

# LAB CONNECTIONS

YOUR CONNECTION FOR QUALITY SCIENTIFIC  
EDUCATIONAL LABORATORY EQUIPMENT

## CATALOG

### XVI

PHYSICS

LAB EQUIPMENT &  
SUPPLIES, GLASSWARE,  
PLASTICWARE

BIOLOGY  
KITS & SETS



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# Lab Connections

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XVI

**TO OUR VALUED CUSTOMERS AND FRIENDS:**

Dear Friends,

We thank you for your continued support and business.

We have great pleasure in presenting to you our expanded XVI Catalog. We have added many new products, including new KITS and SETS. The products being offered are used in Education in Physics, Chemistry and Biology Laboratories to teach science.

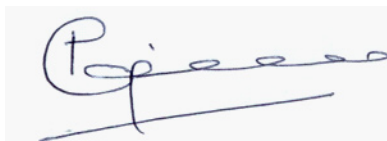
This is an inclusive list of items being carried by us. We can supply many other items, though not listed herein. Any item as per your specification can also be specially developed and manufactured exclusively for you, as we are already doing for many customers.

We always look forward to hear from you. We also solicit your comments about our products.

We again thank you for your support and look forward to your continuing support.

With regards,

Yours truly,

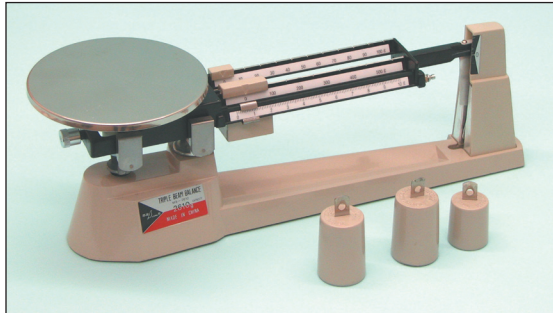
A handwritten signature in blue ink, appearing to read "Roger Salooja", written over a light gray rectangular background.

(Roger Salooja)

# PHYSICS

## BALANCES AND WEIGHTS

**6-4 TRIPLE BEAM BALANCE** 2610 gm x 0.1 gm.  
Rugged construction. Ideal for labs, kitchens or any other weighing jobs. Fast and accurate. Features: Beam 1: 0-100 grams. Beam 2: 0-500 grams. Beam 3: 0-10 grams. Agate bearing. Magnetic damper. Stainless Steel platform. Weight Capacity: 2610 grams, with 2-1000g and 1-500g hanging weights. Readability: 0.1 grams. Time and Teacher Tested. Accurate and dependable.



**7-1 LEVER BALANCE / SCALE DUAL**  
**250GM / 1000GM.** Strong metal construction. Ideal for general lab use. Can weigh upto 250gm and when the counter weight is turned down it can weight upto 1000gm. Capacity 0 to 250gm x 1gm and 0 to 1000gm x 5gm. Size 8”(200mm) x 4 3/8”(110mm) x 12”(300mm). Metal Pan, size, 5 3/8”(135mm) dia., 1 1/2”(40mm) deep.



**SPRING SCALE / BALANCE, TUBULAR**  
Plastic, Strong, tubular, transparent body. Mechanism can be easily viewed. With zero adjustment, hook and ring. Color coded for easy identification. Dual scale Newton and Grams.

- 36-1 102 gm/ 1 N
- 36-2 204 gm/ 2 N
- 36-3 255 gm/ 2.5 N
- 36-4 510 gm/ 5 N
- 36-5 1020 gm/ 10 N
- 36-6 2040gm/ 20 N
- 36-7 3060 gm/ 30 N
- 36-8 5000gm/ 50N

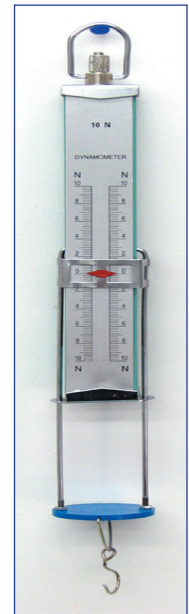


**SPRING SCALES** Flat form, with zero adjusting device. Has anodized metal scale. Metal parts are richly plated. High impact polystyrene body. Individually packed.

- 33-1 Metric, 100 g x 1 g
- 33-2 Metric, 200 g x 2 g
- 33-3 Metric, 250 g x 10 g
- 33-4 Metric, 500 g x 20 g
- 33-5 Metric, 1000 g x 20 g
- 33-6 Metric, 2000 g x 40 g
  
- 34-1 Metric / Newton 102gm/ 1N
- 34-3 Metric / Newton 255gm/ 2.5N
- 34-4 Metric / Newton 510gm/ 5N
- 34-5 Metric / Newton 1020gm/ 10N
- 34-6 Metric / Newton 2040gm/ 20N
  
- 35-1 Newton, 2.5 N x 0.1 N
- 35-2 Newton, 5 N x 0.2 N
- 35-3 Newton, 20 N x 0.5 N
- 35-4 Newton, 10N x 0.5N



**37-5 DYNAMOMETER PUSH PULL 10N**  
Sturdy metal construction, body 8 3/4” long, total length with zero center 15”. Scale graduated 10N x 0.2N. You can pull or push the spring, to show how forces act.



**63-21 HOOKED WEIGHT SET OF 10.**  
50g each  
Chrome Plated Steel  
Weights set of 10, 50g each with hooks on both ends. Comes complete with plastic storage box.



### 63-30

#### PLASTIC HOOKED WEIGHT SET OF 25.

Excellent in experiments which require addition of small weights. Strong Plastic Body Hooked Weight Set, with Brass Hooks.

All weights have in-built bars in the bottom of the body to hook additional weights. Come packed in a strong plastic box with compartments to store weights.



- 5 – 5g
- 10 – 2g
- 10 – 1g

#### 63-20 DOUBLE HOOKED WEIGHT SET OF 9 AND STORAGE TRAY

Double Hooked weight Set, to ease in experiments when additional weights are required to be added. All weights have counter sunk recessed bottoms so that the weight rests flat. All weights have Brass Hooks.

- 1 – 1000g Steel, Black Painted
- 1- 500g Steel, Black Painted
- 2 – 200 g Brass
- 1 – 100g Brass
- 1 – 50g Brass
- 2 – 20g Brass
- 1 – 10g Brass



### 52-10

#### WEIGHT BRASS SET OF 8, 1 – 50 GM

Weight Brass Set of 8, 1 – 50 gm, in plastic storage box, with forceps.



- 1 – 1 g
- 2 – 2 g
- 1 – 5 g
- 2 – 10 g
- 1 – 20g
- 1 – 50g

### 52-15

#### WEIGHT BRASS SET OF 9, 1 – 100 GM

Weight Brass Set of 9, 1 – 100 gm, in plastic storage box, with forceps.



- 1 – 1 g
- 2 – 2 g
- 1 – 5 g
- 2 – 10 g
- 1 – 20g
- 1 – 50g
- 1 - 100g

### 63-50 HOOKED WEIGHT SET OF 9

Cast Iron with black enamel finish Weights. They are hooked at one end and the other end has a recessed bar so that weights can be hung from the bottom. 10g weight does not have bar on the bottom. Come complete with plastic tray to store weights.



- 1 - 10g
- 2 - 20g
- 1 - 50g
- 1 - 100g
- 2 - 200g
- 1 - 500g
- 1 - 1000g

### WEIGHTS, BOTTLE SHAPE

Brass, polished. Weight engraved on surface.

