

**2ND**  
EDITION

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# TRADE CATALOGUE



**EDU-LAB**

SCIENTIFIC RESOURCES



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# WELCOME TO THE BRAND NEW EDULAB TRADE CATALOGUE

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This book is a companion to the full Edulab catalogue which is available on request.



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Our curriculum Think Tank constantly monitor changes in curriculum and exam board specification. We align our offering with their changes in order to ensure that all Edulab customers have peace of mind that what we offer reflects what you need to achieve.



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## LAB CUSHION INTERLOCKING SINK-LINER (4 PK)

The multi-purpose interlocking sink-liner that prevents glass breakages through cushioning and prevents blocked sinks by trapping objects that would normally become lodged in waste pipes/traps. Simply combine the required number of pieces to cover base of sink and then cut to size. Whilst this multi-purpose matting was initially designed to line the bottom of sinks to prevent glass breakages, customers have come up with several additional uses for it! some of which are below:

- Draining rack
- Bench Protection Matting
- Heat-proof gripper

Each Mat Measures:  
210mm x 210mm x 10mm (LxWxD)

MATERIAL	BLENDED VULCANISED POLYMER
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:	17 KN/M
Linear Shrinkage Rate:	3.2 - 3.6 %
Rebound Resilience:	60%
Design Reg. Number:	003323492-0001



PRODUCT CODE  
**153-927**

CODE	DESCRIPTION
153-927	Lab Cushions - (4 PK)

## POWER SUPPLY, CONTINUOUSLY VARIABLE 0-30V, 1A REGULATED DC

An economically priced power supply which offers a regulated DC output of 0-30V in 0.1V increments. The wide voltage range and precision (+/- 0.5%) make this an ideal product for electronics or any application (including education) where a high current is not required. A built-in ammeter and voltmeter on the output makes it easy to use and overload protection, plus a time delay fuse, prevents damage and avoids unnecessary tripping. The output sockets fit both shrouded and standard leads and the compact design (14x10x7cm) means it won't take up a lot of precious bench and storage space (you can fit 6 into a Shallow Gratnells® tray and 8 into a Deep tray). Full CE Certification and an 18 month warranty mean you can buy with confidence.



CODE  
**605-066**

NEW KEY STAGE  
KS3-6

CODE	DESCRIPTION
605-066	Power Supply, Variable 0-30V, 1A Regulated DC

CURRENT  
**1.5A**

VOLTAGE  
**0-15V**

WEIGHT  
**5.5KG**

## POWER SUPPLY, STEPPED 0-12V, 1.5A REGULATED DC

This unit is economically priced and offers regulated DC output of 0-12V in 6 steps; 3, 4.5, 6, 7.5, 9 and 12V (+/- 0.5%). Built-in overload protection and a time delay fuse prevents damage and avoids unnecessary tripping.

The output sockets fit both shrouded and standard leads and the compact design (14x10x7cm) means it won't take up a lot of precious bench and storage space (you can fit 6 into a Shallow Gratnells® tray and 8 into a Deep tray). Full CE Certification and an 18 month warranty mean you can buy with confidence.



CODE  
**605-064**

NEW KEY STAGE  
KS3-6

CODE	DESCRIPTION
605-064	Power Supply, Stepped 0-12V, 1.5A Regulated DC

CURRENT  
**1.5A**

VOLTAGE  
**0-12V**

WEIGHT  
**5.5KG**



CODE  
**605-065**

## POWER SUPPLY, CONTINUOUSLY VARIABLE 0-15V, 1.5A REGULATED DC

This unit is ideal for any application where an accurate, regulated DC output is required. It is easy to use with digital voltage and visual current displays and the transparent case has proven very popular in Schools/Universities as students can easily see the components and thus offers some incidental education. A continuously variable voltage of 0-15V in 0.1V increments offers a solution for a diverse range of applications especially with the regulation (see technical specification) and accuracy to  $\pm 0.5\%$  and the output sockets fit both shrouded and standard leads.

Built-in overload protection and a time delay fuse prevents damage and avoids unnecessary tripping. The compact design (11x9x5cm) means it won't take up precious bench or storage space (12 fit into a Shallow GrateNells® tray and 15 into a Deep tray). Full CE Certification and a 3 year warranty mean you can buy with confidence.



**NEW** KEY STAGE  
KS3-6

CURRENT  
**1.5A**

VOLTAGE  
**0-15V**

WEIGHT  
**5.5KG**

CODE	DESCRIPTION
605-065	Power Supply 0-15V, 1.5A Regulated DC

CODE  
**605-013**

**FIVE YEAR  
WARRANTY**



## POWER SUPPLY VARIABLE 0-25V 8.5A

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 continuously variable voltage of 0-15V for both AC and slightly smoothed DC. 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

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.

Slow-blow fuse protection for primary transformer. Additional Thermal Trip protection for transformer. Schottky barrier diodes are employed for rectification with less voltage drop and power waste, thus eliminating the need for noisy, hot, cooling fans that are liable to fail.

**NEW** KEY STAGE  
KS3-6

CODE  
**605-013**

INPUT VOLT  
**230V  $\pm 5\%$**

OUTPUT VOLT  
**0-25V AC**

### TECHNICAL SPECIFICATIONS

Dimensions (mm):	300 x 115 x 155 (W x H x D)
Input Voltage:	230V $\pm 5\%$
Output Voltage:	0-25V AC (Continuous Variable)

CODE	DESCRIPTION
605-013	Power Supply Variable 0-25V 8.5A



**NEW PRODUCTS**







FULL SPEC  
ON PAGE 10

## 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)



CODE  
153-925



SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

**NEW**

KEY STAGE  
KS3-6

### STEPPA-STOPPA LARGE (BOX 10)



CODE  
153-926



SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

**NEW**

KEY STAGE  
KS3-6



FOR MORE INFO  
& FULL SPEC  
SEE PAGE 18

MEASURE TWO  
SAMPLES  
AT ONCE

TWO HEATING  
SPEEDS

MARKET  
LEADING  
PRODUCT

## DIGITAL MELTING POINT APPARATUS - ISG®

#### DOUBLE UP:

Simultaneously measure two samples at once.

#### MAGNIFIED LENS GIVING THE USER ADVANCED TESTING CLARITY:

Magnified lens allows more clarity when sample viewing, giving the user clarity and increasing accuracy on testing.

#### 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.

#### 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.

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.

RESOLUTION  
**0.1°C**

DISPLAY  
**LED**

NET WEIGHT  
**1.8KG**

PRODUCT CODE  
**153-819**



NEW PRODUCTS





NEW PRODUCTS



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	DESCRIPTION
153-925	Steppa-Stoppa Small (Box 10)



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	DESCRIPTION
153-926	Steppa-Stoppa Large (Box 10)

## 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:	3.2±3.6 %
Rebound Resilience	60%
Temperature Range	- 50-200°C
Material	Polymer Blend

CODE	DESCRIPTION
153-512	8mm Bore 10M Roll



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

STRENGTH  
17KN/M

THICKNESS  
6MM

DIAMETER  
8MM



NEW PRODUCTS

## 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
Material	Polymer Blend

CODE	DESCRIPTION
153-513	8mm Bore 5M Roll



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

STRENGTH  
17KN/M

THICKNESS  
6MM

DIAMETER  
8MM







NEW PRODUCTS



STAND NOT INCLUDED

AIR VELOCITY  
**0.5M/S**

NOISE LEVEL  
**<52DB**

UNIFORMITY  
**0.2C**

## 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 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

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	DESCRIPTION
153-900	Fume Cupboard, Ductless, Polypropylene 900mm

## 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

Dimintions LxWxD (mm):	900 x 700 x 850
------------------------	-----------------

CODE	DESCRIPTION
153-901	Stand for 900mm Fume Hood



## 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	DESCRIPTION
153-204	Waterbath, Digital, 2 Litre - ISG®



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	DESCRIPTION
153-206	Waterbath, Digital, 5 Litre - ISG®



AMBIENT  
**+5-99C**

STABILITY  
**0.1C**

UNIFORMITY  
**0.2C**



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## 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	DESCRIPTION
153-207	Waterbath, Digital, 10 Litre - ISG®

AMBIENT  
+5-99C

STABILITY  
0.1C

UNIFORMITY  
0.2C

## 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.

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

NEW

KEY STAGE  
KS3-6

### TECHNICAL SPECIFICATIONS

Capacity:	1200g
Resolution:	0.1g
Pan Diameter:	160mm
Linearity:	plus/minus 0.03
Repeatability:	0.003g

CODE	DESCRIPTION
153-100	Balance, Precision 1200g x 0.01g

CAPACITY  
1200G

RESOLUTION  
0.1G

PAN DIA  
160MM

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INFORMATION



NEW PRODUCTS

## 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	DESCRIPTION
153-208	Waterbath, Digital, 20 Litre - ISG®

AMBIENT  
+5-99C

STABILITY  
0.1C

UNIFORMITY  
0.2C

## BALANCE, HIGH RANGE 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

### TECHNICAL SPECIFICATIONS

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

CODE	DESCRIPTION
153-102	Balance, High Range 16Kg x 0.1g

CAPACITY  
16000G

RESOLUTION  
0.01G

PAN SIZE MM  
175X195

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NEW PRODUCTS



## 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

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

CODE	DESCRIPTION
153-103	Balance, Precision 3100g x 0.01g

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

## 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	DESCRIPTION
153-104	Balance, Precision 420g x 0.001g, Internal Calibration

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

NEW PRODUCTS



## 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	£575.00

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

## 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

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

CODE	DESCRIPTION
153-105	Balance, Analytical 200g x 0.0001g, Internal Calibration

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

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NEW PRODUCTS

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EDULAB.COMCAPACITY  
**160G**RESOLUTION  
**0.001G**REPEATABILITY  
**0.002**

## 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

### 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	£895.00

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	DESCRIPTION
153-819	Digital Melting Point Apparatus - ISG®

## 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 embrane. 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

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NEW

KEY STAGE  
KS3-6

CODE	DESCRIPTION
200-001	Osmosis and Diffusion Lab

## 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	DESCRIPTION
200-002	Kidneys and Blood Filtration

## 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	DESCRIPTION
200-003	Electrophoresis: Agarose Gel Separation of Dyes

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## 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	DESCRIPTION
200-004	Simulated ABO/Rh Blood Typing

## 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 Science's new simulated blood to determine the ABO/Rh blood type of four individuals, one in need of a transfusion.

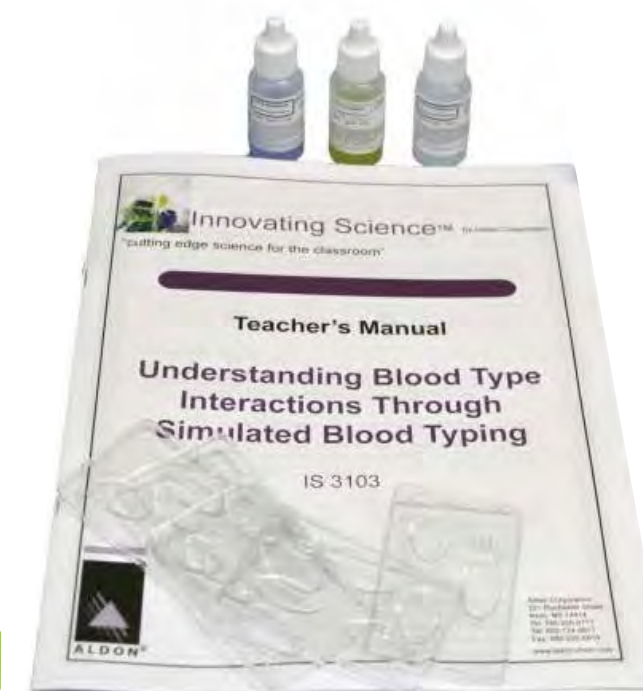
### KIT INCLUDES:

- 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

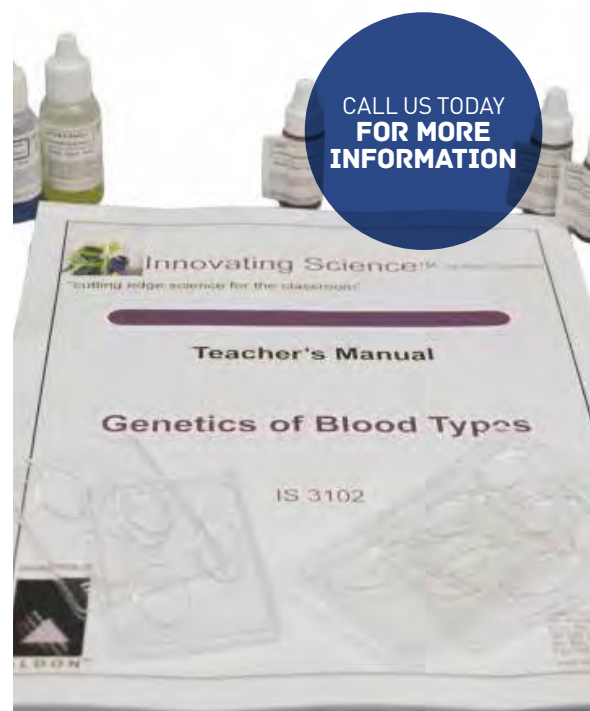
KEY STAGE  
KS5-6

CODE	DESCRIPTION
200-007	Understanding Blood Type Interactions



NEW PRODUCTS

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## 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	DESCRIPTION
200-006	Genetics of Blood Types (Simulated)

## 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

CODE	DESCRIPTION
200-009	Forensics Using Simulated Blood







NEW PRODUCTS

## 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)



NEW

KEY STAGE  
KS5-6

CODE	DESCRIPTION
200-012	Oscillating Reactions - The Traffic Light

## 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



NEW

KEY STAGE  
KS5-6

CODE	DESCRIPTION
200-013	Forensic Chemistry of Dusting for Fingerprints

## 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	DESCRIPTION
200-015	Properties of Shampoo

## 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 BROMOTHYMOLO 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	DESCRIPTION
200-014	Properties of Antacids

