(D) x 85 (H)mm

CODE	PRICE
607-022	£170.11

STIRRER BAR (PACK 2)

Magnetic Stitter bar ideal for use with Nanoheat Hotplate or Any Edu lab Hotplate and stirrer.

PRICE FROM **£1.53**

KEY STAGE **KS4-6**

CODE		PRICE
772-303	Stirrer Bar (Pack 2) 25 x 6mm	£1.53
772-304	Stirrer Bar (Pack 2) 50 x 8mm	£1.93

STIRRING ROD, POLYPROPYLENE

Polypropylene, useful for stirring different solutions in laboratory.

PRICE FROM **£1.70**

KEY STAGE **KS2-5**

CODE	PRICE
772-003	£1.70

STIRRING ROD, GLASS (SINGLE)

Glass, stirring, spade and button ends, dual purpose, Dia. 7mm, length 30cm,pack of 10.

PRICE FROM **£0.60**

KEY STAGE **KS2-5**

CODE		PRICE
CH0755A	150mm (Single)	£0.60
CH0755B	300mm (Single)	£0.88

BURETTE GLASS STOPCOCK 50X0.1ML CLASSB SINGLE BORE

Burette with single straight bore. Interchangeable glass key stopcock with blue ceramic graduations. Accuracy ± 0.1ml. Glass Stopcock. Class B.

KEY STAGE **KS3-6**

CODE	PRICE
13234A	£10.96

FLASK, VOLUMETRIC WITH STOPPER

Volumetric, Borosilicate Glass with blue graduation. Fitted with chemical resistance stopper as per 12664 and ISO1042. Class B.

PRICE FROM **£3.02**

KEY STAGE **KS3-6**

CODE		PRICE
FL2603	25ml	£3.02
FL2604	50ml	£3.02
FL2605	100ml	£3.79
FL2606	200ml	£5.43
FL2607	250ml	£5.48
FL2608	500ml	£6.53
FL2609	1000ml	£9.88
FL2610	2000ml	£19.21

BURETTE GLASS STOPCOCK

Burette with single straight bore. Interchangeable glass key stopcock with blue ceramic graduations.

Accuracy ± 0.1ml. Glass Stopcock. Class B.

PRICE FROM **£8.23**

KEY STAGE **KS3-6**

CODE		PRICE
702-002	10 x 0.1 ml Class B Single Bore	£8.23
702-003	25 x 0.1 ml Class B Single Bore	£9.88

BURETTE PTFE KEY STOPCOCK CLASSB 25ML

Burette with straight bore interchangeable PTFE key stopcock and blue ceramic graduations. Accuracy ± 0.1ml. This unit requires no lubrication and is sealed with a simple nut and 'O' ring mechanism. Class B.

PRICE FROM **£6.04**

KEY STAGE **KS3-6**

CODE	PRICE
702-004	£6.04

BURETTE PTFE STOPCOCK 50 X 0.1ML CLASS B SINGLE BORE

PTFE Stopcock Burettes Burette with straight bore interchangeable PTFE key stopcock and blue ceramic graduations. Accuracy ± 0.1ml. This unit requires no lubrication and is sealed with a simple nut and 'O' ring mechanism.

PRICE FROM **£13.17**

KEY STAGE **KS3-6**

CODE	PRICE
11780A	£13.17

BURETTE ACRYLIC

With transparent acrylic body and leakproof PTFE plunger stopcock.

Acrylic body is unaffected by dilute minerals acids & bases except hydrofloric SP acid and ammonium hydroxide.

Capacity 25ml. Sub. Div.-0.10ml Tolerance ± -0.10ml .

PRICE FROM **£8.78**

KEY STAGE **KS3-6**

CODE		PRICE
704-047	25ml	£8.78
704-048	50ml	£10.43

BURETTE CLAMP, DOUBLE

KEY STAGE **KS3-6**

CODE	PRICE
704-018	£7.68

BURETTE PTFE STOPCOCK 50 X 0.1ML CLASS B SINGLE BORE

PRICE FROM **£5.49**

KEY STAGE **KS3-6**

CODE		PRICE
CH0262A	Single	£5.49
CH0262B	Double	£6.59

BURETTE CLAMP, DIE CAST - SINGLE CLAMP (PK10)

PRICE FROM **£64.75**

KEY STAGE **KS3-6**

CODE		PRICE
EDU732	Single (Pk10)	£64.75

SPOTTING TILE, CERAMIC,PLAIN. (PK5)

Size: 150 x 150mm.

KEY STAGE KS3-6

CODE	PRICE
EDU009	£2.74

PIPETTE, GRADUATED CAPACITY

PRICE FROM £2.14

KEY STAGE KS3-6

CODE		PRICE
CH0564A	1ml x 0.01 Capacity	£2.14
CH0564B	2ml x 0.02 Capacity	£2.20
CH0564C	5ml x 0.05 Capacity	£2.25

PIPETTE, ONE MARK, BOROSILICATE

Borosilicate glass, bulb form, single graduation on upper stem and colour coded.

PRICE FROM £1.75

KEY STAGE KS3-6

CODE		PRICE
CH0558A	1ml	£1.75
CH0558B	2ml	£1.85
CH0558C	5ml	£1.92
CH0558D	10ml	£2.14
CH0558E	15ml	£2.20
CH0558F	20ml	£2.30
CH0558G	25ml	£2.41
CH0558H	50ml	£2.74

PIPETTE, ONE MARK, CLASS B NEUTRAL GLASS

Neutral glass, bulb form, single graduation on upper stem. Class B.

PRICE FROM £2.41

KEY STAGE KS3-6

CODE		PRICE
CH0556E	20ml	£2.41

PIPETTE FILLER BULB TYPE (RED) (PK10)

Bulb-type rubber pipette filler for pipetting noxious solutions, microbial suspensions and other harmful and unpleasant solutions. Consists of a bulb and three pinch valves controlling influx and efflux of the pipette contents. Bulb Dia.meter: 54mm.

KEY STAGE KS3-6

CODE	PRICE
C6586A	£38.41

BURETTE STAND H/WOOD

Seasoned hardwood, polished stand with clamp. Rods are approx. 460 x 16mm. 200 x 100mm BaseBulb Dia.meter: 54mm.

KEY STAGE KS3-6

CODE		PRICE
C264	Single	£9.88
C264B	Double	£10.43

PIPETTE, ONE MARK, BOROSILICATE

Fast-release pipetting device for precise pipetting or zip-quick emptying. The thumb wheel can be rotated to precisely draw up or dispense liquids, or alternatively the releaser may be pushed in for virtually instant emptying. The moulded chuck has a silicone rubber collar inside to hold various pipettes of standard sizes. It resists acids and alkalis and can be easily disassembled for thorough cleaning.

PRICE FROM £5.43

KEY STAGE KS3-6

CODE		PRICE
PIPUMP2	2ml	£5.43
PIPUMP10	10ml	£5.43
PIPUMP25	25ml	£5.43

PIPETTE STAND, POLYPROPYLENE (HOLDS 12)

PRICE FROM £9.88

This autoclavable stand is two sided, with two ends joined to each other with three metal rods, all coated with polypropylene, to hold the pipettes.

KEY STAGE KS3-6

CODE	PRICE
C592	£9.88

PIPETTE STAND (HOLDS 12 VERTICAL)

A polished, wooden stand, with four rubber feet.

Height: 41 cm.
Width: 36cm.
Depth: 11cm

KEY STAGE KS3-6

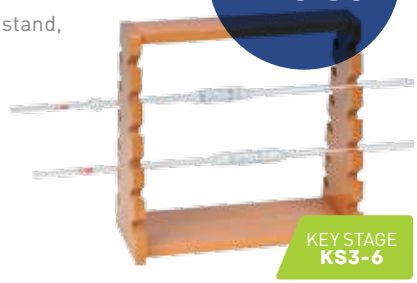
CODE	PRICE
C588	£20.85
C590	£42.80

PIPETTE STAND, 12 HORIZONTAL

PRICE FROM **£20.85**

Polished wooden stand, two sided.