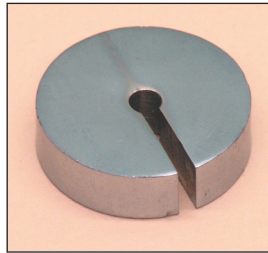


- |                    |                     |
|--------------------|---------------------|
| <b>62-1</b> 1 g    | <b>62-2</b> 2 g     |
| <b>62-3</b> 5 g    | <b>62-4</b> 10 g    |
| <b>62-5</b> 20 g   | <b>62-6</b> 50 g    |
| <b>62-7</b> 100 g  | <b>62-8</b> 200 g   |
| <b>62-10</b> 500 g | <b>62-11</b> 1000 g |

**SLOTTED WEIGHTS** The design of the slots ensures that the weights may be easily removed and replaced but will not fall off accidentally. Weight engraved on surface.

**IRON / STEEL N.P.**

- 75-2 10g
- 75-4 50g
- 75-5 100g
- 75-6 200g
- 75-9 500g
- 75-10 1000g



**BRASS, POLISHED**

- 80-7 1 g
- 80-8 2 g
- 80-1 5 g
- 80-2 10 g
- 80-3 20 g
- 80-4 50 g
- 80-5 100 g
- 80-6 200 g
- 80-9 500 g



**HANGER FOR SLOTTED WEIGHTS**

Weight engraved on surface.

**Brass Polished  
For catalog #80**

- 81-1 50 g
- 81-2 100 g
- 81-3 10 g



**Iron / Steel N.P.  
For catalog #75**

- 76-3 10g
- 76-1 50g
- 76-2 100g



**90-1  
SLOTTED  
WEIGHTS SET**

Brass, polished, comprising 1 hanger 100 g # 81-2, 9 slotted weights 100 g # 80-5. Total 1000 g.

**We can also supply any other Slotted Weight Set according to your specifications.**



**90-2 SLOTTED WEIGHT SET OF 13,  
WITH HANGER**

Brass Slotted Weight Set, total 250gm. The design of the slots ensures that the weights can be easily removed or replaced but will not fall off accidentally. Set comes packed in a plastic storage box. Comprises of:

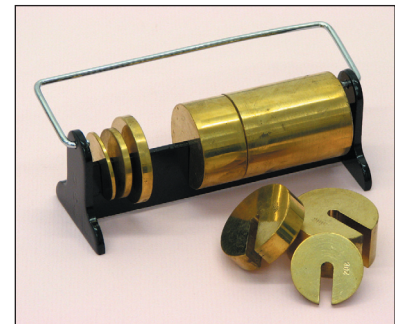


- 1 – 50g Hanger
- 9 – 20g Weights
- 1 – 10g Weight
- 2 – 5g Weights

**90-3  
SLOTTED WEIGHT SET OF 9  
WITH STAND, BRASS**

Set of 8 Brass Slotted Weights, and one metal carry stand with handle for easy carriage and storage. 50, 100, 200 and 500g are 40mm in diameter, 10 and 20g are 32mm in diameter. Slot size for all weights 4.9mm wide. Total weight 1100g.

- 1 – 500g
- 2 – 200g
- 1 – 100g
- 1 – 50g
- 2 – 20g
- 1 – 10g
- 1 - Stand



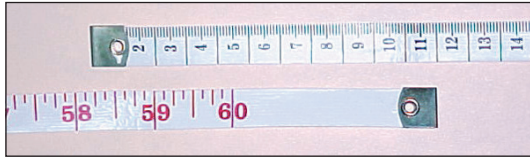
**119-11 HOOKED WEIGHT**

One kilogram (kg) weight, hooked one end. Steel, black stove enamel finish. Weight engraved on surface.

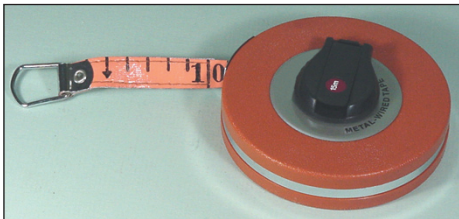


# MEASUREMENT

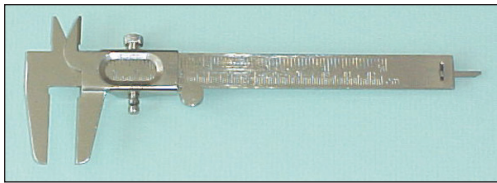
**160 MEASURING TAPE** Tailor type. PVC. One meter long, one side cm the other in inches.



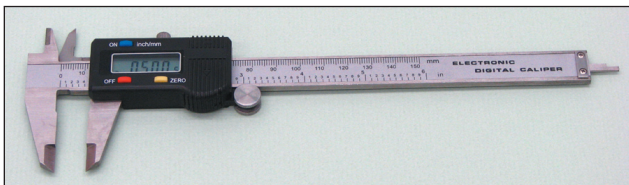
**162-8 TAPE MEASURE 15 m** Wind-up in strong case. Cloth with woven metal for strength and long life. One side cm other side inches.



**191 CALIPERS, VERNIER** Steel, double scale, 0 to 120 mm and 0 to 5". Provided with adjustment roller (wheel) and locking screw.

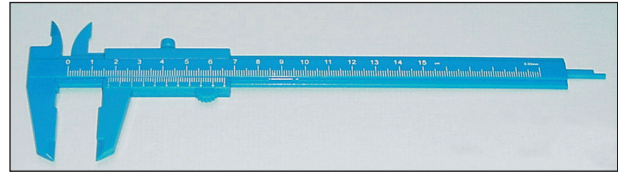


**191-4 VERNIER CALIPER, DIGITAL** Hardened Stainless Steel construction, bright LCD display. Easy push button Metric/English conversion. Operates on one 1.5V silver oxide battery ( included). Automatic shut off. 0-150mm x 0.01 mm / 6 inches x 0.0005 In. Comes complete with foam lined sturdy case, and instructions.



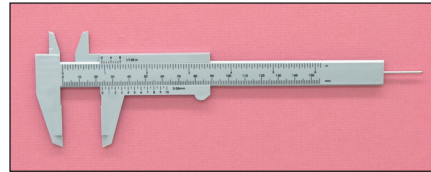
## 191-3 VERNIER CALIPER, PLASTIC

Sturdy all plastic construction. Single mm/cm scale, 150 mm x 0.05 mm.



## 191-5 VERNIER CALIPER PLASTIC DOUBLE SCALE

Sturdy plastic construction. Measures in inches and cm. 150 mm x 0.05 mm / 6 inch x 1/128 inch.



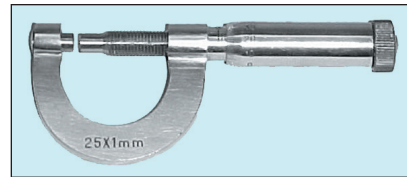
## 193-2 CALIPERS VERNIER PRECISION

Steel cadmium plated, improved pattern, double scale metric scale graduated to 150 mm, inches scale graduated to 6 inches. Provided with thumb movement for fine adjustment. Individually packed in **velvet lined box.**



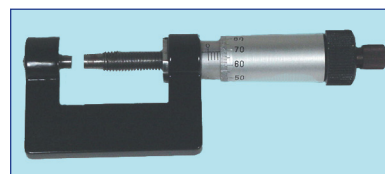
## 210 SCREW GAUGE, MICROMETER

Stainless Steel screw (rod) accurately machined. Brass body, dull nickel plated finish. 25 mm x 1 mm pitch.



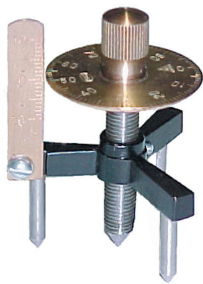
## 212 SCREW GAUGE MICROMETER, DEMONSTRATION

About **200 mm Long**, made of aluminum, black enamel painted. Individually packed.