## 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	DESCRIPTION
200-016	Properties of Aspirin

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## 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 DG CRIME SCENE DNA
- 10 DG VICTIM DNA
- 10 DG SUSPECT #1 DNA
- 10 DG SUSPECT #2 DNA

NEW KEY STAGE KS5-6

CODE	DESCRIPTION
200-017	DNA Fingerprinting Electrophoresis Lab Activity

## AMMETER DIGITAL

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NEW KEY STAGE KS5-6

CODE	PRICE
614-016	£35.00

## VOLTMETER DIGITAL



NEW KEY STAGE KS5-6

CODE	PRICE
614-017	£35.00



NEW PRODUCTS

## 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 DG MOTHER'S DNA SAMPLE
- 10 DG CHILD'S DNA SAMPLE
- 10 DG POSSIBLE FATHER #1 DNA SAMPLE
- 10 DG POSSIBLE FATHER #2 DNA SAMPLE

NEW KEY STAGE KS5-6

CODE	DESCRIPTION
200-018	DNA Paternity Testing Electrophoresis Lab Activity

## WORCESTER CIRCUIT BOARD KIT

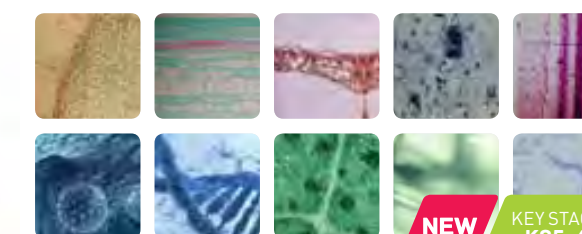


NEW KEY STAGE KS5-6

CODE	DESCRIPTION
231-151	Worcester Circuit Board Kit - Edulab

## 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	Health & Disease	£75.00
450-016	Exchange surfaces and epithelia	£75.00
450-017	Circulatory System	£75.00
450-018	Transport In Plants	£65.00
450-019	Connective Tissues	£65.00
450-020	Skin And Excretion	£75.00
450-021	Photosynthesis & Adaptations	£65.00
450-022	Meiosis And Mitosis	£75.00
450-023	Digestion (Stomach, Small & Large Intestine)	£110.00
450-024	Digestion (Liver, Pancreas And Tongue)	£75.00
450-025	Key Stage 4 Biology	£75.00

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NEW PRODUCTS



## POWER SUPPLY, CONTINUOUSLY VARIABLE 0-15V, 1.5A REGULATED DC

This unit is ideal for any application where an accurate, regulated DC output is required. It is easy to use with digital Voltage and visual Current displays and the transparent case has proven very popular in Schools/Universities as students can easily see the components and thus offers some incidental education. A continuously variable voltage of 0-15V in 0.1V increments offers a solution for a diverse range of applications especially with the regulation (see technical specification) and accuracy to +/- 0.5% and the output sockets fit both shrouded and standard leads.

Built in overload protection and a Time delay fuse prevents damage and avoids unnecessary tripping. The compact design (11x9x5cm) means it won't take up precious bench or storage space (12 fit into a Shallow GrateNells® tray and 15 into a Deep tray). Full CE Certification and a 3 year Warranty mean you can buy with confidence.

FIVE YEAR WARRANTY

KEY STAGE KS3-6

CODE	DESCRIPTION
605-065	Continuously Variable 0-15V, 1.5A Regulated DC

## POWER SUPPLY, STEPPED 0-12V, 1.5A REGULATED DC

This unit is economically priced and offers regulated DC output of 0-12V in 6 steps; 3, 4.5, 6, 7.5, 9 and 12V (+/- 0.5%). Built in overload protection and a Time delay fuse prevents damage and avoids unnecessary tripping.

The output sockets fit both shrouded and standard leads and the compact design (14x10x7cm) means it won't take up a lot of precious bench and storage space (you can fit 6 into a Shallow GrateNells® tray and 8 into a Deep tray). Full CE Certification and a 18 month Warranty mean you can buy with confidence.



NEW KEY STAGE KS5-6

CODE	DESCRIPTION
605-064	Power Supply, Stepped 0-12V, 1.5A Regulated DC

## POWER SUPPLY, CONTINUOUSLY VARIABLE 0-30V, 1A REGULATED DC

An economically priced power supply which offers a regulated DC output of 0-30V in 0.1V increments. The wide voltage range and precision (+/- 0.5%) make this an ideal product for electronics or any application (including education) where a high Current is not required. A built in ammeter and voltmeter on the output makes it easy to use and overload protection plus a Time delay fuse prevents damage and avoids unnecessary tripping. The output sockets fit both shrouded and standard leads and the compact design (14x10x7cm) means it won't take up a lot of precious bench and storage space (you can fit 6 into a Shallow GrateNells® tray and 8 into a Deep tray). Full CE Certification and a 18 month Warranty mean you can buy with confidence.



NEW KEY STAGE KS5-6

CODE	DESCRIPTION
605-066	Continuously Variable 0-30V, 1A Regulated DC



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, resetable 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.

Slow-blow fuse protection for primary transformer. Additional Thermal Trip protection for transformer. Schottky barrier diodes are employed for rectification with less voltage drop and power waste, thus eliminating the need for noisy, hot, cooling fans that are liable to fail.

## EDULAB POWER SUPPLY 0-15V STEPPED

- Reliable performance
- Reproducible results
- Versatile specifications
- Safe to use
- Unique, compact design
- Robust build quality
- Sealed easy touch switches
- Stackable
- Wipe clean
- Safe on/off switch at rear of the unit
- No cooling fans required
- Key lock
- Carry handle
- CE marked

PRODUCT CODE  
**605-055**



POWER & MESUREMENT

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## 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.



CODE  
605-056

INPUT VOLT  
230V +5%

OUTPUT VOLT  
0-15V AC

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.

**REASONS TO BUY:** RELIABILITY /  
5 YEAR WARRANTY / UNIQUE /  
VERSATILE SPECIFICATIONS /  
SAFE TO USE & MANY MORE.

FIVE YEAR  
WARRANTY

KEY STAGE  
KS3-6

TECHNICAL SPECIFICATIONS	
Dimensions (mm):	208 x 155 x 115 (W x H x D)
Input Voltage:	230V ±5%
Output Voltage:	0-15V AC at full load

CODE	DESCRIPTION
605-056	Power Supply 0-15V Variable

## POWER SUPPLY VARIABLE 0-25V 8.5A

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.



CODE  
605-013

INPUT VOLT  
230V +5%

OUTPUT VOLT  
0-25V AC

This power supply provides continuously variable voltage of 0-15V for both AC and slightly smoothed DC. 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

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.

Slow-blow fuse protection for primary transformer. Additional Thermal Trip protection for transformer. Schottky barrier diodes are employed for rectification with less voltage drop and power waste, thus eliminating the need for noisy, hot, cooling fans that are liable to fail.

**REASONS TO BUY:** RELIABILITY /  
5 YEAR WARRANTY / UNIQUE /  
VERSATILE SPECIFICATIONS /  
SAFE TO USE & MANY MORE.

FIVE YEAR  
WARRANTY

KEY STAGE  
KS3-6

TECHNICAL SPECIFICATIONS	
Dimensions (mm):	300 x115 x 155 (W x H x D)
Input Voltage:	230V ±5%
Output Voltage:	0-25V AC (Continuous Variable)

CODE	DESCRIPTION
605-013	Power Supply Variable 0-25V 8.5A

## 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 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.

**REASONS TO BUY:** RELIABILITY /  
5 YEAR WARRANTY / UNIQUE /  
VERSATILE SPECIFICATIONS /  
SAFE TO USE & MANY MORE.

FIVE YEAR  
WARRANTY

KEY STAGE  
KS3-6

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	DESCRIPTION
605-015	EHT Power Supply (110v)

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.



## 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.

**REASONS TO BUY:** RELIABILITY /  
5 YEAR WARRANTY / UNIQUE /  
VERSATILE SPECIFICATIONS /  
SAFE TO USE & MANY MORE.

FIVE YEAR  
WARRANTY

KEY STAGE  
KS3-6

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):	208 x 155 x 115 (W x H x D)
Height:	Including handle is 187mm

CODE	DESCRIPTION
605-007	High Tension Power Supply

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.



CODE  
605-005INPUT VOLT  
230V +10%OUTPUT VOLT  
3X

## ELECTROPHORESIS POWER SUPPLY - EDULAB

The Edu-Lab electrophoresis power supply provides 3 groups of output of 60V to 150V 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.

**REASONS TO BUY:** RELIABILITY /  
5 YEAR WARRANTY / UNIQUE /  
VERSATILE SPECIFICATIONS /  
SAFE TO USE & MANY MORE.

FIVE YEAR  
WARRANTYKEY STAGE  
KS3-6

### TECHNICAL SPECIFICATIONS

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

CODE	DESCRIPTION
605-005	Electrophoresis Power Supply

## 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.

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	DESCRIPTION
211-001	Joulemeter / Wattmeter, Digital - Edulab

CODE  
211-001ENERGY  
6 UNITSOUTPUT VOLT  
10A AC/DC

## 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	DESCRIPTION
241-022	Signal Generator And Amplifier

## 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	DESCRIPTION
241-511	Oscilloscope Dual Channel

## MAINS JOULE METER

The mains Joulemeter / Wattmeter is accurate, light and compact. It is designed for class demonstration and also for student use.

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:	1M $\Omega$
Accuracy:	3% and typically better than 1%
Linearity:	2% and typically better than 1%
Mains Supply:	230V $\pm$ 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	DESCRIPTION
614-007	Mains Joule Meter

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.







## 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



KEY STAGE  
KS3-5

CODE	DESCRIPTION
605-014	Joulemeter, Student Digital

## 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	DESCRIPTION
241-024	Microwave Transmitter/Receiver

## 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

TECHNICAL SPECIFICATIONS	
Gas Filling:	Ne +Halogen
Cathode Material:	446 Stainless Steel
Maximum Length (Inch/mm):	0 to 500Hz Maximum
Effective Length (Inch/mm):	1.5/38.0
Maximum Diameter (Inch/mm):	0.98/25.0
Effective Diameter (Inch/mm):	0.78/19.8
Connector:	B2A
Operating Temp Range °C:	-40 to +75

CODE	DESCRIPTION
261-007	Geiger Muller Tube



CODE 261-007	CONNECTOR B2A	TEMP RANGE -40 TO +75
-----------------	------------------	--------------------------

## SCALER TIMER - EDULAB

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):	208x155x115(W x H x D)

CODE	DESCRIPTION
281-006	Scaler Timer - Edulab

## GEIGER MULLER TUBE HOLDER

Geiger-Muller Tube Holder, for use with Edulab Scaler Timer (code: 281-006). An aluminum 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	DESCRIPTION
281-013	Geiger Muller Tube Holder



MEASUREMENT  
9 RANGESINPUT VOLTS  
10MO PERPOWER  
PP3 9V

## MICROVOLTMETER

The Microvoltmeter is an effective and robust replacement for a spot galvanometer with nine ranges from 100 $\mu$ V to 3 $\mu$ V. The input resistance is 10M $\Omega$ /V and is 1K $\Omega$  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.

KEY STAGE  
KS3-5

TECHNICAL SPECIFICATIONS	
Measurement:	9 ranges, from 100 $\mu$ V to 3 $\mu$ V
Input Impedance:	10M $\Omega$ per volt, maximum 30M $\Omega$
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	DESCRIPTION
614-009	Micro Voltmeter

MEASUREMENT  
10 RANGESINPUT VOLTS  
UP TO 5KVPOWER  
PP3 9V

## PICOAMMETER

The Picoammeter is designed to measure very small currents and has 10 ranges, selected by a rotary switch, from 100pA to 3 $\mu$ A. 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 10M $\Omega$  will not be damaged by voltages up to 5KV.

KEY STAGE  
KS3-5

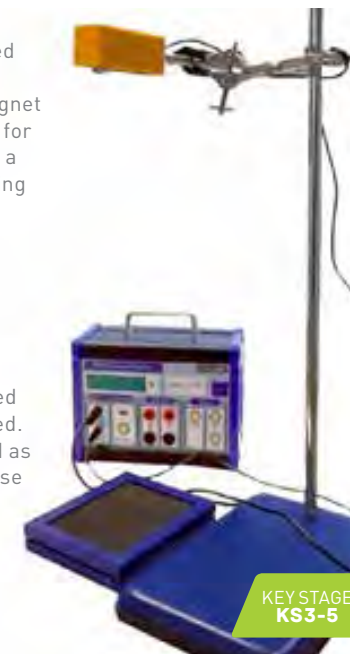
TECHNICAL SPECIFICATIONS	
Measurement:	10 ranges, from 100pA to 3 $\mu$ A
Input Voltage:	Up to 5KV
Input Impedance:	10M $\Omega$
Input:	UHF sockets, complemented by 4mm socket for negative input
Power:	PP3 9V battery
Dimensions (mm):	208 x 155 x 115 (W x H x D)

CODE	DESCRIPTION
614-008	Pico Ammeter

## 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.

KEY STAGE  
KS3-5

CODE	DESCRIPTION
605-059	Edulab G By Freefall Apparatus and Timer

## EDULAB G BY FREEFALL LAB TIMER

KEY STAGE  
KS3-5

CODE	DESCRIPTION
605-061	Edulab G By Freefall Lab Timer

## 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	DESCRIPTION
605-062	Edulab G By Freefall Apparatus

## 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

TECHNICAL SPECIFICATIONS	
Specification:	DC Stopping potential controlled by 10-turn potentiometer DC voltmeter with 0-19.99V LED display
Filters:	6 narrow-band (FWHM bandwidth: 4-15nm), with wavelengths of 405nm
Photocell:	Caesium antimony cathode (spectral response range 185-650nm)
Power:	PP3 9V battery
Dimensions (mm):	205 x 150 x 115mm (W x H x D)

CODE	DESCRIPTION
261-008	Planck's Constant Apparatus

CODE  
261-008MEASUREMENT  
10 RANGESPOWER  
PP3 9V





## THERMOELECTRIC CONVERTER

A series of semiconducting junction plates is sandwiched between 2 aluminum 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.