Height: 230mm
Width: 260mm
Depth: 120mm



KEY STAGE **KS3-6**

CODE	PRICE
C589	£20.85

PIPETTE STAND, VERTICAL (28) POLYPROPYLENE

Stable, high-density polypropylene stand.

PRICE FROM **£38.41**

KEY STAGE **KS3-6**

CODE	PRICE
CH0594	£38.41

PIPETTE, DROPPING GLASS (PK20)

125mm glass body pipette with rubber teat. Useful for dispensing liquid from test tubes.

KEY STAGE **KS3-6**

CODE	PRICE
EDU163	£8.62

DROP COUNTER LOGGER SENSOR

- Use along with pH sensor for titration curves.

This sensor enables to count automatically drops and bubbles. It is perfect for titrations. Combined with the pH sensor it gives a very nice titration curve.

PRICE FROM **£97.68**

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Range & Operation modes:	0 to 6,500 drops 0 to 6,500 X drop vol. in ml
ADC Resolution:	12 bit
Resolution:	1 Drop
Max Sample Rate (S/sec):	100

CODE	PRICE
900-233	£97.68

pH LOGGER SENSOR

This sensor can be used to measure the static pH values of common liquids (water, milk, soft drinks, vinegar, etc.) as well as the changing values in titrations or experiments such as those looking at the effect of antacids. The pH sensor is designed for long life in a variety of general purpose situations.

PRICE FROM **£82.31**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Experiment Duration:	1 second to 31 days
Range & Operation modes:	0 to 14
ADC Resolution:	12 bit
Resolution:	0.01 pH
Max Sample Rate (S/sec):	100

CODE	PRICE
900-206	£82.31

pH METER, POCKET CHECKER 1

A robust, inexpensive, hand held pocket LCD pH meter with 0.01 resolution and standard combination electrode with screw fit.

PRICE FROM **£38.41**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Range:	0 to 14 pH
Resolution:	0.01 pH
Accuracy:	± 0.2 pH
Calibration:	Manual two point
Operating temp:	0 to 50°c

CODE	PRICE
EDU1032	£38.41

pH METER HAND HELD

A rugged, portable pH meter with simple-to-use rotary Dia.l and manual two-point calibration. Temperature compensation can be set manually to improve pH accuracy. Supplied with a double junction pH electrode with 1m cable.

PRICE FROM **£185.48**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Range:	0.0 -14.0 pH
Battery life:	100 hours approx
Dimensions:	185 x 82 x 53mm
Weight:	265g

CODE	PRICE
614-010	£185.48

pH METER HAND HELD

A lightweight, splash proof, pocket size tester. Ideal for pH spot reading precise to 0.1 pH with large easy to read LCD display.

PRICE FROM **£49.39**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Range:	0.0 -14.0 pH
Resolution:	0.01pH
Environment:	0 to 50°C
Accuracy:	± 0.1 pH

CODE	PRICE
CH0892	£49.39

COMPACT pH/C METER AND MAGNETIC STIRRER

pH meter designed for use where space is at a premium. Featuring the main requirements of a laboratory pH meter: auto temperature compensation; auto calibration; an accuracy of ±0.02 pH; can be run on mains or battery power. Because of its small footprint, built-in beaker and electrode stand the meter can be used practically anywhere.

A large dual-level LCD display reads both pH and temperature simultaneously. The 500rpm magnetic stirrer maintains even temperature and pH throughout the measurement medium. Supplied with combination pH/C probe, plastic beaker, electrode holder, stirrer bars, calibration solutions, mains power cable and battery.

PRICE FROM **£285.35**

KEY STAGE **KS3-6**

CODE	PRICE
614-012	£285.35

PAPER,UNIVERSAL, pH1-11.(PLASTIC)

Plastic Case of 10 books each with 20 leaves.

PRICE FROM **£3.29**

KEY STAGE **KS3-6**

CODE		PRICE
C627	Paper,Universal, pH1-11 (10 Books)	£3.29

PAPER LITMUS/COBALT CHLORIDE PAPER

Plastic Case of 10 books each with 20 leaves.

PRICE FROM **£1.92**

KEY STAGE **KS3-6**

CODE		PRICE
C622B	Blue (10 Books)	£1.92
C622C	Neutral (10 Books)	£2.74
C622A	Red (10 Books)	£2.52
EDU893	Universal, pH1-14 (10 Books)	£3.29
CH0625G	Cobalt Chloride (100 sheets)	£3.29

pH INDICATOR DISPENSERS

Indicator paper supplied in plastic dispenser containing 5 metres of 8mm wide test strip. A colour chart is provided on the side of the dispenser.

PRICE FROM **£4.34**

KEY STAGE **KS3-6**

CODE		PRICE
CH0627A	pH 1 -14	£5.20
CH0627B	pH1-11	£4.34

RUBBER TUBING

Soft quality, resistant to acid and alkalis. 2mm wall thickness. Comes in a 10m roll.

PRICE FROM **£3.29**

KEY STAGE **KS3-6**

CODE		PRICE
C758-4	4mm Bore 1.0mm Wall	£3.29
C758-5	5mm Bore 1.5mm Wall	£8.45
C758-6	6.5mm Bore 1.5mm Wall	£10.70
C758-7	7mm Bore 1.5mm Wall	£12.68
C758-8	8mm Bore 2.0mm Wall	£12.62
CH0762D	8mm Bore 4.5mmWall	£44.45
C758-10	10mm Bore 2.0mm Wall	£20.58
C758-12	12mm Bore 2.5mm Wall	£23.38

CLIP, MOHR (PK10)

Good quality, nickel-plated brass clips.

KEY STAGE **KS3-6**

CODE	PRICE
CH0290B	£17.51

HOFFMAN CLIPS

Hoffman Clips Nickel-plated brass clip with projecting plate to prevent damage to tubing by end of screw. With hinged bottom bar for direct fitting and removal without access to ends of tube.

KEY STAGE **KS3-6**

CODE	PRICE
CH0298B	£21.90

ENDURAFLEX TUBING, SQUARE, 8MM BORE 10M ROLL

The new ISG® square tubing is an affordable and resilient product designed to replace the natural rubber tubing.

GUARANTEED TO LAST 10X LONGER THAN STANDARD TUBING!

- **10X** — LASTS 10 TIMES LONGER
- FLEXIBLE NON-KINK
- **LPG GAS** — LPG & NATURAL GAS APPROVED
- **£** — COST EFFECTIVE SOLUTION

PRICE FROM **£21.00**

KEY STAGE **KS2-6**

TECHNICAL SPECIFICATIONS	
Indentation Hardness:	60+/-5 Shore A
Tensile Strength:	7.5 Mpa
Elongation at Break:	300%
Specific Gravity:	1.16±0.05 g/cm3
Tear Strength:	17kN/m
Linear Shrinkage Rate:	3.2~3.6 % @ 200°C
Rebound Resilience	60%
Temperature Range	- 50-200°C
Material	Polymer Blend

CODE	PRICE
153-512	£21.00

TUBING, TRANSLUCENT, SILICONE RUBBER

Translucent Silicone Rubber Tubing Natural colour. Price is per metre length.

KEY STAGE KS3-6

CODE	PRICE
776-037	£5.96

TUBE DELIVERY

Delivery Tubes Set of 6 glass delivery tubes, outside Dia.meter 6mm.

KEY STAGE KS3-6

CODE	PRICE
C752	£7.68

GLASS TUBING BOROSILICATE

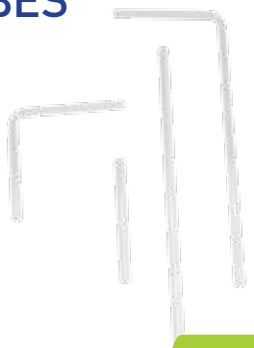
Borosilicate Glass Tubing 0.5m lengths.