## 220 SPHEROMETER

**Brass** dial head 40 mm Diameter, mounted on **stainless steel** screw. Head divided into 100 divisions, reading to 0.01 mm and registering on vertical scale 10-0-10. Frame with three legs of **stainless steel**. Distance between two legs is 40 mm (approx.), Pitch 1 mm.



## 221 SPHEROMETER DEMONSTRATION

**MODEL** 140 mm Diameter (approx.) dial head. Made of aluminum, baked stove enamel finish. Individually packed.



## 579 STOP CLOCK MECHANICAL

Metal Body, Large, For use in Lab Experiments where fine accuracy is not needed. Two sweep hands, one indicating seconds, the other recording minutes. Start -Stop lever on left and zero reset lever on right. Large size excellent to prevent theft. 6.5" x 5.5" x 3.25".



**CUBES** Metal, with Hook. Side 25 mm.

229 Aluminum    230 Brass    231 Copper  
232 Steel        233 Lead     234 Zinc

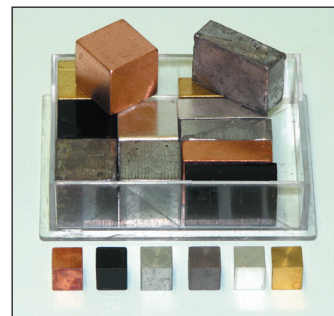
## 235-3 CUBES SET

Cubes, metal with hook, side 25 mm, set of 6, comprising Aluminum, Brass, Copper, Steel, Lead and Zinc. In Plastic Box.



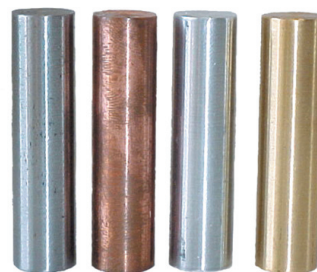
## 235-6 DENSITY BLOCKS SET OF 18

Density Blocks Set of 18. Excellent for density and volume experiments. Comprising of one each of the following 6 metals, Aluminum, Brass, Copper, Lead, Steel and Zinc in 3 different shapes and sizes. All sizes are approximate. One each of 20mm Cube. One each of 30mm x 20mm x 10mm Blocks. One each of 10mm Cube.



## 244-4 CYLINDERS SET OF FOUR

Set of 4 Cylinders, Aluminum, Brass, Copper and Steel. 50 mm x 12.5 mm, Length x Diameter.



## SPECIFIC GRAVITY

226-3 **ACRYLIC CUBE** 25 mm Side.

254-3 **ACRYLIC BALL** 25 mm Diameter.

246-10 **ACRYLIC CYLINDER** 25 mm Diameter x 25 mm Height.

244-10 **ACRYLIC CUBE, BALL & CYLINDER SET** Cube 25 mm side, Ball 25 mm Diameter, Cylinder 25 mm Diameter x 25 mm Height.



## 237-4 DENSITY CYLINDER ALUMINUM

For density and specific gravity experiments. Aluminum cylinder 75 mm x 25 mm Length x Diameter, with hook.



**BALLS** Metal, with hook, Diameter 25 mm.

247-3 Aluminum    248-3 Brass    249-3 Copper  
 250-3 Steel        251-3 Lead    252-3 Zinc



**257-3 BALLS SET OF 6** Balls, metal with hook, 25 mm Diameter, set of 6, comprising Aluminum, Brass, Copper, Steel, Lead and Zinc. In Plastic Box.

**257-5 BALLS SET OF 5** 25 mm Diameter, Solid Glass & Steel, Drilled Wood, Cork & Aluminum.



**257-6 BALLS SET OF 6** 3/4" Diameter, Solid Glass & Steel, Drilled Wood, Steel, Cork & Aluminum

**257-7 BALLS SET OF 14** Drilled 1" Diameter, 2 Each of Aluminum, Brass, Copper, Iron, Lead, Zinc & Wood.

**257-8 BALLS SET OF 14** Solid 1" Diameter, 2 Each of Aluminum, Brass, Copper, Iron, Lead, Zinc & Wood.



**PHYSICS BALLS Solid**, sold individually. 1" Diameter.  
 247-5 Aluminum    248-5 Brass  
 249-5 Copper        250-7 Steel  
 251-5 Lead            256-11 Wood

**PHYSICS BALLS Drilled**, sold individually. 1" Diameter.  
 247-7 Aluminum    248-6 Brass  
 249-6 Copper        250-6 Steel  
 251-6 Lead            256-12 Wood

**OVERFLOW CAN**

G. I. sheet, stove hammertone finish. Height x Diameter.



270-1 120 mm x 65 mm.  
 270-2 225 mm x 125 mm.



**271 OVERFLOW CAN** With Spout. Aluminum, anodized. 125 mm x 75 mm, Height x Diameter.

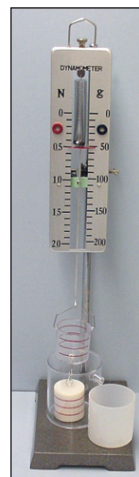


**272 CATCH BUCKET** Aluminum, anodized. 50 mm x 75mm, Height x Diameter.



**275 ARCHIMEDES PRINCIPLE or BUCKET AND CYLINDER**

To demonstrate the principle of Archimedes. Consists of two pieces, a Cylinder and a close fitting Bucket. All Brass construction, 50 mm Long.



**275-2 ARCHIMEDES PRINCIPLE SET**

Huge construction to give better, clearer readings. 100 ml, increased water displacement. Both cylinder and cup have 25 ml rings. Includes bucket, cylinder, spring scale and overflow can. Without support stand and clamp holder.



### 284-1 NICHOLSON'S HYDROMETER

The original Hydrometer. Brass, baked enamel finish. It is used to measure density of both solids (which are not water soluble) and liquids denser than water. 300 mm x 50 mm, Length x Diameter.

With Instructions.



**293 UNIVERSAL HYDROMETER** For specific gravity 700 to 2000. 325 mm Long. Individually packed.



## LIQUIDS AND PRESSURE

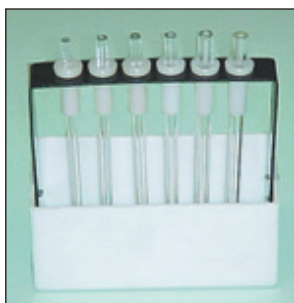
### 376-22 EQUILIBRIUM TUBES or WATER LEVEL APPARATUS

Consists of four glass tubes of different shapes projecting vertically from a common horizontal tube, mounted on a stand. To demonstrate the principle that in connected vessels, the liquid rises to the same level irrespective of the shape of the vessel.



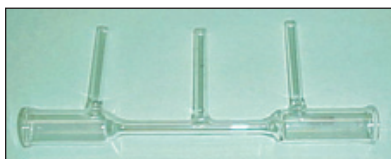
### 377 CAPILLARY APPARATUS

**The Correct Capillary Apparatus.** Consists of Six glass capillary tubes of different inner diameters mounted in a metal frame, in a shallow trough. To demonstrate that water rises to different levels in capillaries of different diameters.



### 390 VENTURI TUBE

To demonstrate Bernoulli's principle that when a liquid flows through a tube having a constriction the speed of the flow increases and the pressure decreases in the constricted section. Consists of a horizontal tube 18 cm Long and 18 mm in Diameter having three vertical tubes. The tube decreases in diameter in the center to form a constriction.



### 388 SPOUTING CYLINDER

Huge, metal construction, baked stove hammertone finish. To demonstrate that pressure of a liquid depends on the depth / height. 400 mm x 75 mm, Cylinder Height x Diameter.