KEY STAGE  
KS3-5

CODE	DESCRIPTION
211-008	Thermoelectric Converter



## 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 Kit 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	DESCRIPTION
241-513	Speed of Sound Kit



NEW  
IMPROVED

TECHNICAL SPECIFICATIONS	
Dimension of work plate [mm]:	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
Max. stirring quantity[H2O], L:	20
Max. magnetic bar[L x Ø] [mm]:	80
Permissible ambient temperature [°C]:	May-40
Speed range [rpm]:	0-1500
Speed display:	Scale
Heating output [W]:	500
Heating temperature range [°C]:	RT-340
Safety temperature [°C]:	350
Temperature display:	Scale
Protection class according to DIN EN60529:	IP42
Dimension [W x D x H] mm:	160x280x85
Weight [kg]:	2.8

## HOTPLATE AND 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.

PRODUCT CODE  
**153-005**





## 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.

KEY STAGE  
KS3-5

CODE	DESCRIPTION
153-001	Centrifuge Micro - ISG®

## CENTRIFUGE, CLINICAL, 8 X MAX 15ML - ISG®

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.



## CENTRIFUGE, HIGH SPEED, 12 X 1.5/2ML - ISG®

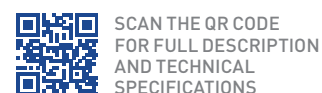
The ISG® high speed mini centrifuge is commonly used in chemical and physical analysis, clinical labs and in University and Industrial research laboratories. Some of the research applications the ISG® laboratory centrifuge is used for include: sedimentation of cells and viruses, separation of sub-cellular 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  
KS4-5

CODE	DESCRIPTION
153-002	Centrifuge, High Speed, 12 x 1.5/2ml - ISG®

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  
SPECIFICATIONSKEY STAGE  
KS4-5

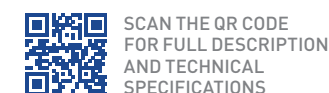
TECHNICAL SPECIFICATIONS	
Max. Speed [rpm]:	300-4500, increment: 100
Max. RCF [xg]:	2490xg, increment: 100xg
Speed Accuracy [rpm]:	±20
Rotor Capacity:	30sec-99min-HOLD (Continuous operation)
Driving Motor:	Brushless DC motor
Safety Devices:	Autolock lid when centrifuge is spinning

CODE	DESCRIPTION
153-003	Centrifuge, Clinical, 8 x Max 15ml - ISG®

## 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  
SPECIFICATIONSKEY STAGE  
KS4-5

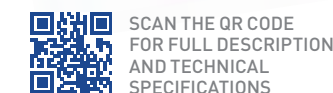
TECHNICAL SPECIFICATIONS	
Dimension of Work Plate:	135mm
Work Plate Material:	Stainless steel with ceramic coated
Motor Type:	DC brushless motor
Motor rating input [W]:	18
Motor rating output [W]:	10
Power [W]:	530
Voltage [VAC]:	200-240
Frequency [Hz]:	50/60
Stirring Positions:	1
Speed Range [rpm]:	0-1500
Safety Temperature [°C]:	350
Temperature Display:	Scale
Dimension [W x D x H]:	160x280x85mm
Weight [kg]:	2.8

CODE	DESCRIPTION
153-005	Hotplate & Magnetic Stirrer - ISG®

## 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.

SCAN THE QR CODE  
FOR FULL DESCRIPTION  
AND TECHNICAL  
SPECIFICATIONSKEY 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	DESCRIPTION
153-006	Hotplate & Magnetic Stirrer Pro - ISG®







## 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  
KS3-5

CODE	DESCRIPTION
153-017	Block Heater, Reaction Vessel, 4ml - ISG®
153-018	Block Heater, Reaction Vessel, 20ml - ISG®
153-019	Block Heater, Reaction Vessel, 30ml - ISG®
153-020	Block Heater, Reaction Vessel, 40ml - ISG®
153-021	Block Heater, Reaction Vessel, 8ml - ISG®
153-022	Block Heater, Reaction Vessel, 16ml - ISG®

## 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  
KS3-5

CODE	DESCRIPTION
153-023	Block Heater, Flask 50ml Round Bottom
153-024	Block Heater, Flask 100ml Round Bottom
153-025	Block Heater, Flask 250ml Round Bottom
153-026	Block Heater, Flask 500ml Round Bottom

## 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



SCAN THE QR CODE  
FOR FULL DESCRIPTION  
AND TECHNICAL  
SPECIFICATIONS

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

CODE	DESCRIPTION
607-020	Nanoheat Hotplate Basic

## 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]:	200x230x30mm
Weight [kg]:	1.15

CODE	DESCRIPTION
607-021	Nanoheat Hotplate Advanced

## 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).



KEY STAGE  
KS3-6

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

CODE	DESCRIPTION
607-022	Nanoheat Magnetic Stirrer

## 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	DESCRIPTION
607-023	Waterbath Kit For Nanoheat Hotplate







## 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 variance. 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.



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	DESCRIPTION
603-065	Nanoheat Hotplate With Waterbath

## 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	DESCRIPTION
153-010	Vortex Mixer - ISG

## TUBE ROLLER, VARIABLE SPEED, 6 ROLLERS - ISG®

The ISG® tube roller has an efficient but gentle rocking and rolling motion. It has 6 rolling tubes which will fit most tubes including Bijoux, Universals, Centrifuge tubes and bottles. This tube roller has a variable speed range of 0-70rpm giving it excellent versatility for whatever the task in hand.



KEY STAGE  
KS4-5

### TECHNICAL SPECIFICATIONS

Voltage (VAC):	240
Frequency (Hz):	60
Power (W):	25
Amplitude (mm):	24
Max load capacity (Kg):	4
Number of Rollers:	6
Roller Size (L) (mm):	280
Speed Range (rpm):	0-70
Speed Display:	Analogue
Operation Type:	Continuous
Dimensions :	450 x 260 x 120 (D x W x H mm)
Weight (Kg):	4.5
Permissible working temperature (°C):	5-40

CODE	DESCRIPTION
153-012	Tube Roller, Variable Speed, 6 Rollers - ISG



CALL US TODAY  
FOR MORE  
INFORMATION

### 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.

## 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](http://www.edulab.com)

CALL TODAY  
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## NITRILE BLUE POWDER FREE MICRO TEXTURED

NEW ★ KEY STAGE KS3-6



SINGLE  
USAGE

CUFF  
BEADED

COLOUR  
BLUE



TECHNICAL SPECIFICATIONS	
Material:	Nitrile
Type:	Non Sterile
Design:	Ambidextrous
Feature:	Fully Micro Textured
Cuff:	Beaded
Usage:	Single Use Only
Colour:	Sky Blue

CODE	DESCRIPTION
BNG6832	Nitrile Blue Powder Free Micro Textured - S
BNG6833	Nitrile Blue Powder Free Micro Textured - M
BNG6834	Nitrile Blue Powder Free Micro Textured - L
BNG6835	Nitrile Blue Powder Free Micro Textured - XL
BNG6836	Nitrile Blue Powder Free Micro Textured - XXL

## LATEX LIGHTLY POWDERED SMOOTH

NEW ★ KEY STAGE KS3-6



SINGLE  
USAGE

CUFF  
BEADED

COLOUR  
WHITE



TECHNICAL SPECIFICATIONS	
Material:	Natural Rubber Latex
Type:	Non Sterile
Design:	Ambidextrous
Feature:	-
Cuff:	Beaded
Usage:	Single Use Only
Colour:	White

CODE	DESCRIPTION
BNG2521	Lactex Lightly Powdered Smooth - XS
BNG2522	Lactex Lightly Powdered Smooth - S
BNG2523	Lactex Lightly Powdered Smooth - M
BNG2524	Lactex Lightly Powdered Smooth - L
BNG2525	Lactex Lightly Powdered Smooth - XL



## NITRILE PURPLE POWDER FREE MICRO TEXTURED

NEW ★ KEY STAGE KS3-6



SINGLE  
USAGE

CUFF  
BEADED

COLOUR  
PURPLE



TECHNICAL SPECIFICATIONS	
Material:	Nitrile
Type:	Non Sterile
Design:	Ambidextrous
Feature:	Fully Micro Textured
Cuff:	Beaded
Usage:	Single Use Only
Colour:	Purple

CODE	DESCRIPTION
BNG6851	XS - Nitrile Purple Powder Free Micro Textured
BNG6852	S - Nitrile Purple Powder Free Micro Textured
BNG6853	M - Nitrile Purple Powder Free Micro Textured
BNG6854	L - Nitrile Purple Powder Free Micro Textured
BNG6855	XL - Nitrile Purple Powder Free Micro Textured

## NITRILE ULTRA SOFT GREEN POWDER FREE

NEW ★ KEY STAGE KS3-6



SINGLE  
USAGE

CUFF  
BEADED

COLOUR  
MINT



TECHNICAL SPECIFICATIONS	
Material:	Nitrile
Type:	Non Sterile
Design:	Ambidextrous
Feature:	Micro Textured Fingers
Cuff:	Beaded
Usage:	Single Use Only
Colour:	Mint Green

CODE	DESCRIPTION
BNG2831	Latex Powder Free Micro Textured - XS
BNG2832	Latex Powder Free Micro Textured - S
BNG2833	Latex Powder Free Micro Textured - M
BNG2834	Latex Powder Free Micro Textured - L
BNG2835	Latex Powder Free Micro Textured - XL





SINGLE  
USEAGECUFF  
BEADEDCOLOUR  
CLEARVINYL CLEAR POWDER  
FREE

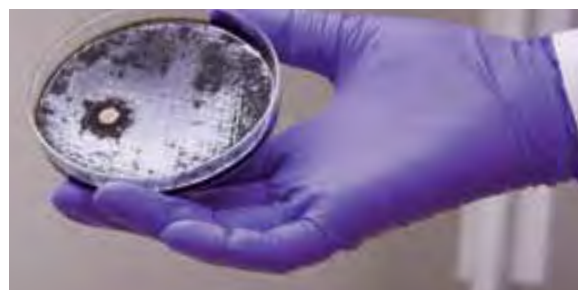
NEW

KEY STAGE  
KS3-6

## TECHNICAL SPECIFICATIONS

Material:	Natural Rubber Latex
Type:	Non Sterile
Design:	Ambidextrous
Feature:	-
Cuff:	Beaded
Usage:	Single Use Only
Colour:	Clear

CODE	DESCRIPTION
BNG4882	Vinyl Clear Powder Free - S
BNG4883	Vinyl Clear Powder Free - M
BNG4884	Vinyl Clear Powder Free - L
BNG4885	Vinyl Clear Powder Free - XL

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## 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):	80 x 100 x 580mm
Weight [kg]:	2.8

## INSTALLATION REQUIREMENTS

Feed Water:	Portable
Maximum TDS:	1000ppm
Feed Water Temperature:	1 - 35°C

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.

For specifications of flow rates etc. to the 'Technical' tab.

ISG® DEIONISER,  
STANDARD 160LTR

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.

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## 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.



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	DESCRIPTION
153-602	Deioniser, Standard - 160ltr
153-603	Deioniser, Standard with Coil & Gun - 160 ltr
153-606	Deioniser Cartridge, Standard

## DEIONISER, STANDARD

Coil and dispensing gun for any of the ISG range of deionisers. Increases the usability of the deionising unit and decreases the change of waste.

CODE	DESCRIPTION
153-608	Blue Gun for Deioniser

## 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.



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	DESCRIPTION
153-604	Deioniser, Large - 320 ltr
153-605	Deioniser, Large with Coil & Gun - 320 ltr
153-607	Deioniser Cartridge, Large



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INFORMATION



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INFORMATION

Hello, I'm Professor Kathy Sykes and I'm delighted to introduce the new Science with Sykes primary science kits.'

Each of these Science with Sykes practical primary science kits has been specially created to cover the current Key Stage 2 science curriculum, and is sure to enlighten any budding scientists in your class.

They are complete kits, full of wonderful materials and guidance notes to help make practical science exciting and inspiring for teachers and students alike. Developed by Edu-Lab, the world's leading supplier of science kits, the Science with Sykes range is focused on providing that all-important practical science education through discovery and enquiry. Every practical science kit is literally brimming over with materials and equipment that will engage any child and make teaching and learning primary science interesting and exciting.

Each Science with Sykes science kit from Edu-Lab comes packed in an award-winning Gratsnells GratsStack® storage unit. This super-safe, super-tough trolley maximises storage space and makes tidying up and putting away after a science lesson a simple and easy task every time. Fitted with castors, each GratsStack® is fully mobile – and with its brightly-coloured trays looks great in any classroom surroundings. You know, I'm very passionate about practical science being taught in schools. The primary years are crucial in developing a child's interest in science that can be maintained in the longer term.

## SCIENCE WITH SYKES KITS

For this to happen, children of a young age need to experience a wide range of science equipment and materials – handling things, observing, measuring, analysing...in other words practical, engaging and exciting approaches to science.

But I also understand that a primary teacher's time and resources are often limited in both preparing and teaching science subjects. That's why I believe that these Science with Sykes kits from Edu-Lab can help you as a teacher deliver primary science lessons that are wellplanned, adaptable, time-efficient and effective – every time.

This is Professor Kathy Sykes wishing you every success with Science with Sykes practical primary science in your school!

Professor | Kathy Sykes

CALL TODAY  
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## CIENCE WITH SYKES, KEY STAGE 2 SCIENCE TROLLEY HUMAN BODY

Each covering an entire curriculum area, our Key Stage 2 Science Trolleys are designed to contain all the resources you will need, neatly arranged in a handy, drawered storage trolley - less prep-time means more teaching-time! Although ideal for home-schooling environments where space is often at a premium, these sets are perfectly tailored for any schools teaching the current Key Stage 2 science curriculum, and will excite and enlighten any budding scientists.



Watch your students marvel at the workings of the human body as they explore the many activities included in this kit. Science doesn't get much more 'real-world' than understanding our own bodies, and this kit will foster an understanding of many important aspects of our bodies and how they work - inside and out!