KEY STAGE KS3-6

CODE		PRICE
C745C	1ml	£20.85
C745D	7mm bore (Pk 30)	£16.46
C745E	8mm bore (Pk 30)	£19.21

DELIVERY TUBES

DELIVERY TUBES SET OF 4 GLASS DELIVERY TUBES, COMPRISING:
1 x Short, straight 70mm length. 1 x Long, straight 170mm length 1 x 90° bend with arms of 60mm and 160mm length 1 x 90° bend with both arms 60mm long.



KEY STAGE KS3-6

CODE	PRICE
C750	£5.49

GLASS TUBING CUTTER

With Dia.mond scribing point on spring arm and aluminium alloy body with 'V' groove. Suitable for use with soda and borosilicate glass tubing.

KEY STAGE KS3-6

CODE	PRICE
707-001	£16.46

GLASS CUTTING DIA. MOND

For cutting of sheets of glass up to 3 mm thick. Mounted in brass with wooden handle. Overall length 17.5 cm.

KEY STAGE KS3-6

CODE	PRICE
724-002	£5.43

AMBIENT +5-99C | STABILITY 0.1C | UNIFORMITY 0.2C

WATERBATH, DIGITAL, 2 LITRE - ISG®

The premium ISG® digital unstirred waterbath is for laboratories that need high accuracy, excellent durability and great design. The waterbaths come with a gabled lid as standard, a large backlit LCD display and are available in a range of sizes to cover all needs. An integrated countdown timer and three user-configured pre-sets saves time and increases consistency in the laboratory.

NEW | KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Temperature Range:	Ambient +5 to 99C
Temperature Stability:	0.1C
Temperature Uniformity:	0.2C
Working Access:	9.9 x 10.9 x 15.2cm (L x W x D)
Overall Dimensions:	22.9 x 30.5 x 26.7cm (L x W x D)
Electrical Requirements:	240/50/.5 (V/Hz/A)

CODE	PRICE
153-204	£356.69

AMBIENT +5-99C | STABILITY 0.1C | UNIFORMITY 0.2C

WATERBATH, DIGITAL, 5 LITRE - ISG®

The premium ISG® digital unstirred waterbath is for laboratories that need high accuracy, excellent durability and great design. The waterbaths come with a gabled lid as standard, a large backlit LCD display and are available in a range of sizes to cover all needs. An integrated countdown timer and three user-configured pre-sets saves time and increases consistency in the laboratory.

NEW | KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Temperature Range:	Ambient +5 to 99C
Temperature Stability:	0.1C
Temperature Uniformity:	0.2C
Working Access:	12.7 x 27.4 x 15.2cm (L x W x D)
Overall Dimensions:	36.8 x 30.5 x 26.7cm (L x W x D)
Electrical Requirements:	240/50/1.6 (V/Hz/A)

CODE	PRICE
153-206	£480.71

WATERBATH, DIGITAL, 10 LITRE - ISG®

The premium ISG® digital unstirred waterbath is for laboratories that need high accuracy, excellent durability and great design. The waterbaths come with a gabled lid as standard, a large backlit LCD display and are available in a range of sizes to cover all needs. An integrated countdown timer and three user-configured pre-sets saves time and increases consistency in the laboratory.

NEW KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Temperature Range:	Ambient +5 to 99C
Temperature Stability:	0.1C
Temperature Uniformity:	0.2C
Working Access:	26.9 x 29.5 x 15.2 cm (L x W x D)
Overall Dimensions:	39.3 x 43.2 x 30.5cm (L x W x D)
Electrical Requirements:	240/50/4.5 (V/Hz/A)

CODE	PRICE
153-207	£536.68

AMBIENT +5-99C | STABILITY 0.1C | UNIFORMITY 0.2C

WATERBATH, DIGITAL, 20 LITRE - ISG®

The premium ISG® digital unstirred waterbath is for laboratories that need high accuracy, excellent durability and great design. The waterbaths come with a gabled lid as standard, a large backlit LCD display and are available in a range of sizes to cover all needs. An integrated countdown timer and three user-configured pre-sets saves time and increases consistency in the laboratory.

NEW KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Temperature Range:	Ambient +5 to 99C
Temperature Stability:	0.1C
Temperature Uniformity:	0.2C
Working Access:	24.1 x 43.2 x 15.2cm (L x W x D)
Overall Dimensions:	57.2 x 44.5 x 30.5cm (L x W x D)
Electrical Requirements:	240/50/6 (V/Hz/A)

CODE	PRICE
153-208	£ 740.81

AMBIENT +5-99C | STABILITY 0.1C | UNIFORMITY 0.2C

KEY STAGE KS3-6

WATERBATH, DIGITAL WITH LID

The new Edulab digital waterbaths are a reliable, well designed bath for use in University, research by school and educational laboratories. With a casing made from ABS and stainless steel tanks these baths provide a cost effective option for any laboratory.

Temperature control and regulation is provided by a PID action with a PT100 probe. All Edulab waterbaths are fitted with a manual safety thermostat with a red alarm light for extra safety when in use.

CODE	153-201	153-202	153-203
Bath Capacity:	5ltr	12ltr	18.5ltr
Temperature Range:	RT - 120°	RT - 120°	RT - 120°
Bath Accuracy:	0.5°C	0.5°C	0.5°C
Drain Outlet:	No	No	No
Heating Power:	700W	1400W	2100W
Internal Dimensions (mm):	100 x 250 x 150	255 x 290 x 150	255 x 290 x 150
External Dimensions (mm):	280 x 360 x 240	445 x 385 x 240	445 x 385 x 240
Weight:	5.2KG	6.5KG	9.0KG

CODE		PRICE
153-201	Waterbath, Digital 5ltr With Lid	£328.15
153-202	Waterbath, Digital 12ltr With Lid	£378.64
153-203	Waterbath, Digital 18ltr With Lid	£411.56

WATER BATHS

Clifton Analogue Thermostatic Baths these Clifton analogue water baths are designed for general use and are economically priced without compromising quality.

For temperatures above 60°C a lid is recommended. This range of baths will operate at 100°C but are not designed for continuous boiling and NE1B range is recommended.

KEY STAGE KS3-6

CODE		PRICE
603-042	2.5 Litre Unstirred Thermostatic Bath complete with Stainless Steel Perforated False Base	£328.15
603-043	4 Litre Unstirred Thermostatic Bath complete with Stainless Steel Perforated False Base	£328.15
603-044	8 Litre Unstirred Thermostatic Bath complete with Stainless Steel Perforated False Base	£367.66
603-045	14 Litre Unstirred Thermostatic Bath complete with Stainless Steel Perforated False Base	£384.13

WATERBATH ACCESSORIES, STAINLESS STEEL TEST TUBE

MAXIMUM NUMBER OF RACKS PER BATHS:
4 litre: 1 rack, **8 litre:** 2 racks, **14 litre:** 4 racks, **22/28 litre:** 6 racks.

PRICE FROM **£42.80**

NB. code 603-061 is also suitable for 1.5ml microtubes.

KEY STAGE **KS3-6**

CODE		PRICE
603-062	12 Holes x 32mm Dia.	£42.80
603-061	18 Holes x 19mm Dia.	£49.39
603-059	16 Holes x 26mm Dia.	£46.10
603-058	26 Holes x 17mm Dia.	£50.49

WATER BATH ADJUSTABLE, CIRCULAR STAINLESS STEEL

Suitable for use with hotplate or gas burner. The steam produced from bath provides an effective source of constant heat for samples that otherwise could be thermally damaged by a naked flame.