### 402 CARTESIAN DIVER

To demonstrate the transmission of pressure by a liquid. Glass, 35 mm Long approximately.

### 480 BAROMETER ANEROID

Wall mounting. Dial 100 mm diameter, mounted in a plastic case 150 mm Diameter. Graduated in inches and millibars.



### 481 BAROMETER ANEROID DEMONSTRATION MODEL

Encased in a transparent acrylic case which allows full view of the movement. The action can be demonstrated with the help of a rubber bellow which increases the pressure when squeezed. Supplied complete with rubber bellow.



### 2220-1 MANOMETER DEMONSTRATION

Consists of a large 'U' shape tube 50 cm in Length, with both ends long enough to connect to rubber tubing, mounted on a sturdy wooden base. Large enough for classroom demonstration. Entire unit mounted on heavy metal base.





**KT1007-1  
CONCEPTS OF  
AIR PRESSURE**

This educational kit contains materials and instructions suitable for safe hands-on inquiry-based experimentation into the nature and properties of air pressure. This kit is primarily aimed at students in Middle School but may

be used by Elementary or High School students by slightly altering the instructions. This kit may be used by one student, a group of three to four students, or in combination with other kits as a full classroom exercise. Instructions are also included for Science Fair activities. Kit consists of one of each Equilibrium Tubes, Spouting Cylinder, Demonstration Aneroid Barometer, Aneroid Barometer and Venturi Tube.

**MECHANICS**

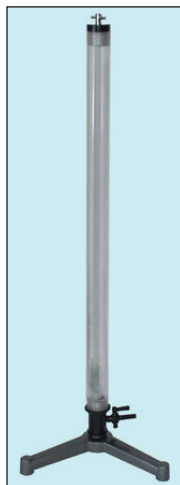


**321-1 FIRE SYRINGE**

Amazing flashy demonstration of The Gas Law. This is used to demonstrate Gas Law and Diesel Engine Principle. Rapid compression of air in the chamber ignited a tiny small bit of tissue paper or a wisp of cotton. The principle being that reducing the volume of a gas increases it pressure and temperature, there by causing the paper or cotton to ignite till all the oxygen is used up. Comes complete with spare O Rings and cotton.

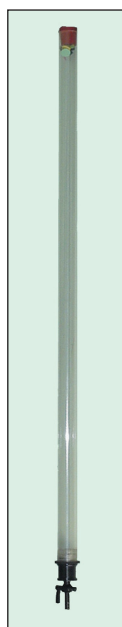
**346-10 MAGDEBURG HEMISPHERE**

Economical, great for students. Consists of two 3 1/4" Diameter rubber suction cups. No vacuum pump needed. To demonstrate Atmospheric Pressure.



**351-1 FREE FALL  
APPARATUS**

To demonstrate that objects of different weights fall at the same speed in vacuum. The unit consists of an acrylic tube, 680 mm Long x 38 mm Diameter, fitted with a removable plug at one end and the other end has a stopcock for connection to a vacuum pump. The unit is mounted on a heavy, cast iron tripod base. The tube can be easily removed from the base if needed.



**351-2 FREE FALL  
APPARATUS WITHOUT  
STAND**

To demonstrate that objects of different weights fall at the same speed in vacuum. The unit consists of an acrylic tube, 680 mm Long x 38 mm Diameter, fitted with a removable plug at one end and the other end has a stopcock for connection to a vacuum pump.



**510  
KNIFE EDGE CLAMP**

Forms student demonstration balance with a meter scale. The meter scale slides through the clamp, and can be clamped at any position with the help of a set-screw. Provided with wire stirrup to hang weights. The sides are so slotted that they allow easy reading of the meter scale. Rigid steel construction.

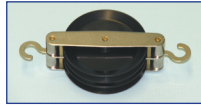
## PULLEYS, PLASTIC

Sturdy plastic construction mounted on metal frame with hooks on both ends.



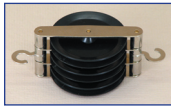
### 525-20

Single 50mm



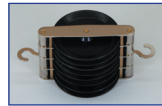
### 525-21

Double Parallel 50mm



### 525-22

Triple Parallel 50mm



### 525-23

Quadruple Parallel 50mm



### 525-24

Double Tandem 40-50mm

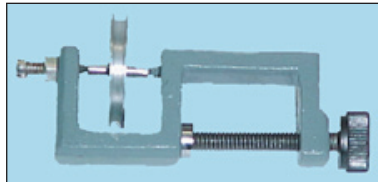


### 525-25

Triple Tandem 30-40-50mm

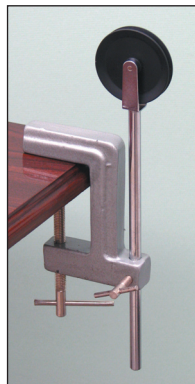
## 531 PULLEY BENCH MOUNTING

Aluminum pulley 37 mm Diameter, mounted in thick, strong metal frame for clamping to benches or boards.



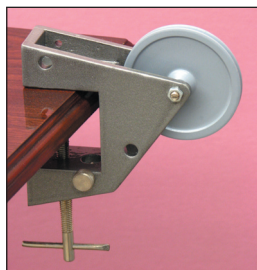
## 531-10 PULLEY BENCH MOUNTING

Pulley Bench Mounting, with Pulley on rod. Consists of a strong metal clamp which can be clamped on to a table 59mm / 2 1/4" thick. A sturdy plastic Pulley 50mm dia which is mounted in a metal frame on a metal rod 190mm / 7 1/2" long x 8mm / 5/16" thick, total length 240mm / 9 1/2" can be adjusted to any height in the frame.



## 531-12 PULLEY BENCH AND ROD MOUNTING

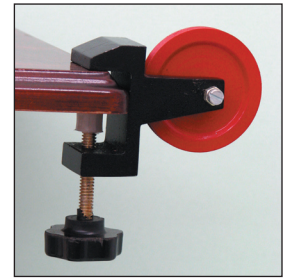
Consists a Metal Pulley 70mm / 2 3/4" dia, mounted in a metal frame which can be clamped on to a table upto 42mm / 1 5/8" thick. The frame also has a hole for a rod of upto 12mm diameter to pass thru, if wanted the pulley can be mounted on a rod.



## 583-2

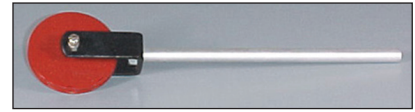
### TABLE PULLEY

50mm. All metal construction. Table Clamp Pulley 50mm diameter. Can Clamp on a table upto 13/16(20mm) thick.



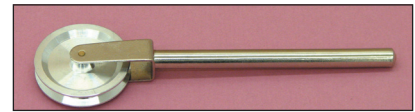
## 532 PULLEY ON ROD

Aluminum pulley 50 mm Diameter, mounted in a bracket on a rod.



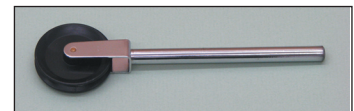
## 532-10

Aluminum Pulley on Rod 40mm dia. Mounted in metal frame with rod 100mm long x 8mm dia. Total length with pulley 145mm / 5 3/8"



## 532-20

Sturdy Plastic Pulley on Rod 40mm dia. Mounted in metal frame with rod 100mm long x 8mm dia. Total length with pulley 145mm / 5 3/8".