**INCLUDED TOPICS:**  
DIFFERENT BODY SYSTEMS AND HOW THEY WORK  
ADAPTATION OF ANIMAL BODIES (E.G. TEETH) TO SUIT DIET  
IMPORTANCE OF CORRECT DIET, AND HEALTH PROBLEMS CAUSED BY POOR DIET  
GENERAL HUMAN ANATOMY  
THE HEART AND CIRCULATORY SYSTEM, INCLUDING PULSE MEASUREMENT  
HEALTH AND FITNESS, INCLUDING LUNG FUNCTION.

**CONTENTS OF THE KIT:**  
1-107 - TEETH AND EATING KIT  
1101 - DIGEST-O-RAMA  
2002 - INFLATABLE TORSO MODEL  
403-002 - HEART WALK-THROUGH  
6043 - GRIP TESTER  
6109 - BREATH VOLUME KIT  
EDU-505A - MICROSLIDE® VIEWER (SINGLE)  
EDU1006 - STETHOSCOPE  
EDU933 - OUR BODY SCIENCE KIT - KEY STAGE 2  
SR-1461 - CLEVER CATCH® - FOOD NUTRITION  
T121A - MICROSLIDE® - YOUR BODY (SINGLE)

KEY STAGE  
KS2

CODE	DESCRIPTION
140-011	Key Stage 2 Science Trolley Human Body

## KEY STAGE 2 SCIENCE TROLLEY MATERIALS

Each covering an entire curriculum area, our Key Stage 2 Science Trolleys are designed to contain all the resources you will need, neatly arranged in a handy, drawered storage trolley - less prep-time means more teaching-time! Although ideal for home-schooling environments where space is often at a premium, these sets are perfectly tailored for any schools teaching the current Key Stage 2 science curriculum, and will excite and enlighten any budding scientists.



Material science is all around us, from the clothes we wear to the ground we walk on and even the air we breathe. But what are the fundamental properties of materials? Why are liquids, gases and solids so different in their behaviour and structure? Why do some things float in water, but others not, and some things even dissolve? And what's the difference between dissolving and melting?

**INCLUDED TOPICS:** DSTATES OF MATTER  
PHYSICAL PROPERTIES SUCH AS HARDNESS  
MIXING AND SEPARATING SOLIDS AND LIQUIDS  
ROCKS AND MINERALS AND THEIR PROPERTIES  
UNDERSTANDING LIQUIDS AND GASES  
MATERIALS USED IN CLOTHING CONSTRUCTION.

**CONTENTS OF THE KIT:**  
1-100 - SOLIDS AND LIQUIDS KIT  
1-101 - CHARACTERISTICS OF MATERIALS KIT  
1-113 - DISSOLVING & CHANGES  
2217 - ROCK STUDY KIT  
2343 - MINERAL STUDY KIT - ECONOMY  
EDU930 - MACRO SCIENCE KIT - PROPERTIES OF MATERIALS  
EDU931 - MACRO SCIENCE KIT - CHANGING MATERIALS

KEY STAGE  
KS2

CODE	DESCRIPTION
140-012	Key Stage 2 Science Trolley Materials

## SCIENCE WITH SYKES, KEY STAGE 2 SCIENCE TROLLEY PHYSICAL PROCESSES

Each covering an entire curriculum area, our Key Stage 2 Science Trolleys are designed to contain all the resources you will need, neatly arranged in a handy, drawered storage trolley - less prep-time means more teaching-time! Although ideal for home-schooling environments where space is often at a premium, these sets are perfectly tailored for any schools teaching the current Key Stage 2 science curriculum, and will excite and enlighten any budding scientists.

Physical science covers a wide range of topics, and this kit reflects this without compromising on depth of learning. Most of the key curriculum areas are extensively explored, and with a large number of hands-on learning activities this kit encourages investigative skills while inspiring an interest in many applications of physical principles - from friction and forces to surface-tension bubble geometry!

**INCLUDED TOPICS:**  
ELECTRICITY AND CIRCUITS  
HEAT AND HEAT TRANSFER  
FORCES, FRICTION AND DYNAMICS  
LIGHT, SHADOWS AND LIGHT TRANSMISSION AND REFRACTION

**CONTENTS OF THE KIT:**  
100-001 - ELECTRONIC BLOCKS KIT  
1-109 - ELECTRICITY KIT  
1-103 - FRICTION AND FORCE KIT  
1-110 - HEAT KIT  
1-108 - LIGHT & SHADOWS KIT  
1-104 - MAGNETS AND SPRINGS KIT  
1-105 - CHANGING SOUNDS KIT  
EDU886 - KUBIC BUBBLES  
EDU116 - MAGNETISM KIT  
EDU1249 - U.V. DETECTING BEADS, PACK OF 100



KEY STAGE  
KS2

CODE	DESCRIPTION
140-013	Key Stage 2 Science Trolley Physical Processes

## MACRO - LIGHT KIT

Make a periscope, pinhole camera and even a rainbow with this exciting kit. Packed in a colour coded tray with pupil's worksheets and a contents checklist. The kit contains tubes, torches, prisms, lenses, mirrors and other components. Pupils will enjoy learning about shadows, colours and how light travels. 25 activities are covered by this kit.



KEY STAGE  
KS2

CODE	DESCRIPTION
EDU111	Macro - Light Kit

## MACRO - SOUND KIT

This kit contains components to enable children working in small groups to attain a comprehensive understanding of the properties of sound. The worksheets offer guidance on more than 20 fun experiments that can be done with the kit, including making a telephone, a stethoscope and a guitar. The kit is housed in a sturdy colour-coded tray for safe and convenient storage. A checklist of contents and a guide for teachers are included.

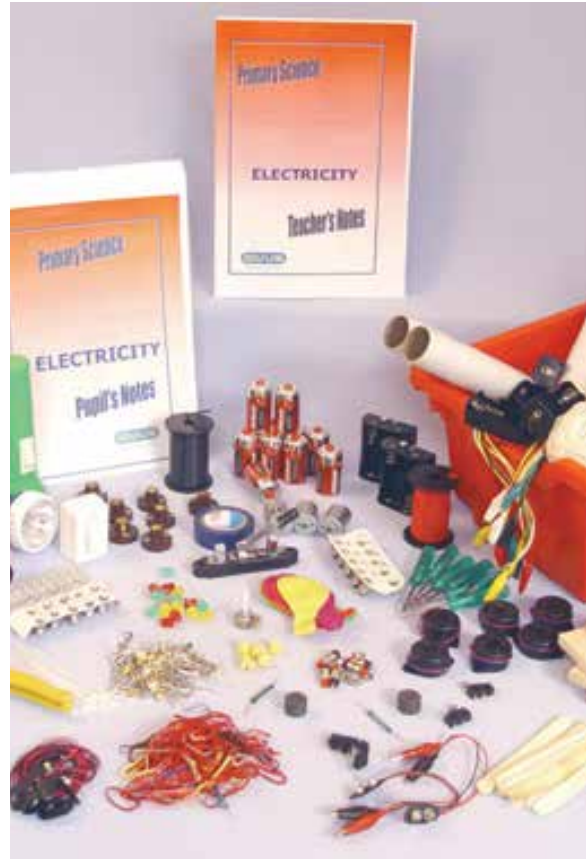


KEY STAGE  
KS2

CODE	DESCRIPTION
EDU113	Macro - Sound Kit







## MACRO - ELECTRICITY KIT

This kit includes many exciting components such as buzzers, motors, LED's and batteries. There are 24 suggested experiments helping pupils to understand what electricity is and where it comes from.

The set of worksheets for pupils will promote an understanding of how electricity can be used, and its dangers and benefits to us. Packed in a colour-coded tray with a full checklist enclosed.

KEY STAGE  
KS2+

CODE	DESCRIPTION
EDU115	Macro - Electricity Kit

## SCIENCE ESSENTIAL BULK PACK

An excellent classroom collection of high quality scientific equipment providing a full set of resources for simple experiments.

### CONTENTS INCLUDE:

MEASURING CYLINDERS, BEAKERS, TEST TUBE HOLDERS, TEST TUBE RACKS, PETRI DISHES, GAUZE WIRE, FILTERS, FUNNELS, BUNSEN BURNER, RETORT STAND & ROD, BOSSHEAD AND RETORT CLAMP AND MUCH MORE.

KEY STAGE  
KS2+

CODE	DESCRIPTION
EDU916	Science Essential Bulk Pack

## MACRO SCIENCE KIT - CHANGING MATERIALS

An excellent collection of high quality educational materials to aid study of Materials within the National Curriculum. Supplied with well written photocopiable Teacher's Notes and worksheets with high quality educational material all supplied in a deep storage tray with lid for easy storage. Suitable for individual or group work.

KEY STAGE  
KS2+

CODE	DESCRIPTION
EDU931	Macro Science Kit - Changing Materials

## MACRO - FORCES KIT

Using the Student Worksheets in this kit, pupils will learn about gravity, friction and inertia. There are assorted pulleys, weights and forcemeters amongst other components, all packed in a sturdy colour coded tray with a full checklist. The worksheets may be photocopied for repeated use.

KEY STAGE  
KS2+

CODE	DESCRIPTION
EDU114	Macro - Forces Kit

## MACRO - MAGNETISM KIT

This kit lets pupils discover how magnetism works and what it is used for. The kit is packed in a colour coded tray with worksheets for pupils. The kit has a huge variety of magnets and materials.

KEY STAGE  
KS2+

CODE	DESCRIPTION
EDU116	Macro - Magnetism Kit

## MACRO SCIENCE KIT - PROPERTIES OF MATERIALS

A new collection of high quality materials to aid study of Materials and their Properties within science. This fun kit contains well written photocopiable Teacher's notes and worksheets with high quality educational material and supplied in a deep tray with lid for easy storage. Suitable for individual or group work.

KEY STAGE  
KS2+

CODE	DESCRIPTION
EDU930	Macro Science Kit - Properties of Materials

## MACRO SCIENCE KIT - OUR BODY KS1

An excellent selection of materials to assist young children to learn about humans within the animal kingdom. Study growth, health and variation. Complete with curriculum linked photocopiable Teacher's Notes and Worksheets. Supplied in a deep tray with lid for easy storage.

KEY STAGE  
KS2+

CODE	DESCRIPTION
EDU932	Macro Science Kit - Our Body KS1

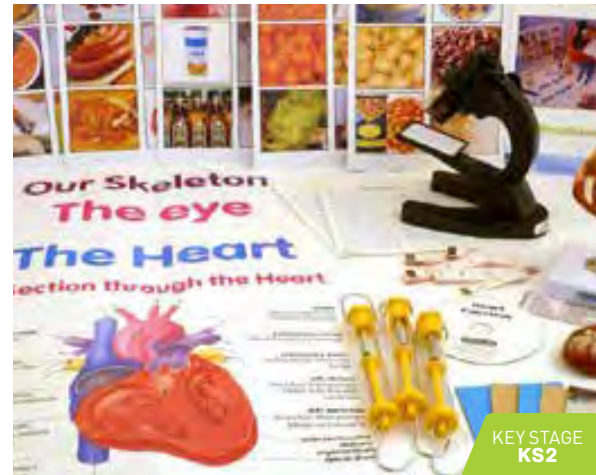






## MACRO SCIENCE KIT - OUR BODY KS2

An exciting selection of high quality science materials to focus on moving, growing, human health and identifying similarities between humans and other animals. Complete with well written photocopiable Teacher's Notes and Worksheets. Supplied in a deep tray with lid for easy storage. Ideal for group or individual work.



KEY STAGE  
KS2

CODE	DESCRIPTION
EDU933	Macro Science Kit - Our Body KS2

## MACRO SCIENCE KIT - INVESTIGATIONS KS2

This superb educational resource pack links with Key Stage 2 science and can be used to study rocks, magnets, stretching forces, heating and mixing solids and liquids. Supplied with well written photocopiable Teacher's Notes and Student worksheets, and packaged in a deep storage tray with lid. Ideal for individual or group work.



KEY STAGE  
KS3-5

CODE	DESCRIPTION
EDU935	Macro Science Kit - Investigations KS2

## MACRO SCIENCE KIT - OCEANS, RIVERS & PONDS

What children wouldn't be excited by pond-dipping or rock-pooling? We've combined a host of excellent activities and studies to capture the imagination of your students while teaching important concepts about aquatic environments including: habitat; adaptation; behaviour; and identification and classification of organisms. The set comes in a lidded plastic box for convenient storage.



KEY STAGE  
KS2+

CODE	DESCRIPTION
EDU938	Macro Science Kit - Oceans, Rivers & Ponds

## MINI SCIENCE QCA - SOLIDS AND LIQUIDS KIT

**ACTIVITIES PERFORMED WITH THIS KIT:**  
COMPARING SOLIDS AND LIQUIDS  
HOW SOME SOLIDS BEHAVE LIKE LIQUIDS  
SEPARATING A MIXTURE OF SOLIDS



KEY STAGE  
KS2+

CODE	DESCRIPTION
1-100	Mini Science QCA - Solids and Liquids Kit

## MACRO SCIENCE KIT - INVESTIGATIONS KS1

Aid young children to learn by doing practical, hands-on science with this fun selection of materials. Well written photocopiable Teacher's Notes and Worksheets are included and the kit is tidily self-contained within a deep storage tray with lid. Suitable for group or individual work.



KEY STAGE  
KS1

CODE	DESCRIPTION
EDU934	Macro Science Kit - Investigations KS1

## MACRO SCIENCE KIT - EARTH SCIENCE

An excellent new collection of high quality materials to aid study of the physical features of the world. Ideal for teaching practical science in the primary classroom.

Children can investigate rocks, soils, weather and the water cycle and how they make up the physical landscape of the world. Written learning materials and teacher resources are included with many items in the kit which is supplied in a deep storage tray with lid. Ideal for group or individual work.