PRICE FROM **£46.10**

KEY STAGE **KS3-6**

CODE		PRICE
603-051	125 x 90mm	£46.10
603-052	152 x 102mm	£53.78
603-053	203 x 127mm	£71.34
603-056	Flat One Piece Stainless Steel Lid	£53.78

ASPIRATOR 5L PE WITH TAP

High density polythene. Graduated in litres. Integrally moulded spout, threaded to accept replaceable polypropylene tap. Complete with handle and leakproof polythene cap.

PRICE FROM **£13.17**

KEY STAGE **KS3-6**

CODE	PRICE
700-005	£13.17

WASH BOTTLE

Resilient, translucent polyethylene narrow-mouth wash bottles. Material thickness designed for easy handling when squeezing. The cap is fitted with a flexible polyethylene delivery tube with nozzle, which can be aimed wherever required, and the nozzle has a removable cap.

PRICE FROM **£4.38**

KEY STAGE **KS3-6**

CODE		PRICE
CH0180A	Wash Bottle - 125ml (Pk5)	£5.49
CH0180B	Wash Bottle - 250ml (Pk5)	£4.38
CH0180C	Wash Bottle- 500ml (Pk5)	£7.13

NANOHEAT HOTPLATE WITH WATERBATH

The NanoHeat® Waterbath's compact design enables it to be easily moved and transported. The electronic control ensures reliable bath temperature with +/- 1ºC ariance. The temperature adjusts at 1ºC intervals. It is easy to set up and carry out multiple experiments simultaneously at different temperatures with several water baths.

Its flexible usage allows it to be used separately from the bath container for heating purposes. Operation is from an LED display touch screen allowing easy temperature selection.

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Electrical Rating:	220-240V AC, 50/60Hz
Output Rating:	1200W
Dimension [W x D x H]:	200x230x156mm
Weight [kg]:	2.2kg

CODE	PRICE
603-065	£493.88

WATERBATH, KIT FOR NANOHEAT HOTPLATE

Spare water bath kit for Nanoheat Hotplate as featured in product image 603-065. Hotplate not supplied with this kit. Image representative of range.

KEY STAGE **KS3-6**

CODE	PRICE
607-023	£108.65

WATER STILL VERTICAL 4L

A traditional vertical water still, producing 4 litres per hour with a 3kW metal heating element. Thermostatic cut off.

A double spiral condenser mounted on a spherical boiling chamber with a flexible joint. Water flow is controlled by a constant level device.

KEY STAGE **KS3-6**

CODE	PRICE
612-017	£982.26

WATER STILL 4L SILICA HEATER

An economy still, producing four litres of pyrogen-free distillate per hour with two 1.5kW silica heating elements. Thermostatic cut off and pressure switch.

KEY STAGE **KS3-6**

CODE	PRICE
612-016	£1092.01

WATER STILL 4 LITRE

A budget still designed to meet educational requirements at a low cost. This still produces 4 litres per hour with a 3kW metal heating element. Thermostatic cut off.

KEY STAGE **KS3-6**

CODE	PRICE
612-015	£850.56

DEIONISER, STANDARD

The ISG® Deionisers have been design to be an effective low cost method of producing 1-10uS/cm purified water at low volumes. These simple units incorporate an easy to replace cartridge, containing specifically designed resin which changes colour through absorption of contaminating ions. This allows for and easy identification of when each cartridge needs to be changed.

When the colour changes from blue to brown it is then time to change the cartridge. Units are wall mounted and work directly off the mains water supply. Two versions of the deioniser are available offering a flow rates of 30 – 60 litres per hour. This is the 30 litre per hour version.

KEY STAGE KS3-6

PLEASE NOTE: COIL & DISPENSING GUN ARE SOLD SEPARATELY

TECHNICAL SPECIFICATIONS	
Max Feed Pressure (Bar):	0.5 – 5
Max Feed Flow Rate (l/hr):	30
Output Capacity, Litres:	50mg/l tds (soft) – 640 200mg/l tds (medium-hard) – 160 300mg/l tds (hard) – 106 pH – Neutral Conductivity – 1-10uS/cm
Dimensions (mm):	80x100x580
Weight [kg]:	2.8
Installation Requirements:	Feed Water - Portable Maximum TDS - 1000ppm Feed Water Temperature - 1 - 35°C

CODE		PRICE
153-602	Deioniser, Standard - 160ltr	£301.81
153-606	Deioniser Cartridge, Standard	£86.70

DEIONISER, LARGE

The ISG® Deionisers have been designed to be an effective low cost method of producing 1-10uS/cm purified water at low volumes.

These simple units incorporate an easy to replace cartridge, containing specifically designed resin which changes colour through absorption of contaminating ions. This allows for and easy identification of when each cartridge needs to be changed. When the colour changes from blue to brown it is then time to change the cartridge. Units are wall mounted and work directly off the mains water supply. Two versions of the deioniser are available offering a flow rates of 30 – 60 litres per hour. Also there are two versions which include a coil and gun for dispensing the deionised water. This version is the 60litre which does not include the coil and dispensing gun.

KEY STAGE KS3-6

PLEASE NOTE: COIL & DISPENSING GUN ARE SOLD SEPARATELY

TECHNICAL SPECIFICATIONS	
Max Feed Pressure (Bar):	0.5 – 5
Max Feed Flow Rate (l/hr):	60
Output Capacity, Litres:	50mg/l tds (soft) – 1280 200mg/l tds (medium-hard) – 320 300mg/l tds (hard) – 212 pH – Neutral Conductivity – 1-10uS/cm
Dimensions (mm):	80x100x780
Weight [kg]:	4.4
Installation Requirements:	Feed Water - Portable Maximum TDS - 1000ppm Feed Water Temperature - 1 - 35°C

CODE		PRICE
153-604	Deioniser, Large - 320 ltr	£400.59
153-607	Deioniser Cartridge, Large	£130.60

BLUE GUN AND COIL FOR DEIONISERS

Coil and dispensing gun for any of the ISG range of deionisers. Increases the usability of the deionising unit and decreses the change of waste.

CODE	PRICE
153-608	£115.24

PRICE FROM **£105.00**

KEY STAGE KS3-6

ACID SPILL CLEAN UP KIT

KIT CONTAINS:
Instruction sheet/MSDS; 2 vinyl exam gloves; 4 empty 225 x 400mm polybags; 4 twist ties; 4 blank shipping tags; 1 dustpan and brush; 1 bag vermiculite absorbant; 1 bag neutralising mixture (Calcium Hydroxide, Sodium Carbonate, Calcium Carbonate & Litmus Powder).

CODE	PRICE
613-003	£68.06

CAUSTIC SPILL CLEAN UP KIT

KIT CONTAINS:
Instruction sheet/MSDS; 2 vinyl exam gloves; 4 empty 225 x 400mm polybags; 4 twist ties, 4 blank shipping tags; 1 dustpan and brush; 1 bag vermiculite absorbant; 1 bag neutralising mixture (Citric Acid, Anhydrous & Litmus Powder).

CODE	PRICE
613-002	£67.76

APRON (PK100)

Pack of 100 soft polyethylene disposable aprons.

CODE	PRICE
712-002	£7.63

APRON, PVC

Heavy duty PVC apron with detachable straps.

CODE	PRICE
613-007	£8.56

EMERGENCY FIRST AID KIT

10 PERSON FIRST AID KIT INCLUDES:
20 assorted plasters; 2 sterile eyepads; 4 triangular bandages; 6 medium dressings; 2 large dressings; 1 pair of disposable gloves; 6 safety pins; 6 antiseptic wipes; a wall bracket; and some first aid guidance notes.

KEY STAGE KS3-6

CODE	PRICE
FA25	£9.77

EYEWASH PACK (PK24)

Pack of 24 sterile, single-use eyewashes.

KEY STAGE KS3-6

CODE	PRICE
613-005	£10.98

EYEWASH STATION DOUBLE

The double eyewash station includes 2 x 500ml eyewash solutions with eyepads and comes in a wall mountable carry case.