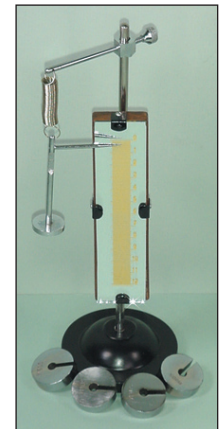


## 541-1

### HOOKE'S LAW APPARATUS

For demonstrating Hooke's Law and for studying simple harmonic motion of vibrating weight suspended from spring and potential energy. It consists of a heavy base with an adjustable mirror millimeter scale, a spiral spring with indicator and weight hanger.

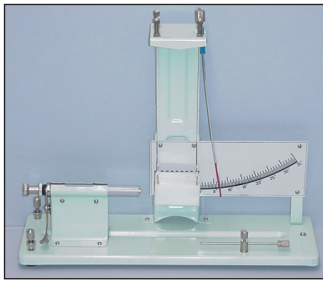
**Complete with four 50g slotted weights. With instructions.**



## 547-10 SPRINGS SET OF 5.

For verification of Hooke's law. This is a set of 5 Springs with different Spring Constants. Pre-Stress has been removed to give accurate results. The springs stretch 2 cm with a load of 0.5N, 1N, 2N, 3N and 5N respectively. Springs come with a built in ring to hang, with a hook to carry weights and a red indicator.





### 550-1 BALLISTIC PENDULUM

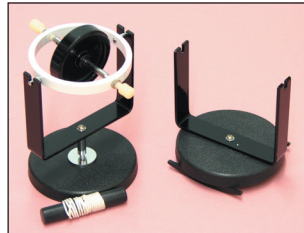
To study the laws of Conservation of Momentum and the trajectory path. It has a nylon pendulum. The base and the pendulum have leveling screws. The scale is marked in degrees and

is registered by a counter weighted needle that remains in place at the height of the arc. Has an adjustable, self locking, spring loaded gun. Comes complete with Instructions.



### 582 GYROSCOPE DEMONSTRATION

Mounted on heavy stable cast iron base, baked hammertone finish. All metal construction, 150 mm Diameter x 250 mm Height. Ideal for demonstration in the classroom.

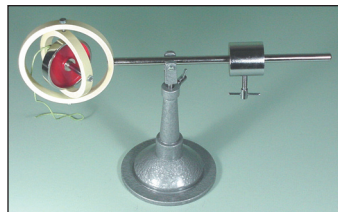


### 582-10 GYROSCOPE KIT DEMONSTRATION

To demonstrate and teach the principle of a Gyroscope. All metal construction except for plastic bases. Consists of 2 plastic bases, 4" diameter, one flat and other with a rocker, to experiment on, as to what happens when the base is moving. The Gyroscope is mounted in a metal ring 3 1/2" dia, Gyroscope wheel 2 1/4" dia. Comes complete with spinning cord. Total height 7.5".

### 9136 GYROSCOPE WITH COUNTERPOISE

The circular frame has an accurately centered wheel and an adjustable counter poise. For demonstrating centripetal and centrifugal force.



### 2249 BOURDON / VACUUM GAUGE

Mounted on Brass pillar with nozzles for in and out connections 3/8" O.D. Heavy cast iron base for stability. Calibrated 0 - 30 inches of Hg / 0 - 750 mm of Hg. Used for Vacuum Experiments.



### 583-1 FORCE TABLE DELUXE

For accurate study of forces, vectors etc. Sturdy construction. Aluminum Metal Table Top (not wooden which can warp) 40 cm in diameter, graduated in degrees, supported by a metal pillar. Metal tripod base, 16 cm long

with leveling screws. Supplied complete with, Centering Pin, four Clamp Pulleys, Centering ring with threads and hooks, four Slotted Weight hangers 100 gm, four set of 8 slotted weights, 2 of 100 gm, 3 of 50 gm, 2 of 20 gm and one of 10 gm. **Complete with Instructions.**

### 583-3 FORCE TABLE STUDENT



For accurate study of forces, vectors etc. Sturdy construction. Top 15" in diameter, graduated in degrees, supported by a metal pillar. Dual Scale. Metal tripod base, with leveling screws. Supplied complete with, Centering Pin, four Clamp Pulleys, Centering ring with threads and hooks, four Slotted

Weight Sets. Complete with Instructions.

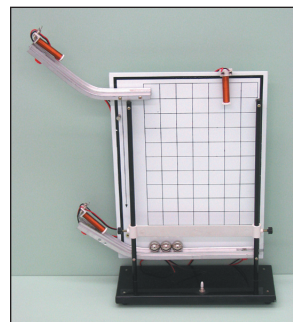


### 585-5 NEWTONS SECOND 2ND LAW OF MOTION APPARATUS

To study the Free Fall and Projectile Motion of Objects. When the Spring Activated Trigger is released one Ball falls down and the other is fired like a projectile. But, both hit the ground at the same time.

Comes complete with 2 balls and instructions. The instrument has a recessed compartment to store balls. Apparatus 8 1/2" (220mm) x 3" (75mm) x 1" (25mm). Balls 3/4" (19mm) dia.

### 641-5 TRAJECTORY APPARATUS



To study Trajectory of falling bodies from different angles. Three paths can be studied. Horizontal from ground level, horizontal from height and straight down vertical. Consists of three electromagnets which hold the steel balls in position.

Upon switching off the current the balls get released and their paths can be studied on the carbon paper which is attached on the board. Comes complete with three steel balls 3/4" (19mm) dia. Operates on 3 - 6 volts dc. Base 10 1/4" (260mm) x 4" (100mm), height is 15" (380mm).

**587-1  
MAXWELL'S WHEEL**

To study conservation of mechanical energy / momentum. All metal construction. When the wheel is rolled to the top with thread winded on the axle, and released the potential energy gained is turned into kinetic energy. When the wheel reaches the bottom most position the kinetic energy is again converted into potential energy and the wheel rolls back to the top. In optimum conditions this should continue forever, but friction sets in and there is loss of energy and the wheel comes to a stop.



**607-1  
FRICTION  
BLOCK &  
SURFACE SET**

For introducing the concept that friction depends on the nature and smoothness of materials. The kit consists of three wooden blocks about, L x W, 100 mm x 70 mm, with hooks. One with a **highly polished** side, second with a **sandpaper** side and third with an **aluminum** side. Complete with a polished wooden base about, L x W, 355mm x 70 mm. **With instructions.**



**608-1 DELUXE INCLINED PLANE**

Hardwood, nicely polished Inclined Plane 600 x 95 mm, about 20 mm thick. With Metal Arc, Pulley, 2 hardwood Blocks with hooks, one 200 x 70 mm, other 100 x 70 mm, 1 heavy Steel Block 100 x 75 mm with hook, 1 Heavy Metal Roller & 1 Scale Pan.

**With Instructions.**



**608-2 DELUXE INCLINED PLANE  
WITH HALLS CARRIAGE**

Hardwood, nicely polished Inclined Plane 600 x 95 mm, about 20 mm thick. With Metal Arc, Pulley, 2 hardwood Blocks with hooks, one 200 x 70 mm, other 100 x 70 mm, 1 heavy Steel Block 100 x 75 mm with hook, 1 Heavy Metal Roller, 1 Scale Pan & 1 Halls Carriage, 5.5".

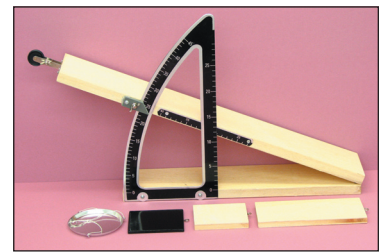
**With Instructions.**



**608-10  
INCLINED  
PLANE BASIC**

Basic Inclined Plane to study friction and motion on inclines. Consists of a wooden incline plane 24

5/8"(600mm) L x 4"(100mm) W x 3/4"(20mm) T fitted with a plastic pulley 1 3/16"(30mm) in dia., hinged to a base 17 3/4"(450mm) L x 4"(100mm) W x 3/4"(20mm) T, which carries a 15 5/16"(365mm) high arc. Comes complete with 3 friction boards with hooks, one - wooden 3 3/4"(95mm) x 3"(75mm) x 7/16"(12mm), one - wooden 7 5/8"(195mm) x 3"(75mm) x 7/16"(12mm), and one - metal 4"(100mm) x 3 3/16"(80mm) x 3/16"(5mm), and one metal scale pan 4"(100mm) dia.