KEY STAGE  
KS2+

CODE	DESCRIPTION
EDU936	Macro Science Kit - Earth Science

## MACRO SCIENCE KIT - LIFE CYCLES

An exciting new primary resource kit covering many aspects of life cycles This fun kit contains well-written, photocopiable teachers notes and student worksheets. The high quality educational materials and resources come in a handy, lidded storage tray. Suitable for individual or group work.



KEY STAGE  
KS2+

CODE	DESCRIPTION
EDU939	Macro Science Kit - Life Cycles

## MINI SCIENCE QCA - ROCKS AND SOILS KIT

**ACTIVITIES PERFORMED WITH THIS KIT:**  
COMPARING ROCKS  
ARE ALL ROCKS HARD?  
CAN WATER PASS THROUGH ROCK?  
EFFECT OF ACID RAIN  
WHAT IS SOIL?  
MAIN TYPES OF SOIL  
WHAT TYPE OF SOIL DO YOU HAVE?  
WHICH SOIL WILL LET WATER THROUGH EASILY?



KEY STAGE  
KS2+

CODE	DESCRIPTION
1-102	Mini Science QCA - Rocks and Soils Kit







## MATHS ACTIVITY KIT

Reinforce basic concepts with this Activity Kit and carry out in-depth work with geometry, fractions, measuring, weight and general maths skills. The materials provided feature various facts and illustrations that emphasize how maths can be fun. Ideal for after-school programmes and clubs.

KEY STAGE  
KS3-5

CODE	DESCRIPTION
140-008	Maths Activity Kit

## PSHE ACTIVITY KIT

With this Activity Set your students can engage in fun, thought-provoking activities that encourage co-operation and collaboration. The kit covers topics such as human body, nutrition, teeth, effects of smoking, danger of drugs & alcohol, exercise and much more. Comprehensive teacher and student notes are included to provide background information, hands-on activities and lesson planning.

KEY STAGE  
KS3-5

CODE	DESCRIPTION
140-009	PSHE Activity Kit

## MINI SCIENCE KIT - FRICTION AND FORCE

### ACTIVITIES PERFORMED WITH THIS KIT:

HOW TO READ FORCEMETERS / WHICH SURFACES ALLOW OBJECTS TO SLIDE? / SHAPES MOVING IN WATER / FALL OF A PARACHUTE / WEIGHING IN AIR AND WATER / SPINNERS

KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-103	Mini Science QCA - Friction and Force Kit

## MINI SCIENCE QCA - CHANGING SOUNDS KIT

### ACTIVITIES PERFORMED WITH THIS KIT:

MAKING SOUNDS / WATCHING SOUND TRAVEL / MEASURING VIBRATIONS / WHICH MATERIAL CAN SOUND TRAVEL THROUGH? / BEST MATERIAL FOR MUFFLING SOUND WHAT IS PITCH? / INVESTIGATING PITCH

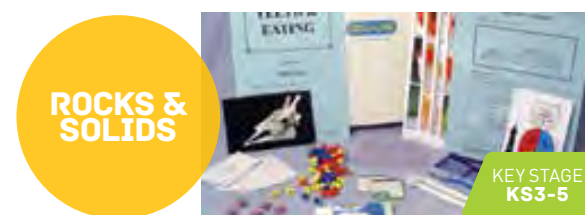
KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-105	Mini Science QCA - Changing Sounds Kit

## MINI SCIENCE QCA - TEETH AND EATING KIT

### ACTIVITIES PERFORMED WITH THIS KIT:

WHY DO WE EAT? / WHAT DO CATS EAT? / LOOKING AT YOUR TEETH / LOOKING AT ANIMAL TEETH / WHAT DO WE KNOW ABOUT TEETH? / WHAT CAUSES TOOTH DECAY? / HOW WELL DO YOU BRUSH YOUR TEETH?

KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-107	Mini Science QCA - Teeth and Eating Kit

DEVELOPED &  
DESIGNED BY  
EDULAB

The Microscience Workstation covers Biology, Chemistry & Physics. Worksheets and guides available to complement this workstation cover many experiments, for example see experiments tab.

### TOPICS THAT MAY BE COVERED WITH THIS WORKSTATION INCLUDE:

MATERIALS AND THEIR PROPERTIES - SEPARATING MIXTURES  
ACIDS AND BASES  
PATTERNS OF BEHAVIOUR - METAL  
MATERIALS AND THEIR PROPERTIES - USEFUL PRODUCTS FROM OIL  
MATERIALS AND THEIR PROPERTIES - RATES OF REACTION  
MATERIALS AND THEIR PROPERTIES - THE PERIODIC TABLE  
MATERIALS AND THEIR PROPERTIES - USEFUL PRODUCTS FROM AIR  
MATERIALS AND THEIR PROPERTIES - ENERGY TRANSFER IN REACTIONS  
MATERIALS AND THEIR PROPERTIES - USEFUL PRODUCTS FROM ORES AND ROCKS  
CHEMICAL EQUILIBRIUM  
ORGANIC CHEMISTRY  
MISCELLANEOUS

...many more experiments can be performed.

## EDULAB MICROSCIENCE WORKSTATION

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.

PRODUCT CODE  
**EDU 131**





## ADVANCED KIT, STUDENT, MICROSCIENCE - EDULAB

The Advanced MicroChem Kit provides all the physical hardware required to perform the experiments incorporated in the basic kit.

### TECHNICAL SPECIFICATION:

KIT COMPONENTS ALL AVAILABLE SEPARATELY  
KITS MADE OF DURABLE, WASHABLE MATERIALS  
COMPONENT DESIGN BASED ON EQUIPMENT USED FOR MODERN LABORATORY TECHNIQUES  
COMBOPLATES DISHWASHER SAFE  
KITS DESIGNED FOR INDIVIDUAL USE OR IN SMALL GROUPS  
WORKSHEETS WRITTEN FOR THE STUDENTS AND SUITED TO THE CURRICULUM  
WORKBOOKS AND GUIDES MUST BE ORDERED SEPARATELY  
LOG IN TO THE USER SECTION OF THIS WEBSITE FOR FREE DOWNLOADS OF MICROSCIENCE WORKSHEETS  
WORKSHEETS CAN BE LINKED TO AQA, IB, OCR, EDEXCEL, WJEC, SEB, IEB AND CIE SCHEMES  
EXTENSIVE LINKS TO ALL USA CURRICULA  
TECHNICAL SUPPORT AND TRAINING COURSES AVAILABLE WORLDWIDE [HTTP://WWW.PUBLICATIONS.PARLIAMENT.UK/PA/LD200506/LDSELECT/LDSCTECH/257/257WE12.HTML](http://www.publications.parliament.uk/pa/LD200506/LDSELECT/LDSCTECH/257/257WE12.HTML)

KEY STAGE  
KS3-6

CODE	DESCRIPTION
310-004	Advanced Kit, Student, Microscience - Edulab

## TITRATION KIT, STUDENT, MICROSCIENCE - EDULAB

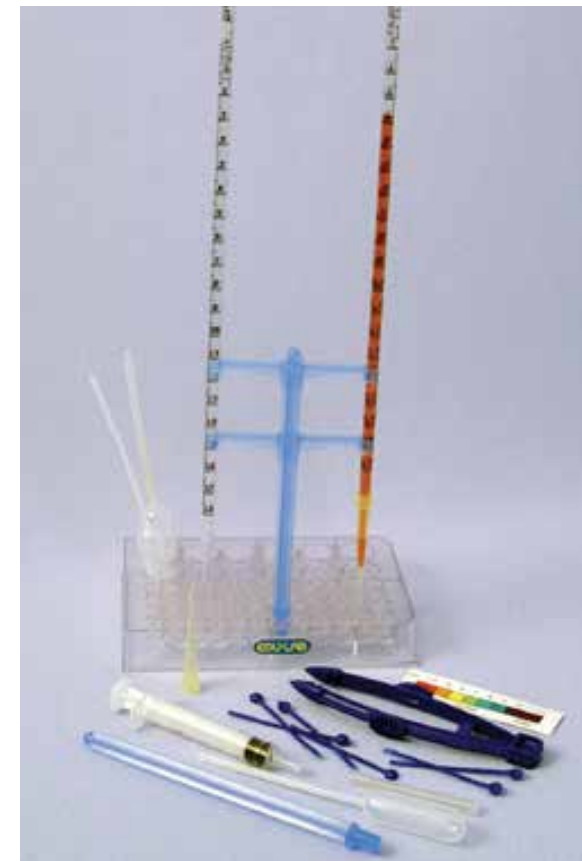
The MicroTitration kit is designed for accurate and efficient titrations in secondary school experiments.

### TECHNICAL SPECIFICATION:

ACCURACY UP TO 2 DECIMAL POINTS  
RESULTS COMPARE VERY WELL WITH TRADITIONAL CLASS B GLASSWARE  
REPRODUCIBILITY COEFFICIENTS OF 0.98 ACHIEVED  
EQUIPMENT IS DURABLE AND EASY TO MAINTAIN  
SELF-CONTAINED KIT

KEY STAGE  
KS3-6

CODE	DESCRIPTION
310-011	Titration Kit, Student, Microscience - Edulab



## 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.

### TECHNICAL SPECIFICATION:

KIT COMPONENTS ALL AVAILABLE FOR SEPARATE PURCHASE  
KITS MADE OF DURABLE, WASHABLE MATERIALS  
COMPONENT DESIGN BASED ON EQUIPMENT USED FOR MODERN LABORATORY TECHNIQUES  
COMBOPLATES DISHWASHER SAFE  
KITS DESIGNED FOR INDIVIDUAL USE OR IN SMALL GROUPS  
WORKSHEETS WRITTEN FOR THE STUDENTS AND SUITED TO THE CURRICULUM  
WORKBOOKS AND GUIDES MUST BE ORDERED SEPARATELY  
LOG IN TO THE USER SECTION OF THIS WEBSITE FOR FREE DOWNLOADS OF MICROSCIENCE WORKSHEETS  
WORKSHEETS CAN BE LINKED TO AQA, IB, OCR, EDEXCEL, WJEC, SEB, IEB AND CIE SCHEMES  
EXTENSIVE LINKS TO ALL USA CURRICULA  
TECHNICAL SUPPORT AND TRAINING COURSES AVAILABLE WORLDWIDE

KEY STAGE  
KS3-6

CODE	DESCRIPTION
310-003	Basic Kit, Student, Microscience - Edulab

## 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 be 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.

### TECHNICAL SPECIFICATION:

ACCURATE TO TWO DECIMAL PLACES  
CORRELATION COEFFICIENTS OF UP TO 0.98  
EXCELLENT FEEDBACK FROM UK STUDIES  
USED BY ROYAL SOCIETY OF CHEMISTRY IN UK WIDE MICROSCIENCE TRIAL  
WELL DOCUMENTED IN THE LITERATURE  
COMPONENTS INDIVIDUALLY AVAILABLE  
WORKSHEETS AVAILABLE  
SEE SUBMISSION AT [HTTP://WWW.PUBLICATIONS.PARLIAMENT.UK/PA/LD200506/LDSELECT/LDSCTECH/257/257WE12.HTML](http://www.publications.parliament.uk/pa/LD200506/LDSELECT/LDSCTECH/257/257WE12.HTML)

KEY STAGE  
KS3-6

CODE	DESCRIPTION
310-012	Microburette Kit, Microscience - Edulab







## HIV/AIDS TESTING KIT, SIMULATED - EDULAB

This is an exciting, real life science lesson activity which uses real laboratory 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 extensively by United Nations in its UNESCO outreach work worldwide.



Teachers guide & students notes, chemicals and equipment are included with this kit. Sufficient reagent and materials to suit a class of 30 students.

### SPECIFICATIONS:

THE EDULAB SIMULATED ELISA TEST IS A HANDS ON ACTIVITY FOR STUDENTS THAT SERVES THE FOLLOWING IMPORTANT KNOWLEDGE OUTCOMES:

1. GOOD UNDERSTANDING OF THE BODY'S IMMUNE SYSTEM AND HOW THE ANTIGEN/ANTIBODY REACTION WORKS. IT SHOWS WHAT GOES WRONG WITH THE IMMUNE SYSTEM WHEN HIV INFECTION OCCURS. IT ALSO DEMONSTRATES CLEARLY A TEST THAT IS USED DAILY TO SCREEN BLOOD AND DIAGNOSE THE PRESENCE OF THE DISEASE.
2. BLOOD TRANSFUSION IS A LIFE SAVING PRACTICE THAT IS ADMINISTERED TO MILLIONS OF PATIENTS EVERY MONTH. THE IMPORTANCE OF SAFE BLOOD IS MADE CLEAR WITH THIS KIT.
3. THE DISCUSSION IN THE ACTIVITIES IN THE KIT BRING THE REAL LIFE ISSUES OF HIV INTO FOCUS FOR THE LEARNER.
4. PREVENTION OF SPREADING OF THE DISEASE CAN BE DISCUSSED AS WELL.

KEY STAGE  
KS3-6

CODE	DESCRIPTION
310-013	HIV/Aids Testing Kit, Simulated - Edulab

## 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.

### TECHNICAL SPECIFICATION:

KIT COMPONENTS ALL AVAILABLE FOR SEPARATE PURCHASE.  
KITS MADE OF DURABLE, WASHABLE MATERIALS. COMPONENT DESIGN BASED ON EQUIPMENT USED FOR MODERN LABORATORY TECHNIQUES.  
COMBO-PLATES DISHWASHER SAFE.  
KITS DESIGNED FOR INDIVIDUAL USE OR IN SMALL GROUPS. WORKSHEETS WRITTEN FOR THE STUDENTS AND SUITED TO THE CURRICULUM.  
WORKBOOKS AND GUIDES MUST BE ORDERED SEPARATELY. LOG IN TO THE USER SECTION OF THIS WEBSITE FOR FREE DOWNLOADS OF MICROSCIENCE WORKSHEETS. WORKSHEETS CAN BE LINKED TO AQA, IB, OCR, EDEXCEL, WJEC, SEB, IEB AND CIE SCHEMES.