KEY STAGE KS3-6

CODE	PRICE
613-006	£16.19

EYEWASH STERILE 500ML

500ml sterile eyewash solution, replenishment for Eyewash Station (code: 613-006).

KEY STAGE KS3-6

CODE	PRICE
613-023	£6.31

FIRE BLANKET

Wall-mountable, 1 metre square.

KEY STAGE KS3-6

CODE	PRICE
FSEPR	£18.38

DUCTLESS FUME HOOD, POLYPROPYLENE 900MM

The ISG® ductless fumehood is a high quality, highly chemical resistant unit constructed fully from polypropylene. This unit is simple to use, requires no specialist fitting and is lightweight for easy manoeuvrability.

The fume hood can either be used as a benchtop unit as seen in the image above or turned into a fully mobile unit by coupling it with the fume cupboard stand which gives increased versatility.

The unit has two power sockets, an integral LED light and fully adjustable fan. Filters should be changed every 600 hours or before if you feel it is necessary. Complies with all the relevant European standards

KEY STAGE **KS3-7**

TECHNICAL SPECIFICATIONS	
Air Velocity:	0.5m/s
Noise Level:	<52dB
Dimensions W x H x D (mm):	900mm, 700mm, 1050mm
Workspace W x H x D (mm):	840x640x660
Power Supply:	220V
Production Standard:	ISO-9001:2008
Test Standard:	EN-14175, ASHRAE 110-1995

CODE	PRICE
153-900	£3,291.40

STAND FOR 900MM FUME HOOD

Stand designed to be used with 153-900. Powder coated aluminium and four breaked castors.

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	900 x 700 x 850

CODE	PRICE
153-901	£543.26

FUME CUPBOARD - AIRONE 1000R FILTRATION

Fixed, filtered fume cupboard for classrooms or small prep-rooms.

KEY STAGE **KS3-6**

CODE	PRICE
613-017	£5,158.25

FUME CUPBOARD - AIRONE 1000RS MOBILE FILTRATION (EXTRA CARRIAGE APPLIES)

School spec, mobile filtration fume cupboard.

PRICE FROM **£5,103.38**

KEY STAGE **KS3-6**

CODE	PRICE
613-021	£5,103.38

FUME CUPBOARD - AIRONE 1200R FILTRATION (EXTRA CARRIAGE APPLIES)

Fixed, filtered prep-room fume cupboard.

PRICE FROM **£6,036.25**

KEY STAGE **KS3-6**

CODE	PRICE
613-018	£6,036.25

FUME CUPBOARD - DOCKING STATION FOR AIRONE 1000RS/DS

Docking Station for Airone 1000RS/DS.

PRICE FROM **£362.18**

KEY STAGE **KS3-6**

CODE	PRICE
613-015	£362.18

GLOVE, SAFETY, SILICONE

Silicone rubber with inserts for fingers and thumb.
Fits any size. Protects between -30°C and 260°C.

KEY STAGE **KS3-6**

CODE	PRICE
712-003	£41.71

HAZARD WARNING TAPE

KEY STAGE KS3-6

CODE		PRICE
613-032	Biohazard	£5.22
613-028	Corrosive	£5.22
613-034	Explosive	£5.22
613-029	Flammable	£5.22
613-033	Irritant	£5.22
613-031	Oxidising Agent	£5.22
613-035	Poison	£5.22
613-027	Toxic	£5.22

GRATNELL TRAY JUMBO

KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	427 x 312 x 300

CODE		PRICE
F/3B	Blue	£6.53
F/3G	Green	£6.53
F/3R	Red	£6.59
F/3Y	Yellow	£6.53

GRATNELL TRAY DEEP

KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	427 x 312 x 150

CODE		PRICE
F/2B	Blue	£4.94
F/2G	Green	£4.38
F/2P	Pink	£4.94
F/2PU	Purple	£4.94
F/2R	Red	£4.94
F/2Y	Yellow	£4.94

GRATNELL TRAY SHALLOW

KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	427 x 312 x 75

CODE		PRICE
F/1B	Blue	£3.24
F/1G	Green	£3.24
F/1R	Red	£3.24
F/1Y	Yellow	£3.24

HAZARDOUS STORAGE CHEST

Designed to meet the requirements of COSHH regulations for safe storage of flammable liquids and chemicals; this sloping-topped chest is bright yellow with warning signs and is constructed from 1.6mm steel wih a liquid-tight base and a hasp and staple for padlocking. Size (H x W x D): 610 x 915 x 455mm.

CODE	PRICE
613-014	£323.76

HAZARDOUS STORAGE CABINET HORIZONTAL TWO DOOR

Designed to meet the requirements of COSHH regulations for safe storage of flammable liquids and chemicals. Bright yellow with warning signs. 0.9mm thick steel. Adjustable , perforated galvanised shelf. Removable galvanised sump. Cabinet has one shelf. Size (H x W x D): 710 x 915 x 457mm.

CODE	PRICE
613-011	£285.35

HAZARDOUS STORAGE CABINET LARGE HORIZONTAL TWO DOOR

Designed to meet the requirements of COSHH regulations for safe storage of flammable liquids and chemicals. Bright yellow with warning signs. 0.9mm thick steel.

Adjustable , perforated galvanised shelf. Removable galvanised sump. Cabinet has one shelf.

Size (H x W x D): 1000 x 915 x 457mm.

KEY STAGE
KS3-6

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	1000 x 915 x 457

CODE	PRICE
613-012	£328.15

HAZARDOUS STORAGE CABINET STAND

Stand for horizontal hazardous storage cabinet or chest. Suitable for 613-011, 613-012 and 613-014. Size (H x W x D): 455 x 915 x 455mm.

PRICE FROM **£86.70**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	455 x 915 x 455

CODE	PRICE
613-020	£86.70

HAZARDOUS STORAGE CABINET VERTICAL TWO DOOR

Designed to meet the requirements of COSHH regulations for safe storage of flammable liquids and chemicals. Bright yellow with warning signs. 0.9mm thick steel. Adjustable , perforated galvanised shelf. Removable galvanised sump. Cabinet has three shelves. Size (H x W x D): 1830 x 915 x 457mm.

PRICE FROM **£437.90**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	1830 x 915 x 457

CODE	PRICE
613-013	£437.90

HAZARDOUS STORAGE CABINET VERTICAL ONE DOOR

Designed to meet the requirements of COSHH regulations for safe storage of flammable liquids and chemicals. Bright yellow with warning signs. 0.9mm thick steel. Adjustable , perforated galvanised shelf. Removable galvanised sump. Cabinet has one shelf. Size (H x W x D): 910 x 457 x 457mm.

PRICE FROM **£224.99**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	910 x 457 x 457

CODE	PRICE
613-010	£224.99

LABORATORY TROLLEY - 2 SHELF, 250KG

PRICE FROM **£205.23**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	850 x 480 x 950mm
Frame:	53mm Aluminum
Tray (mm):	L680 x W450mm
Height Between Trays (mm):	550mm
Color:	Black

CODE	PRICE
612-062	£205.23

LABORATORY TROLLEY - 2 SHELF, LARGE, 250KG

PRICE FROM **£257.91**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	1100 x 520 x 950mm
Frame:	553mm Aluminium
Tray (mm):	L915 x W520mm
Height Between Trays (mm):	-
Color:	Black

CODE	PRICE
612-064	£257.91

LABORATORY TROLLEY - 3 SHELF, LARGE, 250KG

PRICE FROM **£295.23**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	1100 x 520 x 1020mm
Frame:	185mm Aluminum
Tray (mm):	L915 x W520mm
Height Between Trays (mm):	-
Color:	Black

CODE	PRICE
612-065	£295.23

LABORATORY TROLLEY - 3 SHELF, 250KG

PRICE FROM **£218.40**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	850 x 480 x 1020mm
Frame:	185mm Aluminum
Tray (mm):	L680 x W450mm
Height Between Trays (mm):	300mm
Color:	Black

CODE	PRICE
612-061	£218.40

LABORATORY TROLLEY - 4 SHELF, 250KG

PRICE FROM **£238.16**

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Dimensions LxWxD (mm):	L850 x W480 x H1080mm
Frame:	185mm Aluminum
Tray (mm):	L680 x W450mm
Height Between Trays (mm):	170mm
Color:	Black

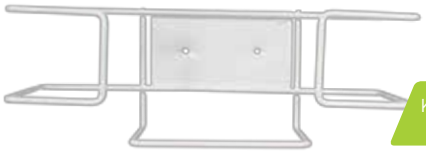
CODE	PRICE
612-063	£238.16

TRIPLE WIRE DISPENSER WALL BRACKETS

KEY STAGE KS3-6

CODE	PRICE
BNG03WB	£16.00

SINGLE WIRE DISPENSER BRACKETS



KEY STAGE KS3-6

CODE	PRICE
BNG01WB	£17.56

LAB COATS PLAIN

White polyester/cotton mix, with one breast pocket and two side pockets.