**611 SCALE PAN**

General purpose use and also for use with inclined pane. Metal pan with cords for suspension.



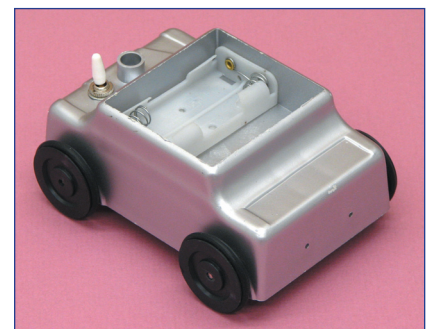
**633-2 HALLS  
CARRIAGE**

Sturdy one piece high impact plastic construction. Aluminum wheel and axle are made from one piece, lets the carriage roll with little resistance. Length about 5.5".



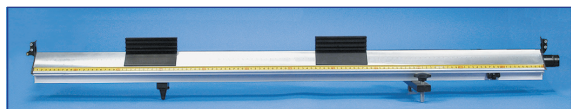
**633-5  
HALLS  
CARRIAGE  
BATTERY  
OPERATED**

Halls Carriage Battery Operated. Strong Plastic Construction 108mm x 68mm, 4 1/4" x 2 5/8". Operates on 2 AA Batteries, not supplied. Excellent to demonstration of incline on power and time taken to travel.

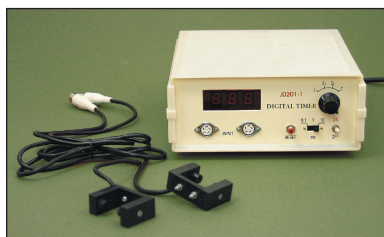


**635-4  
DELUXE AIR TRACK WITH  
ACCESSORIES**

Aluminum alloy air track body construction makes this apparatus light weight and mechanically strong. Air Track Length 1.5 meters ( 4.9 ft. ), Side 150 mm ( 6 inches). Side blocks are removable for easy cleaning. Good frictionless surface. Unit requires a separate air source for working. Experiments involving velocity and acceleration, momentum, collisions, inertia of motion, linear motion and many more can be performed. Comes complete with accessories. Air Source # 635-3 and Digital Timer with Photogates # 635-5 needed, but not included.



**635-3  
AIR SOURCE, QUIET**  
For use with Air Tracks, Air Tables or other apparatus which require air. Low noise, powerful motor produces clean air for experiments. Comes complete with hose. Operates on 110V AC, Size 8" x 8" x 13".



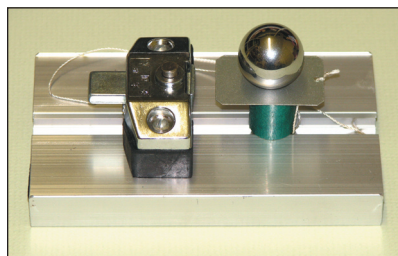
**635-5 DIGITAL  
TIMER WITH  
PHOTOGATES**  
Digital 3 digit display in units of 0.1 ms, 1 ms, 10 ms. Used to measure time intervals, period of

oscillations, etc. For use with Air Track. Comes complete with 2 Photogates.



**636-10  
COLLISION IN 2  
DIMENSION APPARATUS**

A economical inexpensive apparatus to study and demonstrate momentum conservation, kinetic energy conservation in collisions and projectile motion. Consists of a 12" long Curved Aluminum Track with an adjustable target, a table clamp, two steel balls, one glass ball, one wooden ball and a plumb line.



**639-1 INERTIA  
APPARATUS**

To demonstrate and study Inertia. Consists of a 3/4" Steel Ball, a Aluminum Metal base 115 mm x 70

mm, with a pillar, a card attached with a string to the base and a spring loaded striker. When the card is placed on the pillar and the ball is placed on the card and the card is hit by the striker the card flies away but the ball rests on the pillar.



**640-1 LOOP THE  
LOOP APPARATUS**

To demonstrate and study the relationship between kinetic and potential energy. Consists of a metal track 37" long, with a 4

1/2" loop, mounted on a heavy 4" diameter base. Comes complete with 1" Steel Ball. When the ball is rolled from the longer end it loops around and comes to a stop on the shorter end in the depression.

**640-5 LOOP THE LOOP DELUXE**



To demonstrate and study transformation of potential energy into kinetic energy. Consists of a 'V' shape metal track approx. 54"(137mm) long, with the highest point being 19"(480mm) high, which is formed into a

loop approx. dia. 7 3/4"(195mm), fitted on to a wooden base 16"(405) x 4"(100mm) x 3/4"(20mm). Supplied complete with two steel balls 3/4"(19mm) dia., and 5/8"(16mm) dia. When the ball is let go at the top it has enough energy to travel the whole length of the track.

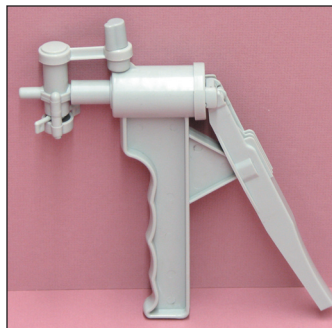
**638-21 DELUXE FREE FALL APPARATUS WITH PENDULUM**

Aluminum alloy construction with scale. This is the Deluxe version of the Free Fall Apparatus with built-in Pendulum. This apparatus is used for basic dynamics studies, qualitative measuring and quantitative study of free falling body motions. In the free fall experiments, three moveable position photogates are used for recording of free fall time. Unit mounted on sturdy, heavy, three leg base with leveling screws. Overall height approx. 1.6 m ( 5.25 ft.) , power of electromagnet 6 v, Diameter of steel ball 18 mm. Comes complete with Electromagnetic device, 3 photogates, 18 mm steel ball, plumb line and pendulum. Timer (Cat. # 638-20) sold separately.



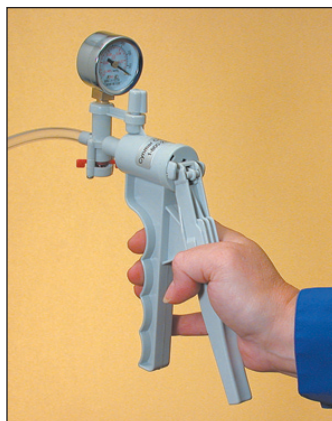
**638-20 DIGITAL TIMER FOR DELUXE FREE FALL APPARATUS**

This unit is designed specifically for the Deluxe Free Fall Apparatus. To study the free falling motion, uniform variable motion and the time period of a pendulum. Displaying 3 individual times of a free falling ball, 3 individual interval times of a free falling steel ball, 3 individual times of light blocking, measures the period of a simple pendulum.



**2250-1 VACUUM PUMP WITHOUT GAUGE**

15ml per stroke pump rate. Equipped with vacuum release valve. Comes in storage box.

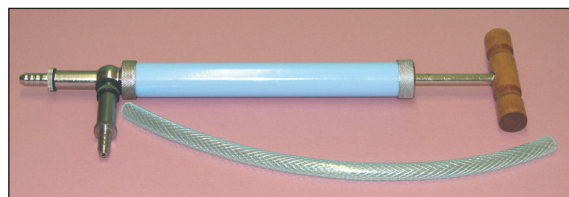


**2250-2 VACUUM PUMP HAND WITH GAUGE**

Hand vacuum pump with gauge reading in both cm and inches of mercury. Easy vacuum release valve without disconnecting the pump. Pumping rate 15 ml per stroke.