KEY STAGE  
KS3-6

CODE	DESCRIPTION
310-014	Blood Typing Kit, Simulated - Edulab

## BIOLOGY KIT, MICROSCIENCE - EDULAB

Microscience Biology KitVersatile, microscale kit based around the world renowned Comboplate. Enables students to perform arange of biology practicals previously only possible with traditional laboratory apparatus.

### TECHNICAL SPECIFICATION:

KIT COMPONENTS ALL AVAILABLE FOR SEPARATE PURCHASE  
KITS MADE OF DURABLE, WASHABLE MATERIALS. COMPONENT DESIGN BASED ON EQUIPMENT USED FOR MODERN LABORATORY TECHNIQUES.  
COMBO-PLATES DISHWASHER SAFE.  
KITS DESIGNED FOR INDIVIDUAL USE OR SMALL GROUPS.  
WORKSHEETS WRITTEN FOR THE STUDENTS AND SUITED TO THE CURRICULUM.  
LOG IN TO THE USER SECTION OF THIS WEBSITE FOR FREE DOWNLOADS OF MICROSCIENCE WORKSHEETS. WORKSHEETS CAN BE LINKED TO AQA, IB, OCR, EDEXCEL, WJEC, SEB, IEB AND CIE SCHEMES.  
EXTENSIVE LINKS TO ALL USA CURRICULA.  
TECHNICAL SUPPORT AND TRAINING COURSES AVAILABLE WORLDWIDE. WORKBOOKS AND GUIDES MUST BE ORDERED SEPARATELY.

KEY STAGE  
KS3-6

CODE	DESCRIPTION
310-074	Biology Kit, Microscience - Edulab

This kit provides students working on an individual basis with an opportunity to study the basic principles of electricity.

### KIT INCLUDES:

BATTERIES & CURRENT FLOW CIRCUITS: DIRECTION SERIES & PARALLEL CIRCUITS MAGNETIC EFFECTS & CHEMICAL REACTIONS ELECTRICITY IN THE HOME

### REASONS TO BUY:

ECONOMICAL  
INDIVIDUAL HANDS ON USE  
COMPONENTS MAY BE USED FOR OTHER APPLICATIONS  
ALL PARTS AVAILABLE INDIVIDUALLY  
EXCELLENT WORKSHEETS AND TEACHERS GUIDES  
CURRICULUM LINKS AVAILABLE ON REQUEST, OCR, EDEXCEL, AQA, WJEC, SEB, IEB, CIE, IB  
HIGHLY RECOMMENDED  
CAN BE USED REPEATEDLY  
EXCELLENT TEACHING TOOL

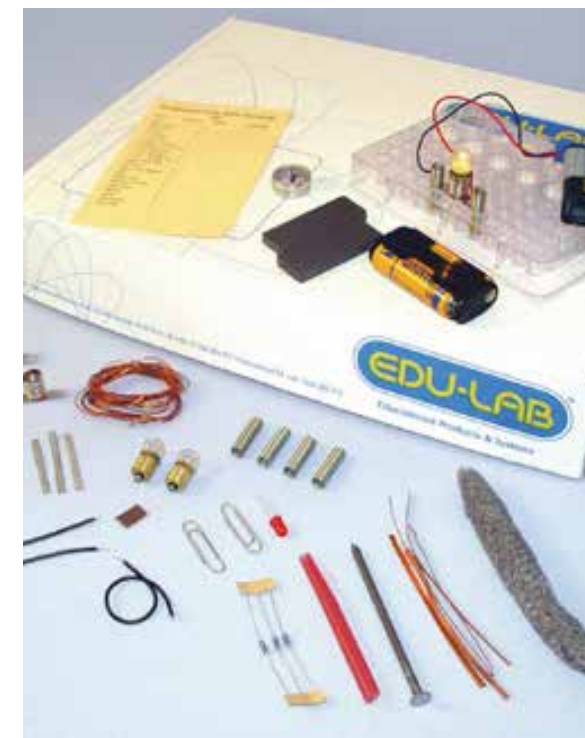
### SPECIFICATIONS:

COMBOPLATE IS THE CIRCUIT BOARD.  
COMPONENETS CLIP IN TO THE SPRINGS INSERTED IN THE WELLS.  
SUITABLE FOR KEY STAGE 2 (GRADE 4) AND ABOVE.  
IDEAL FOR DATALOGGING APPLICATIONS.  
WORKBOOKS AVAILABLE.

KEY STAGE  
KS3-6

CODE	DESCRIPTION
310-015	Electricity Kit, Microscience - Edulab

## ELECTRICITY KIT, MICROSCIENCE - EDULAB







## WATER FIELD KIT, MICROSCIENCE - EDULAB

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.



KEY STAGE  
KS3-5

CODE	DESCRIPTION
310-016	Water Field Kit, Microscience - Edulab

## MINI SCIENCE QCA - CHARACTERISTICS OF MATERIALS KIT

**ACTIVITIES PERFORMED WITH THIS KIT:**  
CHARACTERISTICS HARD WEARING MATERIALS.  
STRONGEST FABRIC WHAT ARE OUR CLOTHES MADE OF?  
WHAT AFFECTS HOW HIGH A BALL BOUNCES? ABSORBENCY OF DIFFERENT PAPERS & FLAMMABLE MATERIALS.



KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-101	Mini Science QCA - Characteristics of Materials Kit

## MINI SCIENCE QCA - CHANGING SOUNDS KIT

**ACTIVITIES PERFORMED WITH THIS KIT:**  
MAKING SOUNDS.  
WATCHING SOUND TRAVEL MEASURING VIBRATIONS.  
WHICH MATERIAL CAN SOUND TRAVEL THROUGH?  
BEST MATERIAL FOR MUFFLING SOUND WHAT IS PITCH?  
INVESTIGATING PITCH.



DID YOU  
HEAR  
THAT?

KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-105	Mini Science QCA - Changing Sounds Kit

## MINI SCIENCE QCA - LIGHT AND SHADOWS KIT

**ACTIVITIES PERFORMED WITH THIS KIT:**  
HOW ARE SHADOWS FORMED? HOW DO SHADOWS CHANGE THROUGHOUT THE DAY? DOES THE SUN SHINE FROM THE SAME DIRECTION AT THE SAME TIME EACH DAY? HOW DO WE KNOW THE EARTH SPINS ON ITS AXIS? WHICH SURFACES REFLECT LIGHT THE BEST? DO ALL MATERIALS LET LIGHT THROUGH? WHAT CAN YOU SEE WITH A MIRROR?



DID YOU  
SEE  
THAT?

KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-108	Mini Science QCA - Light & Shadows Kit

## WATER MONITORING KIT, MICROSCIENCE - EDULAB

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.



KEY STAGE  
KS3-5

CODE	DESCRIPTION
310-017	Water Monitoring Kit, Microscience - Edulab

## MINI SCIENCE QCA - MAGNETS AND SPRINGS KIT

**ACTIVITIES PERFORMED WITH THIS KIT:**  
INVESTIGATING MAGNETS.  
INVESTIGATING MAGNETIC MATERIALS.  
INVESTIGATING THE STRENGTH OF MAGNETS.  
DO MAGNETS WORK THROUGH OTHER MATERIALS?  
MAGNETIC FIELDS MAKING A CATAPULT.



KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-104	Mini Science QCA - Magnets and Springs Kit

## MINI SCIENCE QCA - SEEDS AND GREEN PLANTS KIT

**ACTIVITIES PERFORMED WITH THIS KIT:**  
HOW AND WHERE DO THE LEAVES OF PLANTS GET WATER?  
EFFECTS ON GROWTH OF AMOUNTS OF WATER, LIGHT AND TEMPERATURE. WHAT DOES A SEED LOOK LIKE?  
SEED DISPERSAL.  
WHAT FACTORS AFFECT GERMINATION? OBSERVING FLOWERS



KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-106	Mini Science QCA - Seeds and Green Plants Kit

## MINI SCIENCE QCA - ELECTRICITY KIT

**ACTIVITIES PERFORMED WITH THIS KIT:**  
UNDERSTANDING A COMPLETE CIRCUIT.  
WHICH MATERIALS CONDUCT ELECTRICITY THE BEST?  
WHAT IS A SWITCH? HOW DO I CHANGE THE BRIGHTNESS OF A BULB? CHANGING CIRCUITS CAN YOU DRAW A CIRCUIT DIAGRAM? HOW DO I CHANGE THE WIRES TO AFFECT THE BRIGHTNESS OF THE BULB?



KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-109	Mini Science QCA - Electricity Kit







## MINI SCIENCE QCA - HEAT KIT

### ACTIVITIES PERFORMED WITH THIS KIT:

LOOKING AT TEMPERATURE HOT OR COLD?  
HOW TO KEEP THINGS COLD. HOW TO KEEP THINGS WARM. WHICH MATERIALS ARE THERMAL INSULATORS? MELTING/CHANGING STATES.



KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-110	MiniScience QCA-Heat

## MINISCIENCE QCA - EARTH, SUN & MOON

### ACTIVITIES PERFORMED WITH THIS KIT:

WHAT ARE THE RELATIVE SIZES OF?  
DOES THE SUN MOVE? DAY AND NIGHT.  
SUNRISE AND SUNSET.  
THE SEASONS/PHASES OF THE MOON.



KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-111	MiniScience QCA-Earth, Sun & Moon

## MINISCIENCE QCA - GASES AROUND US

### ACTIVITIES PERFORMED WITH THIS KIT:

DIFFERENCES BETWEEN SOLIDS AND LIQUIDS.  
DEFINING SOLIDS.  
COMPARING THE AMOUNT OF AIR IN DIFFERENT SOILS.  
NAMING GASES.  
WHERE DOES WATER GO?  
DEFINING SOLIDS, LIQUIDS AND GASES.



KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-112	MiniScience QCA-Gases Around us

## MINISCIENCE QCA - DISSOLVING & CHANGES

### ACTIVITIES PERFORMED WITH THIS KIT:

CLEANING WATER/ EVAPORATION.  
WHAT MAKES A SOLID DISSOLVE MORE QUICKLY?  
TEMPERATURE AND THE EFFECTS ON DISSOLVING  
MIXING MATERIALS.  
WHAT CHANGES OCCUR WHEN MATERIALS ARE MIXED?  
CHANGING MATERIALS.



KEY STAGE  
KS3-5

CODE	DESCRIPTION
1-113	MiniScience QCA Dissolving & Changes



## EDULAB LAB TROLLEY - 3 SHELF

The Edulab range of Laboratory Trolleys has been designed for a multitude of applications.

- Multipurpose
- Wipe clean
- Durable
- Lightweight
- 250kg load capacity

**REASONS TO BUY:** LIGHTWEIGHT / WIPE CLEAN / DURABLE / MULTIPURPOSE / 240KG CAPACITY



KEY STAGE  
KS3-6

### TECHNICAL SPECIFICATIONS

Dimensions:	L1100 x W480 x H1020 mm
Frame:	553mm Aluminum
Tray:	L915 x W520mm
Tray Height:	300mm
Color:	Black

These trolleys are chemical resistant and are used in research, medical, industrial and education labs all over the world. All trolleys are extremely lightweight, have a safe working load of 250kg and are supplied with precision bearing castors including 2 brakes.

The Edulab Lab trolleys are ergonomic in design and attractive in appearance. The construction of the trolleys is from the highest quality, nylon fibre blended polymers which are resistant to the harshest working conditions.

The Lab trolley also includes a rubber construction mallet for easy assembly.

**PRODUCT CODE**  
**612-061**





## LABORATORY TROLLEY - 2 SHELF, 250KG

The Edulab range of Laboratory Trolleys has been designed for a multitude of applications. These trolleys are chemical resistant and are used in research, medical, industrial and education labs all over the world. All trolleys are extremely lightweight, have a safe working load of 250kg and are supplied with precision bearing castors including 2 brakes.

The Edulab Lab trolleys are ergonomic in design and attractive in appearance. The construction of the trolleys is from the highest quality, nylon fibre blended polymers which are resistant to the harshest working conditions. The Lab trolley also includes a rubber construction mallet for easy assembly.

**REASONS TO BUY:** LIGHTWEIGHT / WIPE CLEAN / DURABLE / MULTIPURPOSE / 240KG CAPACITY



TECHNICAL SPECIFICATIONS	
Dimentions (mm):	850 x 480 x 950 (L x W x H)
Frame:	553mm Aluminum
Tray:	L680 x W450mm
Tray Height:	550mm
Color:	Black



SHELVES <b>TWO</b>	CAPACITY <b>240KG</b>	COLOUR <b>BLACK</b>
-----------------------	--------------------------	------------------------

CODE	DESCRIPTION
612-062	Laboratory Trolley - 2 Shelf, 250kg

## LABORATORY TROLLEY - 4 SHELF, 250KG

The Edulab range of Laboratory Trolleys has been designed for a multitude of applications. These trolleys are chemical resistant and are used in research, medical, industrial and education labs all over the world. All trolleys are extremely lightweight, have a safe working load of 250kg and are supplied with precision bearing castors including 2 brakes.

The Edulab Lab trolleys are ergonomic in design and attractive in appearance. The construction of the trolleys is from the highest quality, nylon fibre blended polymers which are resistant to the harshest working conditions. The Lab trolley also includes a rubber construction mallet for easy assembly.

**REASONS TO BUY:** LIGHTWEIGHT / WIPE CLEAN / DURABLE / MULTIPURPOSE / 240KG CAPACITY



TECHNICAL SPECIFICATIONS	
Dimentions (mm):	850 x 480 x 1080 (L x W x H)
Frame:	185mm Aluminum
Tray:	L680 x W450mm
Tray Height:	170mm
Color:	Black



SHELVES <b>FOUR</b>	CAPACITY <b>240KG</b>	COLOUR <b>BLACK</b>
------------------------	--------------------------	------------------------

CODE	DESCRIPTION
612-063	Laboratory Trolley - 4 Shelf, 250kg

## LABORATORY TROLLEY - 2 SHELF, LARGE, 250KG

The Edulab range of Laboratory Trolleys has been designed for a multitude of applications. These trolleys are chemical resistant and are used in research, medical, industrial and education labs all over the world. All trolleys are extremely lightweight, have a safe working load of 250kg and are supplied with precision bearing castors including 2 brakes.