PRICE FROM £12.90

KEY STAGE KS3-6

CODE		PRICE
712-025	38 Inch	£12.90
712-026	40 Inch	£12.90
712-027	42 Inch	£12.90
712-028	44 Inch	£12.90

NITRILE ULTRA SOFT GREEN POWDER FREE

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS3-6

PRICE FROM £5.83

TECHNICAL SPECIFICATIONS	
Material:	Nitrile
Type:	Non Sterile
Design:	Ambidextrous
Feature:	Micro Textured Fingers
Cuff:	Beaded
Usage:	Single Use Only
Colour:	Mint Green

CODE		PRICE
BNG2832	S	£5.83
BNG2833	M	£5.83
BNG2834	L	£5.83
BNG2835	XL	£6.37

AQL 1.5 · EN374 · EN374 · LATEX FREE

PRICE FROM **£5.88**

AQL 1.5 | EN374 | EN374 | LATEX FREE

NITRILE BLUE POWDER FREE MICRO TEXTURED

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Material:	Nitrile
Type:	Non Sterile
Design:	Ambidextrous
Feature:	Fully Micro Textured
Cuff:	Beaded
Usage:	Single Use Only
Colour:	Sky Blue

CODE		PRICE
BNG6832	S	£5.88
BNG6833	M	£5.88
BNG6834	L	£5.88
BNG6835	XL	£6.42

PRICE FROM **£8.88**

AQL 1.5 | EN374 | EN374 | LATEX FREE

NITRILE PURPLE POWDER FREE MICRO TEXTURED

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Material:	Nitrile
Type:	Non Sterile
Design:	Ambidextrous
Feature:	Fully Micro Textured
Cuff:	Beaded
Usage:	Single Use Only
Colour:	Purple

CODE		PRICE
BNG6852	S	£8.88
BNG6853	M	£8.88
BNG6854	L	£8.88
BNG6855	XL	£8.88

LATEX LIGHTLY POWDERED SMOOTH

SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE KS3-6

PRICE FROM **£4.68**

TECHNICAL SPECIFICATIONS	
Material:	Natural Rubber Latex
Type:	Non Sterile
Design:	Ambidextrous
Feature:	-
Cuff:	Beaded
Usage:	Single Use Only
Colour:	Beige

CODE		PRICE
BNG2522	S	£4.68
BNG2523	M	£4.68
BNG2524	L	£4.68
BNG2525	XL	£5.22

AQL 1.5 · EN374 · EN374 · LATEX FREE

GLOVES, LATEX POWDER FREE MICRO TEXTURED

KEY STAGE KS3-6

PRICE FROM **£5.83**

TECHNICAL SPECIFICATIONS	
Material:	Natural Rubber Latex
Type:	Non Sterile
Design:	Ambidextrous
Feature:	Micro Textured
Cuff:	Beaded
Usage:	Single Use Only
Colour:	Beige

CODE		PRICE
BNG2832	S	£5.83
BNG2833	M	£5.83
BNG2834	L	£5.83
BNG2835	XL	£5.83

AQL 1.5 · EN374 · EN374 · LATEX FREE

SAFETY GOGGLES

Polycarbonate safety goggles with adjustable strap.

PRICE FROM **£1.70**

KEY STAGE **KS3-6**

CODE	PRICE
EDU1005	£1.70

SAFETY SPECTACLE (LIGHTWEIGHT)

Comfortable and lightweight polycarbonate safety spectacles.

PRICE FROM **£1.37**

KEY STAGE **KS3-6**

CODE	PRICE
EDU652	£1.37

PREMIUM SAFETY SPECTACLES

PRICE FROM **£3.83**

KEY STAGE **KS3-6**

CODE	PRICE
613-037	£3.83

SAFETY SCREEN

Transparent polycarbonate safety screen comprising central panel and two side panels connected with hinges. Overall height is 610mm. Section widths are 225, 300 and 225mm. 4mm thick.

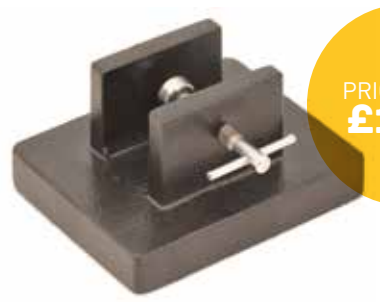
PRICE FROM **£53.78**

KEY STAGE **KS3-6**

CODE	PRICE
EDU994	£53.78

CHANNEL BASE

Slotted base, finished in acid resistant coating with 40mm high jaws and fitted thumb screw. Designed for holding flat objects up to 34mm thick, in the vertical position.



PRICE FROM **£13.17**

KEY STAGE **KS3-6**

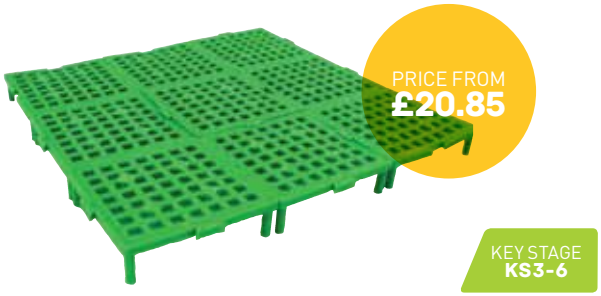
TECHNICAL SPECIFICATIONS	
Width (mm):	95
Length (mm):	75
Height (mm):	60
Weight (kg):	1475

CODE	PRICE
C653	£13.17

SINKSAFE (PK20)

Sinksafe is composed of 50mm square modular units which can be connected together to form a platform to cover the base of any sink. It provides a firm cushion to break the fall of glassware and thus prevent loss of equipment. The mesh design allows the unhindered passage of liquids, and the small contact area of the legs prevents retention by capillarity of chemical solutions. The polypropylene construction is suitably chemical-resistant.

When used in school laboratories not only is there a cost saving on every occasion a breakage is prevented, but there are also the important safety benefits of avoiding broken glass in the sink or mercury spillage from thermometers.



CODE	PRICE
613-004	£20.85

VIRKON POWDER DISINFECTANT 500G

Virkon disinfectant is suitable for surfaces that transmit infectious diseases in many environments. These include general, pathology and clinical research laboratories, food production and healthcare. The ultimate virucidal disinfectant that kills all 22 families in one safe cleaning action. It represents the first new approach to disinfection in forty years. Possesses the widest proven spectrum of any disinfectant available. Unique, synergised oxidising system based on potassium monopersulphate - works by the physical destruction of pathogens.

CODE	PRICE
714-002	£20.85

SOLVENT SPILL CLEAN UP KIT

KIT CONTAINS: Instruction sheet/MSDS; 2 vinyl exam gloves; 2 empty 225 x 400mm polybags; 2 twist ties; 2 blank shipping tags; 1 dust pan and brush; 1100g Dia.tomaceous earth in 225 x 400mm polybag.