**2251-1 HAND PRESSURE AND VACUUM PUMP**

Heavy duty hand pump 14" long, seamless metal pipe construction with wooden handle. Made and designed for Physics labs or where small amount of pressure or vacuum is needed.



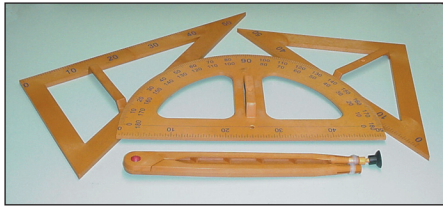
**2252-1 ELECTRIC ROTARY VANE VACUUM PUMP 2 STAGE**

Quite operation. Electrically operated 110v. Can be used as a Pressure or Vacuum Pump or both. Free Air Displacement – 85 L/ min (3CFM), Pressure  $6 \times 10^{-2}$  pa (0.0005mm Hg), Speed 1400 RPM, Motor ¼ HP, Power 180 watts, Weight 11 kg, Dimensions 320 x 108 x 254 mm.



### 2442-1 CHALKBOARD / BLACKBOARD DRAWING INSTRUMENT SET

Set of 4 instruments, made of sturdy plastic with grip handles for use on vertical surfaces with ease. Set consists of One Triangle 45°, 22" base, Second Triangle 30°, 60° and 90° with 26" base, One Protractor marked in 180°, base 19" long, One Compass 17" long, with locking ring and suction cup.



## HEAT

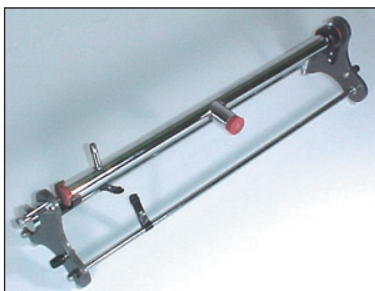
### 652 PYROMETER OR BASIC LINEAR EXPANSION APPARATUS

Metal construction, complete with 3 metal rods (aluminum, brass and iron) and tea light candle, stove hammer finish mounted on wooden polished base. Individually packed.

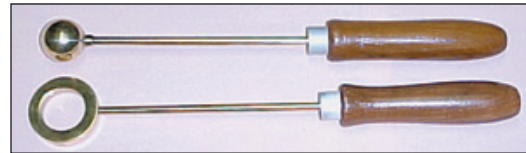


### 656 LINEAR EXPANSION APPARATUS

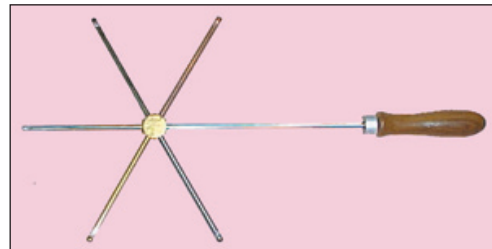
For the determination of coefficient of expansion of various metals. Two cast iron end pieces joined by two metal rods having support for plated brass tube 500 x 25 mm, Length x Diameter, with rifled inlet and outlet tube for connection to a steam supply and tubule for thermometer. One end piece fitted with a spherometer reading to 0.005 mm and the other end with a contact screw. The brass tube encloses the rod of whose coefficient of expansion is to be determined, with rubber corks on both ends. The end pieces are provided with terminals for connecting to a bell or galvanometer for indicating the exact point of contact of the screw. Supplied with three rods steel, brass and copper, but without galvanometer, bell, cell or thermometer.



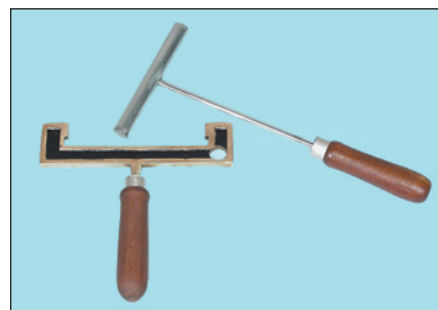
**659 BALL AND RING** For demonstrating thermal expansion and contraction of metals when heated and cooled. The ball passes freely through the ring when both are at the same temperature, but when the ball is heated it will not pass, thereby showing expansion and when it is allowed to be cooled it will again pass through the ring thereby showing contraction. Consists of a brass ball and a brass ring, each individually mounted on brass rods with wooden handles.



**660 CONDUCTOMETER** To demonstrate the difference in thermal conductivity of different metals. Consists of five metal rods stainless steel, brass, copper, iron and aluminum connected to a center metal, brass, hub which is mounted on a rod with wooden handle. The five rods have depression on the ends to hold wax. When the center hub is heated, heat is conducted through the rods and conductivity of heat can be ascertained by the melting of wax.



**662 BAR & GAUGE** For illustrating linear and spherical expansion by heating and contraction by cooling. Mild steel bar 110 x 12.5 mm, Length x Diameter, mounted on a rod with wooden handle and a Brass gauge 150 x 38 mm with a cutout mounted on a separate wooden handle, which just admits the bar lengthways and a hole into which the bar passes endways when cold.





**COMPOUND BARS** True and the correct compound bar. To demonstrate unequal expansion of different metals when heated equally. Consists of two metal strips, riveted together from end to end fitted to a wooden handle. On heating, the joined strips bend in a particular direction thereby showing unequal expansion.

**COMPOUND BAR BIG** Brass and Iron, Metal part 11”(280mm)L x 1.1”(30mm)W. Total length 15.5”(395mm).



- 674** Brass and Iron
- 674-51** Copper and Brass
- 674-52** Aluminum and Iron

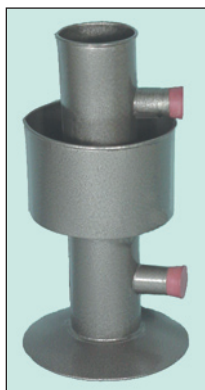
**COMPOUND BAR SMALL** Total Length with handle 9.25”(235mm), Compound Bar only 6”(150mm) x 1”(25mm).



- 674-10** Brass and Aluminum
- 674-11** Brass and Iron
- 674-12** Copper and Iron
- 674-13** Brass and Copper

**676-1 HOPE'S APPARATUS**

This apparatus is used to determine the temperature at which water has the maximum density. Thick sheet metal construction, baked hammertone finish. Cylinder 340 x 50 mm on a base and encircled midway along its length by a gallery, fitted with tubulures to carry thermometers (not supplied). With Instructions.



**705-22 CONVECTION TUBE**

To demonstrate convection of heat in liquids. Rectangular glass tube 200 x 150 mm sides and 22 mm in Diameter with a built in funnel for easy pouring in of the liquid. Made from Borosilicate Glass.



**741 CALORIMETER ELECTRIC** Consists of an inner aluminum vessel 75 mm x 50 mm, Height x Diameter, and an outer aluminum vessel 100 mm x 75 mm, Height x Diameter, with a bakelite cover with two terminals, which are cross-drilled at their lower ends and are fitted with a heating coil, the upper ends are fitted with standard sockets for electrical connections. The bakelite cover has holes for thermometer and a stirrer. Supplied complete with stirrer but without thermometer.