The Edulab Lab trolleys are ergonomic in design and attractive in appearance. The construction of the trolleys is from the highest quality, nylon fibre blended polymers which are resistant to the harshest working conditions. The Lab trolley also includes a rubber construction mallet for easy assembly.

**REASONS TO BUY:** LIGHTWEIGHT / WIPE CLEAN / DURABLE / MULTIPURPOSE / 240KG CAPACITY



TECHNICAL SPECIFICATIONS	
Dimentions (mm):	1100 x 520 x 950 (L x W x H)
Frame:	553mm Aluminum
Tray:	L915 x W520mm
Tray Height:	550mm
Color:	Black



SHELVES <b>TWO</b>	CAPACITY <b>240KG</b>	COLOUR <b>BLACK</b>
-----------------------	--------------------------	------------------------

CODE	DESCRIPTION
612-064	Laboratory Trolley - 2 Shelf, Large, 250kg

## LABORATORY TROLLEY - 3 SHELF, LARGE, 250KG

The Edulab range of Laboratory Trolleys has been designed for a multitude of applications. These trolleys are chemical resistant and are used in research, medical, industrial and education labs all over the world. All trolleys are extremely lightweight, have a safe working load of 250kg and are supplied with precision bearing castors including 2 brakes.

The Edulab Lab trolleys are ergonomic in design and attractive in appearance. The construction of the trolleys is from the highest quality, nylon fibre blended polymers which are resistant to the harshest working conditions. The Lab trolley also includes a rubber construction mallet for easy assembly.

**REASONS TO BUY:** LIGHTWEIGHT / WIPE CLEAN / DURABLE / MULTIPURPOSE / 240KG CAPACITY



TECHNICAL SPECIFICATIONS	
Dimentions (mm):	1100 x 520 x 1020 (L x W x H)
Frame:	275mm Aluminum
Tray:	L915 x W520mm
Tray Height:	550mm
Color:	Black



SHELVES <b>THREE</b>	CAPACITY <b>240KG</b>	COLOUR <b>BLACK</b>
-------------------------	--------------------------	------------------------

CODE	DESCRIPTION
612-065	Laboratory Trolley - 3 Shelf, Large, 250kg





## LINEAR AIR TRACK 1.2 METER - EDULAB

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. It is supplied with a range of accessories including vehicles with mass attachments, catapults and buffers.

For measurement of glider speeds, standard light gates and timers are required. Alternatively the Air Track can be used with the Edu-Logger lights gates and Wi-Fi module for stunning results!

**REASONS TO BUY:** EXCLUSIVE MINI SIZE / SPACE SAVING / EASY TO STORE COMPARED WITH THE CONVENTIONAL LINEAR AIR TRACK / TRUSTED EDULAB BRAND / EASY TO USE / DETAILED INSTRUCTION MANUAL

CALL US TODAY  
FOR MORE  
INFORMATION

LENGTH  
**1.2M**

DIMENSIONS  
**56X56MM**

COLOUR  
**SILVER**



KEY STAGE  
**KS3-6**

CODE	DESCRIPTION
153-600	Linear Air Track 1.2 Meter - Edulab



FIND OUT MORE  
ONLINE TODAY AT  
**EDULAB.COM**

## XACTO™ PIPPETOR RANGE

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 recalibrated.

The Xacto™ pipettor has a unique feature that decreases downtime, eases volume switching and decreases ongoing costs.

This feature allows the volume control at the top of the pipette to be switched to a fixed knob anywhere within the volume range of the pipette. When switching volumes, it's as fast as removing one knob and replacing it with another. No need to switch pipettes or change volume on the variable.

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.

**CALL TODAY**  
**+44 (0) 1366 385777**

LIQUID HANDLING

CALL EDULAB ON **+44(0)1366 385777**





LIQUID HANDLING



## XACTO™ PIPETTOR, VARIABLE VOLUME, 0.5 - 10ul - 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 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.



CODE	DESCRIPTION
153-320	Xacto™ Pipettor, Variable Volume, 0.5 - 10ul

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



CODE	DESCRIPTION
153-321	Xacto™ Pipettor, Variable Volume, 2 - 20ul

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



CODE	DESCRIPTION
153-323	Xacto™ Pipettor, Variable Volume, 100 - 1000ul



LIQUID HANDLING

### KEY FEATURES OF THE RANGE:

FULLY METAL  
SHAFT AND TIP

FULLY  
AUTOCLAVABLE  
PLASTIC BODY

SIMPLE  
CALIBRATION

DOUBLE 'O' RING  
FOR SUPERB  
AIRTIGHT SEAL

ERGONOMIC  
DESIGN FOR LESS  
FATIGUE

LOCKABLE  
VOLUME  
CONTROL



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



CODE	DESCRIPTION
153-319	Xacto™ Pipettor, Variable Volume, 20 - 200ul

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



CODE	DESCRIPTION
153-322	Xacto™ Pipettor, Variable Volume, 10 - 100ul

IN SCIENCE TOGETHER

CALL EDULAB ON +44(0)1366 385777







## XACTO™ FIXED VOLUME CONTROLLER KNOB

Fixed volume controller knob for Xacto pipettors.

KEY STAGE  
KS3-6

CODE	DESCRIPTION
153-326	5ul Fixed Volume Controller Knob For 0.5-10ul
153-327	10ul Fixed Volume Controller Knob For 0.5-10ul
153-328	10ul Fixed Volume Controller Knob For 2-20ul
153-329	20ul Fixed Volume Controller Knob For 2-20ul
153-330	20ul Fixed Volume Controller Knob For 5-50ul
153-331	25ul Fixed Volume Controller Knob For 5-50ul
153-332	50ul Fixed Volume Controller Knob For 5-50ul
153-333	30ul Fixed Volume Controller Knob For 10-100ul
153-334	50ul Fixed Volume Controller Knob For 10-100ul
153-335	100ul Fixed Volume Controller Knob For 10-100ul
153-336	100ul Fixed Volume Controller Knob For 20-200ul
153-337	200ul Fixed Volume Controller Knob For 20-200ul
153-338	500ul Fixed Volume Controller Knob For 100-1000ul
153-339	1000ul Fixed Volume Controller Knob For 100-1000ul

## XACTO™, COMBI STAND



KEY STAGE  
KS3-6

CODE	DESCRIPTION
153-325	Xacto™, Combi Stand

## XACTO™ STORAGE BLOCK, 4 PLACE

Storage block for Xacto volume control knobs.



KEY STAGE  
KS3-6

CODE	DESCRIPTION
153-340	Xacto™ Storage Block, 4 place



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.

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 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](http://www.edulab.com/video-library)

**WE'VE NEVER CHARGED FOR OUR SOFTWARE AND NEVER WILL!**

## EDULAB DATA-LOGGING

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!**

**CALL TODAY**  
+44 (0) 1366 385777



PIXELS  
320X240CONNECTION  
USBWORKS WITH  
WIFI

## 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 communication with PCs, MACs, iPads, Android tablets and smart-phones.

NEW

KEY STAGE  
KS5-6

CODE	DESCRIPTION
900-275	Panda Edu-Logger

## 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's 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	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	DESCRIPTION
900-260	Anemometer Sensor - Edu-Logger

CALL US TODAY  
FOR MORE  
INFORMATION

## AMMONIUM LOGGER SENSOR

The Edu-Logger Ammonium sensor can be used to measure the concentration of ammonium ions ( $\text{NH}_4^+$ ) 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.



SCAN THE QR CODE  
FOR FULL DESCRIPTION  
AND TECHNICAL  
SPECIFICATIONS

KEY STAGE  
KS4-6

CODE	DESCRIPTION
900-258	Ammonium Logger Sensor - Edu-Logger

## CALCIUM LOGGER SENSOR

The Edu-Logger Calcium Sensor enables measurements of ionic calcium ( $\text{Ca}^{2+}$ ) 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	DESCRIPTION
900-256	Calcium Logger Sensor Edu-Logger

## CHLORIDE LOGGER SENSOR

The Edu-Logger chloride sensor is used to measure the concentration of chloride ions ( $\text{Cl}^-$ ) 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.



SCAN THE QR CODE  
FOR FULL DESCRIPTION  
AND TECHNICAL  
SPECIFICATIONS

KEY STAGE  
KS3-5

CODE	DESCRIPTION
900-257	Chloride Logger Sensor - Edu-Logger

## 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.

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	DESCRIPTION
900-257	Chloride Logger Sensor - Edu-Logger







## 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.



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:	Acc-x -80 to 80 m/s <sup>2</sup> Acc-y -80 to 80 m/s <sup>2</sup> Acc-z -80 to 80 m/s <sup>2</sup>
ADC Resolution:	10 bit
Resolution:	0.15 m/s <sup>2</sup>
Max Sample Rate (S/sec):	3000

CODE	DESCRIPTION
900-237	Acceleration Logger Sensor

## 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 measures atmospheric barometric pressure.

### 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

KEY STAGE  
KS4-6

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	DESCRIPTION
900-231	Barometer Logger Sensor

## 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.

KEY STAGE  
ALL

CODE	DESCRIPTION
900-215	Battery Module



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## 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.



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	DESCRIPTION
900-232	Blood Pressure Sensor



### THE SENSOR HAS THREE RANGES:

- The average pressure in the pressure cuff in mm Hg.
- The pressure beats with no units.
- The sum of the two above signals.

### THE EDU-LOGGER SOFTWARE EXTRACTS THE FOLLOWING FROM THE BLOOD PRESSURE GRAPH:

- The Systolic blood pressure
- The Diastolic blood pressure
- The MAP (Mean Arterial Pressure)
- The heart rate



# CO² LOGGER SENSOR

This logger sensor is based on an electromechanical reaction between CO² gas and the sensor.

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The result of the electromechanical reaction is voltage, measured by the logger sensor. The measurement units are ppm (parts of CO² 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 CO² 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	DESCRIPTION
900-230	CO2 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.



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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	DESCRIPTION
900-225	Conductivity Logger Sensor

# CONDUCTIVITY LOGGER SENSOR

**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



# 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: absorbance 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	DESCRIPTION
900-229	Colorimeter Logger Sensor

# CURRENT LOGGER SENSOR

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.



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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	DESCRIPTION
900-202	Current Logger Sensor

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## 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.



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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	DESCRIPTION
900-233	Drop Counter Logger Sensor

## FLOW RATE LOGGER SENSOR



## 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.



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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	DESCRIPTION
900-228	EKG Logger Sensor

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.



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AND TECHNICAL  
SPECIFICATIONS

KEY STAGE  
KS4-6

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	DESCRIPTION
900-234	Flow Rate Logger Sensor

## 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.



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AND TECHNICAL  
SPECIFICATIONS

KEY STAGE  
KS4-5

TECHNICAL SPECIFICATIONS	
Experiment Duration:	50 ms to 31 days
Range & Operation modes:	$\pm 10$ N & $\pm 50$ N
ADC Resolution:	16 bit
Resolution:	0.02
Max Sample Rate (S/sec):	3000

CODE	DESCRIPTION
900-211	Force Logger Sensor

## 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.



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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	DESCRIPTION
900-235	Force Plate Logger Sensor

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.

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## 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.



KEY STAGE  
KS4-5

CODE	DESCRIPTION
900-227	Galvanic Skin Response (GSR) Logger Sensor

## 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.



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AND TECHNICAL  
SPECIFICATIONS

KEY STAGE  
ALL

CODE	DESCRIPTION
900-214	Graphic Display Unit

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.



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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	DESCRIPTION
900-207	Humidity Logger Sensor

## HUMIDITY LOGGER SENSOR

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



## 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.



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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	DESCRIPTION
900-208	Heart Rate and Pulse 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.



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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	DESCRIPTION
900-209	Light Gate Logger Sensor

## LIGHT GATE LOGGER SENSOR

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







## 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 is 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
	Illumination: 0 to 1,000 lx
Range & Operation modes:	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	DESCRIPTION
900-204	Light Logger Sensor

## MOTION LOGGER SENSOR

- Vast array of uses e.g. in dynamics to show distance displacement graphs.



SCAN THE QR CODE FOR FULL DESCRIPTION AND TECHNICAL SPECIFICATIONS

KEY STAGE  
KS4-5

### TECHNICAL SPECIFICATIONS

Experiment Duration:	1 second to 31 days
	Distance: 0.25 to 6 m
Range & Operation modes:	Velocity: $\pm 10$ m/s Acceleration: $\pm 100$ m/s <sup>2</sup>
ADC Resolution:	13 bit
Resolution:	1 mm 0.02 m/s 0.08 m/s <sup>2</sup>
Max Sample Rate (S/sec):	100

CODE	DESCRIPTION
900-223	Motion Logger Sensor

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.



## 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:	$\pm 10$ mT
ADC Resolution:	16 bit
Resolution:	0.001 mT
Max Sample Rate (S/sec):	3000

CODE	DESCRIPTION
900-224	Magnetic Field Logger Sensor

## 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 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.



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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:	13 bit
Resolution:	0.1% 0.01%
Max Sample Rate (S/sec):	100

CODE	DESCRIPTION
900-205	Oxygen Logger Sensor

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## 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	DESCRIPTION
900-206	pH Logger Sensor

## 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.



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	DESCRIPTION
900-255	Respiration Logger Sensor

## 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.



KEY STAGE  
ALL

CODE	DESCRIPTION
900-216	RF module

## PRESSURE LOGGER SENSOR

- Can be also be used in chemistry and biology where changes in pressure are involved.



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	DESCRIPTION
900-210	Pressure 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	DESCRIPTION
900-236	Respiration Logger Sensor

## ROTARY MOTION LOGGER SENSOR







## 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.



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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	DESCRIPTION
900-238	Salinity Logger Sensor

## 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.



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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	DESCRIPTION
900-239	Soil Moisture Logger Sensor

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.

## 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.



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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	DESCRIPTION
900-212	Sound Logger Sensor

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.



## SPIROMETER LOGGER SENSOR

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	DESCRIPTION
900-226	Spirometer Logger Sensor



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## 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.