CODE	PRICE
613-001	£67.76

VIRKON POWDER DISINFECTANT 50GM

The ultimate virucidal disinfectant that kills all 22 families in one safe cleaning action. It represents the first new approach to disinfection in forty years. Possesses the widest proven spectrum of any disinfectant available. Unique, synergised oxidising system based on potassium monopersulphate - works by the physical destruction of pathogens.

CODE	PRICE
714-001	£3.23

AUTOCLAVE BAG DISPOSABLE

High temperature autoclave bags made from heavy gauge polypropylene. Autoclavable up to 132 degrees centigrade (270 degrees fahrenheit). Labelled with blue biohazard markings. Each bag has a white panel to allows notes to be marked directly onto the bag.

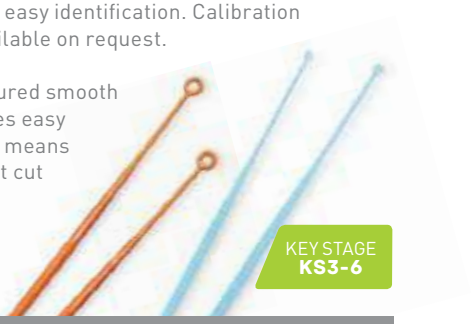
KEY STAGE **KS3-6**

CODE		PRICE
153-547	400x600mm (Pk200) - Labelled	£82.31
153-548	610x810mm (Pk200) - Labelled	£153.65
153-546	310x660mm (Pk200) - Labelled	£46.10

INOCULATION LOOPS STERILE

Sterile inoculating loops ideal for obtaining inoculum without damaging the agar surface. All the ISG® loops are free from any kind of lubricant to eliminate any contamination of meDia. Each size is colour coded for quick and easy identification. Calibration certificates are available on request.

Superbly manufactured smooth loop surface ensures easy streaking. Also this means that the loops do not cut or gouge the agar during streaking.



KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Dimensions:	200mm length
Material:	ABS (Acrylontrile Butadiene Styrene)
Sterility:	EO (Ethylene Oxide)

CODE		PRICE
153-530	10uL ISG (Pk1000)	£32.93
153-531	1uL ISG (Pk1000)	£43.90

VIRKON POWDER DISINFECTANT 500G

Printed ziplock bag for use in laboratories. Packed in outer cartons of 1000.

PRICE FROM **£12.18**

KEY STAGE **KS3-6**

CODE		PRICE
153-526	100x140mm ISG (Pk1000)	£12.18
153-527	125x190mm ISG (Pk1000)	£17.45
153-528	150x225mm ISG (Pk1000)	£22.78
153-529	280x200mm ISG (Pk1000)	£34.86

INOCULATION SPREADER, CELL SPREADER STERILE ISG® (PK500)

'L' shaped cell spreader, ideal for evenly spreading bacterial cultures. These sterile spreaders are designed to allow the entire surface of the petri dish or plate to be reached with ease. Made from high impart ABS eliminating the need for flaming or autoclaving.

PRICE FROM **£58.17**

KEY STAGE **KS3-6**

CODE	PRICE
153-532	£58.17

PETRI DISH POLYSTYRENE (PK20/500)

The ISG® triple vent petri dishes are perfect for work with micro-organisims and meDia. Manufactured in accordence with european directives including 98/79/EC.

KEY STAGE KS3-6

CODE		PRICE
101VR20	90mm Polystyrene (Pk20)	£2.52
153-533	90mm, Triple Vent - ISG® (Pk500)	£43.90

PIPETTE TIP, RELOADING STACK, LOW RETENTION

KEY STAGE KS3-6

CODE		PRICE
153-502	1000uL Low Retention (Pk5)	£18.03
153-500	10uL Low Retention (Pk10)	£28.63
153-501	200uL Low Retention (Pk10)	£28.63

ISG PIPETTE TIPS: DID YOU KNOW?

ISG® pipette tips are produced in a fully automatic, human touch free production facility and are produced from high quality Dia.mond finish mould using medical grade virgin polypropylene with high transparency for superb clarity. The ISG® pipette tips are free from DNase, RNase, Human DNA, Pyrogen &amp PCR inhibitor making them and ideal tip for high sensitivity PCR work.

The profile and dimensions of the tips have been precisely engineered to ensure that the dispensed volume of liquid is predictable and precise for each and every tip produced Each tip has graduation marks to act as a visual aid and to minimize the risk of error during testing. All tips are lubricant and heavy metals free.

PIPETTE TIPS BULK

The ISG® bagged tips are the standard pipette tips packed in bulk where sterility is not important. Cost effective yet still highly accurate design for continuous results. ISG® pipette tips are produced in a fully automatic, human touch free production facility and are produced from high quality Dia. mond finish mould using medical grade virgin polypropylene with high transparency for superb clarity.

The ISG® pipette tips are free from DNase, RNase, Human DNA, Pyrogen & PCR inhibitor making them and ideal tip for high sensitivity PCR work. The profile and dimensions of the tips have been precisely engineered to ensure that the dispensed volume of liquid is predictable and precise for each and every tip produced.

KEY STAGE KS3-6

TECHNICAL SPECIFICATIONS	
Sterility:	N/A
Tip Capacity:	10ul, 100ul, 200ul
Pack Size:	1000 tips

CODE		PRICE
153-503	10uL, Non Sterile (Pk1000)	£8.78
153-504	200uL, Non Sterile (Pk1000)	£8.78
153-505	1000uL, Non Sterile (Pk1000)	£9.44

PIPETTE TIPS, IN RACK 10UL, 96 PER RACK (PK10)

The ISG® universal pipette tips are used in standard pipetting applications where cross contamination of samples is unlikely.

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Sterility:	Gamma IrraDia.ted
Tip Capacity:	10ul, 200ul, 1000ul
Pack Size:	960 tips - 10 x 96 tip racks

CODE		PRICE
153-506	In Rack 10uL, 96 Per Rack (Pk10)	£34.99
153-507	In Rack 200uL, 96 Per Rack (Pk10)	£34.99
153-508	In Rack 1000uL, 96 Per Rack (Pk10)	£24.50

RACKED STERILE FILTER TIPS

The ISG® universal pipette tips are used in standard pipetting applications where cross contamination of samples is unlikely.

PRICE FROM **£41.04**

KEY STAGE **KS3-6**

CODE		PRICE
153-509	1-10uL, Low Retention (Pk10)	£58.32
153-510	200uL, Low Retention (Pk10)	£41.04
153-511	100-1000uL, Low Retention (Pk10)	£58.32

PIPETTE, TRANSFER NON STERILE/STERILE

PRICE FROM **£20.85**

The ISG® transfer pipettes are ideal for transferring and dispensing liquids in all types of laboratories.

Made from a low density non toxic polyethylene these pipettes offer superb transparency, uniform wall thickness and precise graduations ensure accurate and consistent results. Both Sterile and non sterile pipettes are available.

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	153-534	153-535	153-536	153-536
Capacity:	5ml	7ml	5ml	7ml
Length:	160mm	160mm	160mm	160mm
Dropper:	25ml	21ml	25ml	21ml
Stem Dia.meter:	5mm	7.8mm	5mm	7.8mm
Bulb Draw:	3.5ml	3.5ml	3.5ml	3.5ml
Graduated up to:	1ml	3ml	1ml	3ml

CODE		PRICE
153-534	1ml ISG (Pk500)	£20.85
153-535	3ml ISG (Pk500)	£21.95
153-536	1ml ISG (Pk500)	£57.07
153-537	3ml - ISG (Pk500)	£58.17

SYRINGE DISPOSABLE PLASTIC (PK100)

PRICE FROM **£9.88**

KEY STAGE **KS3-6**

CODE		PRICE
EDU884/A	5ml (Pk100)	£9.88
EDU869	10x1.0ml (Pk100)	£15.37
EDU869A	20x1.0ml (Pk100)	£17.56
EDU869D	60x1.0ml (Pk100)	£75.73

SWABS, PLASTIC 15CM STERILE IN PEEL POUCH ISG (PK1000)

PRICE FROM **£115.24**

KEY STAGE **KS3-6**

CODE	PRICE
153-544	£115.24

WEIGHING TRAY

Made from high impact anti-static polystyrene ideal for using for both solids and liquids. Dia.mond shape with smooth, rounded internal corners enables easy removal of powder and granular samples. Smooth edges also allows controlled pouring of samples.

PRICE FROM **£8.12**

KEY STAGE **KS3-6**

CODE		PRICE
153-553	250ml 140x140mm ISG (Pk250)	£16.46
153-554	50ml 44x44mm ISG (Pk250)	£8.12
153-555	70ml 80x80mm ISG (Pk250)	£14.82

SPECIMEN CONTAINER, METAL CAP 100ML, NO LABEL (PK200)

KEY STAGE **KS3-6**

CODE		PRICE
153-582	100ml, No label (Pk200)	£48.00
153-579	60ml, No label (Pk 300)	£44.00

SPECIMEN CONTAINERS, CLEAN ROOM

Clean room specimen containers made from Non-Cytotoxic polypropylene. Ideal for specimen collection, storage and transportation. Ridged lid and bottom of container ensures easy opening even when wearing gloves! These containers are graduated on three sides for all-round easy viewing.

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Container Material:	Non-crytoxic polypropylene
Lid Material:	HDPE (High density polyethlene)
Conformity:	95Kpa transporation guidelines
Sterility:	EO (Ethylene Oxide)
Dimensions (mm):	(153-551 - 95x55) (153-552 - 95x110)

CODE		PRICE
153-551	250ml, PP - ISG (Pk 150)	£93.29
153-552	500ml, PP - ISG (Pk 150)	£104.26

SPECIMEN CONTAINER, STERILE

Sterile specimen containers made from Non-Cytotoxic polypropylene. Ideal for specimen collection, storage and transportation. Ridged lid and bottom of container ensures easy opening even when wearing gloves! These containers are graduated on three sides for all-round easy viewing.

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Container Material:	Non-crytoxic polypropylene
Lid Material:	HDPE (High density polyethlene)
Conformity:	95Kpa transporation guidelines
Sterility:	EO (Ethylene Oxide)
Dimensions (mm):	(153-549 - 50x60) (153-550 - 55x80)

CODE		PRICE
153-549	70ml PP - ISG (Pk 600)	£87.80
153-550	120ml PP - ISG (Pk 300)	£148.16

SPECIMEN CONTAINER, UNIVERSAL

KEY STAGE **KS3-6**

TECHNICAL SPECIFICATIONS	
Container Material:	Polystyrene
Lid Material:	Polypropylene
Conformity:	CE Marked, Leakproof to BS5213 : 1975 (1989)
Sterility:	EO (Ethylene Oxide)
Dimensions (mm):	30 x 92mm

CODE		PRICE
153-545	30ml, PP, No label - ISG (Pk400)	£46.10
153-575	30ml, PS, No label - ISG (Pk400)	£45.00
153-576	30ml, PS, Printed label - ISG (Pk400)	£45.00
153-577	30ml, PS, Plain label - ISG (Pk400)	£45.00

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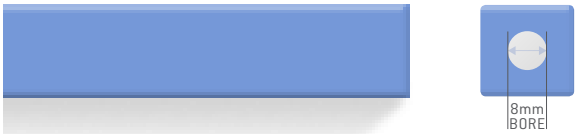

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Interpretation of these terms and conditions and any contract to which they shall apply shall be governed by English Law.

2. All goods are sold by EDU-LAB Ltd in accordance with the standard specifications (if any) applicable to such goods and subject to these Conditions of Sale and no contrary stipulations by the Purchaser shall be valid unless specifically authorised by us in writing.

3. Prices quoted by EDU-LAB Ltd are ex seller's warehouse unless otherwise agreed in writing. The Purchaser is responsible to effect whatever insurance is required at the Purchaser's expense. Invoices are payable on presentation. Prices are subject to change without notice. In particular, EDU-LAB Ltd reserves the right to vary quoted prices:

3.1 to conform to its price for similar goods at the date of despatch.

3.2 to take account of changes in manufacturers' costs or other costs between quotation and delivery.

4. All goods are offered subject to being unsold on receipt of order.

5. EDU-LAB Ltd will accept returns of goods incorrectly supplied provided we are notified within 7 days of receipt of the goods. In the event of EDU-LAB Ltd accepting back goods incorrectly ordered or correctly delivered, EDU-LAB Ltd shall be free to make and the Purchaser will pay a reasonable charge for all expenses incurred as a result of EDU-LAB Ltd so doing. CUSTOMERS ARE EXPRESSLY REQUESTED NOT TO RETURN GOODS WITHOUT OBTAINING BOTH AUTHORISATION TO DO SO AND INSTRUCTIONS ON THE PACKING AND CARRIAGE OF SUCH GOODS. Credit for goods returned can only be given, or exchanges made, if written permission has been obtained beforehand and if the returned goods are in the original unopened containers and in saleable condition.

6. Ownership of the goods remains vested in EDU-LAB Ltd until fully paid for by the Purchaser. The risk in the goods sold shall pass to the Purchaser at the point of delivery to the Purchaser or to the delivery agent. It is the responsibility of the Purchaser to request and pay for the insurance of goods ordered.

7. Claims for goods lost or damaged in transit should immediately be lodged with the carrier concerned. EDU-LAB Ltd will not entertain any claim for non delivery unless written notification is received by EDU-LAB Ltd within seven days of receipt of invoice.

8. Under no circumstances whatsoever shall EDU-LAB Ltd's liability (under contract tort or otherwise) to the Purchaser exceed the invoice price of the particular goods being the subject of the claim.

9. If the Purchaser sells or disposes of the goods, the Purchaser holds proceeds of such sale or disposal upon trust for EDU-LAB Ltd as security for the payment to EDU-LAB Ltd of all amounts due to EDU-LAB Ltd.

The Purchaser will take such steps as may be necessary to keep such proceeds separate from other monies.

10. Without prejudice to any other remedies available to EDU-LAB Ltd, if the Purchaser makes a voluntary arrangement with its creditors or becomes subject to an administration order or (being an individual or firm) becomes bankrupt or (being a company) goes into liquidation (other than for the purposes of amalgamation or reconstruction), EDU-LAB Ltd shall be entitled to cancel any agreement with the Purchaser or suspend any further deliveries and if the goods have been delivered but not paid for the price shall immediately become due and payable not withstanding any previous arrangement.

11. Delivery dates provided by EDU-LAB Ltd are indicative only and made without obligation. The Purchaser accepts there will be no claim against EDU-LAB Ltd for failure to deliver goods by any specified date and that late delivery will not provide grounds for cancellation of any order for goods specially obtained for Purchaser's order.

12. The Purchaser accepts that all goods supplied by EDU-LAB Ltd are to be used strictly in accordance with the manufacturer's printed package insert supplied with the goods or applicable at time of supply. The purchaser agrees that any advice or assistance by EDU-LAB Ltd staff is given in good faith and will not be treated as a recommendation to adopt any procedure contrary to the manufacturer's printed package insert of catalogue or commonly accepted Good Laboratory Practice.

13. The Purchaser accepts that EDU-LAB Ltd does not routinely undertake Quality Control testing on goods not of its own manufacture. The Purchaser accepts that responsibility rests solely on the Purchaser to determine that goods and procedures obtained from EDU-LAB Ltd are suitable for Purchaser's own purposes. The Purchaser agrees to hold EDU-LAB Ltd harmless and indemnify EDU-LAB Ltd against claims by all and any third party arising out of the use of the goods whether these claims are the result of direct or consequential damage.

***Please note that prices and availability of some products may change without warning at any time!**

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