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	DESCRIPTION
900-243	Surface Temperature Logger Sensor

## 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	DESCRIPTION
900-241	Turbidity Logger Sensor



DATA LOGGING

## 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	DESCRIPTION
900-203	Temperature Logger Sensor



## USB LEAD - 100CM - EDU-LOGGER

100cm USB cable for the Edu-Logger® Datalogging system. Version 1 to Version 2 connection lead

All Edu-Logger® sensors must be used with a USB module which is available for purchase separately.

100CM  
USB LEAD

KEY STAGE  
ALL

CODE	DESCRIPTION
900-219	USB Lead - 100cm - Edu-logger

## 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.



KEY STAGE  
ALL

CODE	DESCRIPTION
900-213	USB Module







## 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.



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/m<sup>2</sup> (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 50,000 mW/m <sup>2</sup>
ADC Resolution:	14 bit
Resolution:	4 mW/m <sup>2</sup>
Max Sample Rate (S/sec):	100

CODE	DESCRIPTION
900-242	UVA Logger Sensor

## 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.



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	DESCRIPTION
900-201	Voltage Logger Sensor

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.

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INFORMATION



## 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/m<sup>2</sup> (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/m <sup>2</sup>
ADC Resolution:	14 bit
Resolution:	0.1 mW/m <sup>2</sup>
Max Sample Rate (S/sec):	100

CODE	DESCRIPTION
900-240	UVB Logger Sensor

## ELECTROSTATIC CHARGE SENSOR

- Very useful if used along with Faraday's pails or equivalent.



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	DESCRIPTION
900-263	Electrostatic Charge Sensor - Edu-Logger

"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."





## GEIGER SENSOR - EDU-LOGGER

The most common types of radiation are alpha, beta and gamma. The NeuLog Geiger sensor measures all three types of radiation. The radioactivity of a sample can be measured by counting how many ionizing events occurred in a period of time or as rate (counts per second, for example).

Possible experiments that can be performed are:  
Radioactivity and distance, Lifetime measurements,  
Biological radioactive markers, measuring half-lives,  
Radiation shielding, etc.

KEY STAGE  
KS4-6

TECHNICAL SPECIFICATIONS			
Range	ADC Resolution:	Resolution:	Max Sample Rate (S/sec):
0-65, 500 Counts	16 Bit Digital	1 Count	100
0-65, 500 Counts/s		1 Counts/s	
0-65, 500 Counts/m		1 Counts/m	
0-300 uSv/h		1 uSv/h	
0-30, 000 uR/h		1 uR/h	

CODE	DESCRIPTION
900-264	Geiger Sensor - Edu-Logger

## HAND DYNAMOMETER LOGGER SENSOR

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.

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ONLINE TODAY AT  
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SCAN THE QR CODE  
FOR FULL DESCRIPTION  
AND TECHNICAL  
SPECIFICATIONS

KEY STAGE  
KS4-5

CODE	DESCRIPTION
900-267	Hand Dynamometer Logger Sensor - Edu-Logger



## 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

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	DESCRIPTION
900-261	GPS Position Sensor - Edu-Logger

## INFRARED THERMOMETER LOGGER SENSOR

This sensor measures temperature remotely using an infrared high accurate sensor.



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	DESCRIPTION
900-245	Infrared Thermometer Logger Sensor - Edu-Logger

## NITRATE LOGGER SENSOR

The Edu-Logger nitrate sensor can be used to measure the concentration of nitrate ions (NO<sub>3</sub>-) 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.



KEY STAGE  
KS4-6

CODE	DESCRIPTION
900-259	Nitrate Logger Sensor - Edu-Logger

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INFORMATION







## 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.



COMPATIBLE WITH

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



SCAN THE QR CODE  
FOR FULL DESCRIPTION  
AND TECHNICAL  
SPECIFICATIONS

KEY STAGE  
ALL

### 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	DESCRIPTION
900-268	Wi-Fi Module - Edu-Logger



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## STEPPA- STOPPA SMALL (BOX 10)



SCAN THE QR CODE  
FOR FULL DESCRIPTION  
AND TECHNICAL  
SPECIFICATIONS



CODE  
153-925

NEW

KEY STAGE  
KS3-6

## STEPPA- STOPPA LARGE (BOX 10)



SCAN THE QR CODE  
FOR FULL DESCRIPTION  
AND TECHNICAL  
SPECIFICATIONS



CODE  
153-925

NEW

KEY STAGE  
KS3-6

## EDULAB STEPPA- STOPPER

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.

FOR THE FULL SPECIFICATION SEE PAGE 6.

**CALL TODAY**  
+44 (0) 1366 385777





## BAGS, GRIP-SEAL

Printed ziplock bag for use in laboratories. Packed in outer cartons of 1000.



SOLD IN  
PACKS OF  
1000

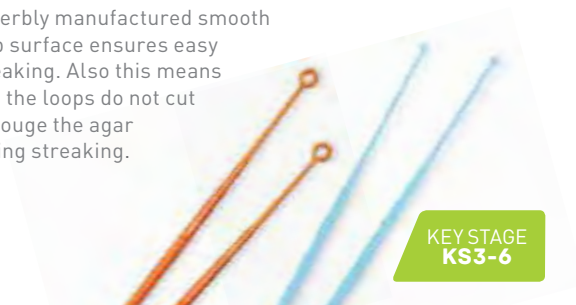
KEY STAGE  
KS3-6

CODE	DESCRIPTION
153-526	Bags, Grip-seal 100 x 140mm ISG® (Pk1000)
153-527	Bags, Grip-seal 125 x 190mm ISG® (Pk1000)
153-528	Bags, Grip-seal 150 x 225mm ISG® (Pk1000)
153-529	Bags, Grip-seal 280 x 200mm ISG® (Pk1000)

## 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 (Acrylonitrile Butadiene Styrene)
Sterility:	EO (Ethylene Oxide)

CODE	DESCRIPTION
153-530	Inoculation Loops Sterile 10uL ISG® (Pk1000)
153-531	Inoculation Loops Sterile 1uL ISG® (Pk1000)

## PETRI DISH POLYSTYRENE (PK20/500)

The ISG® triple vent petri dishes are perfect for work with micro-organisms and media. Manufactured in accordance with european directives including 98/79/EC.



KEY STAGE  
KS3-6

CODE	DESCRIPTION
101VR20	Petri Dish 90mm Polystyrene (Pk20)
153-533	Petri dish, Sterile 90mm, Triple Vent - ISG (Pk500)

## SWABS, PLASTIC 15CM STERILE IN PEEL POUCH ISG® (PK1000)



KEY STAGE  
KS3-6

CODE	DESCRIPTION
153-544	Swabs, Plastic 15cm sterile in peel pouch ISG (Pk1000)

## 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	DESCRIPTION
153-546	310 x 660mm (Pk200) - Labelled
153-547	400 x 600mm (Pk200) - Labelled
153-548	610 x 810mm (Pk200) - Labelled

## 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 impact ABS eliminating the need for flaming or autoclaving.



KEY STAGE  
KS3-6

CODE	DESCRIPTION
153-530	Inoculation Loops Sterile 10uL ISG® (Pk1000)

## PIPETTE, TRANSFER NON STERILE/STERILE

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 Diameter:	5mm	7.8mm	5mm	7.8mm
Bulb Draw:	3.5ml	3.5ml	3.5ml	3.5ml
Graduated up to:	1ml	3ml	1ml	3ml

CODE	DESCRIPTION
153-534	Pipette, Transfer Non Sterile 1mL ISG® (Pk500)
153-535	Pipette, Transfer Non Sterile 3mL ISG® (Pk500)
153-536	Pipette, Transfer Sterile 1mL ISG® (Pk500)
153-537	Pipette, Transfer, Sterile 3mL - ISG® (Pk500)







# 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 diamond 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 an 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.

Find out more online at [www.edulab.com](http://www.edulab.com)

## PIPETTE TIPS IN RACK

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 Irradiated
Tip Capacity:	10ul, 200ul, 1000ul
Pack Size:	960 tips - 10 x 96 tip racks

CODE	DESCRIPTION
153-506	Pipette Tips in Rack 10uL, 96 per rack (Pk10)
153-507	Pipette Tips in Rack 200uL, 96 per rack (Pk10)
153-508	Pipette Tips in Rack 1000uL, 96 per rack (Pk10)

## 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 diamond 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 an 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	DESCRIPTION
153-503	Pipette Tips, Bulk 10uL, Non Sterile (Pk1000)
153-504	Pipette Tips, Bulk 200uL Non Sterile (Pk1000)
153-505	Pipette Tips, Bulk 1000uL Non Sterile (Pk1000)

## 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-cytotoxic polypropylene
Lid Material:	HDPE (High density polyethylene)
Conformity:	95Kpa transportation guidelines
Sterility:	EO (Ethylene Oxide)
Dimensions (mm):	(153-549 - 50x60) (153-550 - 55x80)

CODE	DESCRIPTION
153-549	Specimen Container, Sterile 70ml PP - ISG® (Pk600)
153-550	Specimen Container, Sterile 120ml PP - ISG® (Pk300)

## 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	DESCRIPTION
153-545	30ml, PP, No label - ISG® (Pk400)
153-575	30ml, PS, No label - ISG® (Pk400)
153-576	30ml, PS, Printed label - ISG® (Pk400)
153-577	30ml, PS, Plain label - ISG® (Pk400)

## 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-cytotoxic polypropylene
Lid Material:	HDPE (High density polyethylene)
Conformity:	95Kpa transportation guidelines
Sterility:	EO (Ethylene Oxide)
Dimensions (mm):	(153-551 - 95x55) (153-552 - 95x110)

CODE	DESCRIPTION
153-551	Specimen Container, Clean Room 250ml, PP - ISG® (Pk150)
153-552	Specimen Container, Clean Room 500ml, PP - ISG® (Pk150)





### TUBE, CENTRIFUGE CONICAL BASE 15ML RACKED - ISG® (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.



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	DESCRIPTION
153-560	Tube, Centrifuge Conical Base 15ml Racked - ISG® (Pk500)

### TUBE, CENTRIFUGE CONICAL BASE 50ML FOAM RACKED - ISG® (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	DESCRIPTION
153-561	Tube, Centrifuge 50ml Foam Racked - ISG® (Pk500)

### TUBE, MICRO CENTRIFUGE 1.5ML (PK500)

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



KEY STAGE  
KS4-6

CODE	DESCRIPTION
153-559	Tube, Micro Centrifuge 1.5ml (Pk500)

### WEIGHING TRAY

Made from high impact anti-static polystyrene ideal for using for both solids and liquids. Diamond shape with smooth, rounded internal corners enables easy removal of powder and granular samples. Smooth edges also allows controlled pouring of samples.



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KEY STAGE  
KS3-6

CODE	DESCRIPTION
153-553	Weighing Tray, 250ml 140 x 140mm ISG® (Pk250)
153-554	Weighing Tray, 50ml 44 x 44mm ISG® (Pk250)
153-555	Weighing Tray, 70ml 80 x 80mm ISG® (Pk250)

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



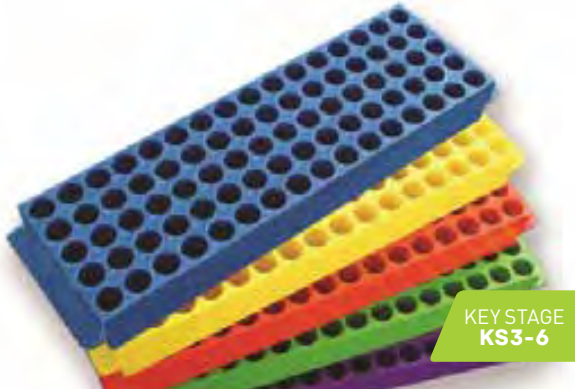
NEW  
KEY STAGE  
KS3-6

TECHNICAL SPECIFICATIONS		
	Small	Large
Base:	5mm	20mm
Top:	34.5mm	48mm
Length:	52mm	52mm

CODE	PRICE	
153-925	Steppa-Stoppa Small (Box 10)	£23.00
153-926	Steppa-Stoppa Large (Box 10)	£23.00

### MICROTUBE RACKS, 80 PLACE ISG® (PK5)

Fully autoclavable microtube rack able to hold 5 x 10 cryovials or microtubes. When using with universal locking cryovials the design allows each vial to be locked in position and not turn in the well. Each well is alphanumerically marked as an index. The racks are supported by anti skid feet to ensure stability and safety.



KEY STAGE  
KS3-6

TECHNICAL SPECIFICATIONS	
Dimensions (cm):	10 x 20 x 2.5cm
Certifications:	FDA Approved / CE Marked

CODE	DESCRIPTION
153-556	Microtube Racks, 80 Place ISG® (Pk5)







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

STRENGTH  
**17KN/M**

THICKNESS  
**6MM**

DIAMETER  
**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:	3.2±3.6 %
Rebound Resilience	60%
Temperature Range	- 50-200°C
Material	Polymer Blend

CODE	DESCRIPTION
153-512	8mm Bore 10M Roll



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

STRENGTH  
**17KN/M**

THICKNESS  
**6MM**

DIAMETER  
**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
Material	Polymer Blend

CODE	DESCRIPTION
153-513	8mm Bore 5M Roll

## TERMS & CONDITIONS

1. All contracts for the supply of goods ("Goods") by EDU-LAB Ltd to a customer ("the Purchaser") will be subjected to the following terms and conditions and in dealing with EDU-LAB Ltd the Purchaser accepts that these terms and conditions shall apply to any Contract between the parties in preference to the Purchaser's own terms and conditions (if any). 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**



## NOTES



## NOTES

**IN SCIENCE TOGETHER**



## NOTES



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### TESTIMONIALS

“ Excellent service, delivered next day. Support from staff always prompt and helpful. Thank you.”

**Heather Hardy, Royal Grammar School Guildford**

“ I want to thank your customer care team for their exceptional service and support. I have never experienced such detailed and prompt attention to an urgent need today. Well done! ”

**Delwyn Patirides, The Kings College**



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The International Scientific group.**

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