**741-10 CALORIMETER ELECTRIC.**

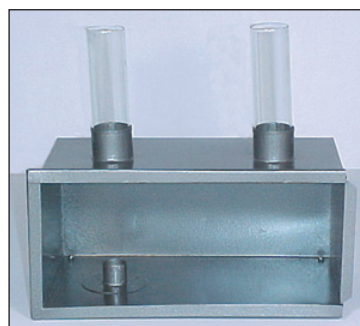
For determining the heat capacity and electrical equivalent. With a plastic transparent cover with a heating coil, stirrer and a drilled rubber stopper to accept a thermometer (not supplied). The space between the outer and inner calorimeter is insulated.

Works on 6 volts DC. Consists of :  
Outer Calorimeter 5” H x 4 ¼” Dia.  
Inner Calorimeter 2 ¾” H x 2 ½” Dia.



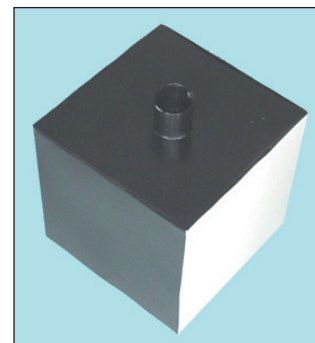
**706 GAS CONVECTION APPARATUS**

Metal construction, with sliding plate glass front, two glass chimneys. A candle holder is mounted in the box.



**708 LESLIE'S CUBE / HEAT ABSORPTION / RADIATION CUBE**

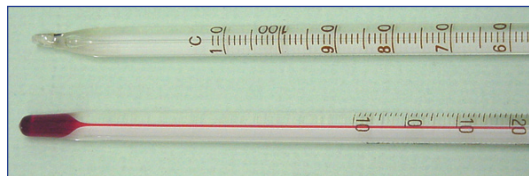
To demonstrate the heat Absorption and Radiation of different surfaces. Tin plate, 125 mm side, with surfaces dull black, bright black, white and bright tin.





**710 CROOKE'S RADIOMETER.** Invented by William Crooke in the 1860's. It demonstrates the conversion of light energy into mechanical energy. The vanes in the evacuated glass bulb are Black and White in color. The dark vanes absorb the rays and the light vanes reflect the rays. This is a great way to study how light energy is converted into mechanical energy. The stronger the light, the faster it spins. It measures approx. 5" by 3".

**785-3 THERMOMETER MERCURY** Student grade. -10 to 110C. 300 mm long with ring on top for suspension. Engraved black graduations, white back. Mercury filled.



**THERMOMETER RED SPIRIT** Student Grade. 12" / 300mm long with ring on top for suspension. White Back, Red Spirit filled.



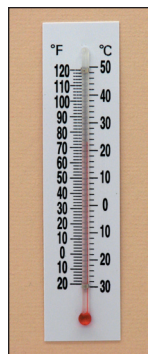
**742 SPECIFIC HEAT SPECIMEN SET**  
Set of five metal cylinders with hooks aluminum, copper, iron, lead and zinc, each 15 mm in diameter and 100 gm weight. Cylinders vary in length.

**PARTIAL IMMERSION**

- 788-1 -10 to 110C Single Scale
- 788-2 -10 to 150C Single Scale
- 788-3 -20 to 110C Single Scale
- 788-6 -20 to 150C Single Scale
- 788-50 -20 to 110C, 0 to 230F Dual Scale
- 788-52 -20 to 150C, 0 to 300F Dual Scale

**TOTAL IMMERSION**

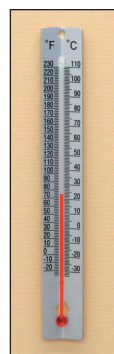
- 788-4 -20 to 150C Single Scale
- 788-5 -20 to 110C Single Scale
- 788-7 -10 to 150C Single Scale
- 788-51 -20 to 110C, 0 to 230F Dual Scale
- 788-53 -20 to 150C, 0 to 300F Dual Scale



**863-1 THERMOMETER PLASTIC BACK, DOUBLE SCALE**  
General purpose thermometer mounted on vinyl/plastic back. -20 to 120 F and -30 to 50 C.  
Dimensions: Approx 1 1/4" x 5 1/4"

**THERMOMETER RED SPIRIT**  
Student Grade. 6" / 150 mm long with ring on top for suspension. White Back, Red Spirit filled.

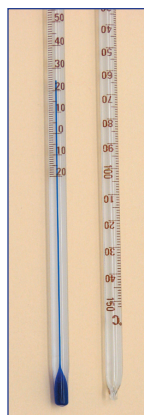
- 788-80 -20 to 110C, 0 to 230F, Dual Scale
- 788-81 -10 to 110C, Single Scale
- 788-82 -10 to 60C, Single Scale
- 788-83 -10 to 60C, 20 to 140F, Dual Scale



**865-1 Thermometer Metal Back, Double Scale**  
General purpose thermometer with aluminum backing.  
-20 to 230 F in 2 degree divisions.  
-30 to 110 C in 1 degree divisions.  
Dimensions: approx 3/4" x 5 3/4"

**THERMOMETER ENVIROMENTALLY SAFE LIQUID**

Student Grade. 12" / 300 mm long with ring on top for suspension. White Back, blue environmentally safe liquid filled.

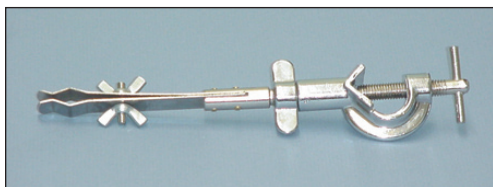


- PARTIAL IMMERSION**
- 788-70 -20 to 150C Single Scale
  - 788-71 -20 to 110C Single Scale

- TOTAL IMMERSION**
- 788-75 -20 to 150C Single Scale
  - 788-76 -20 to 110C Single Scale

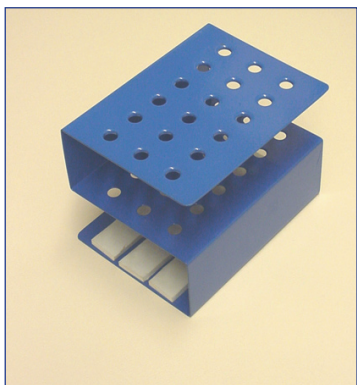
### 3510-1 THERMOMETER CLAMP

**ADJUSTABLE** 360° rotatable jaws. Overall length 7". Rod to thermometer about 5-3/4". Accepts rods up to 5/8".



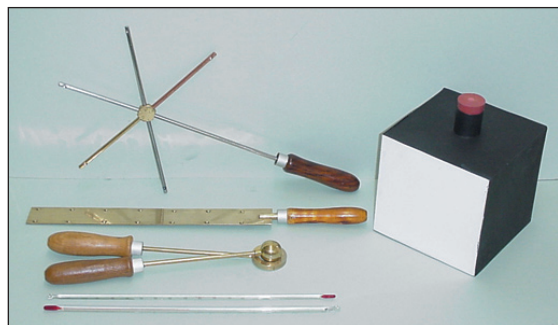
### 3510-10 THERMOMETER STAND RACK FOR 18

Sturdy Aluminum construction. Stove enamel finish. To hold 18 thermometers. Bottom is rubber foam lined to protect thermometer bulbs. A must for every lab to hold / store thermometers.



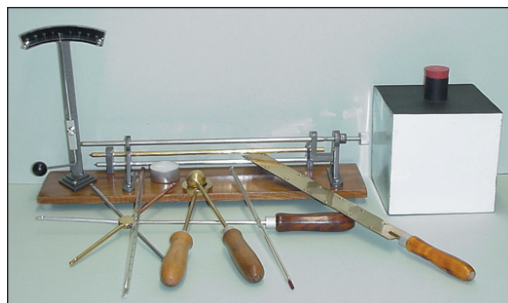
### KT1008-1 CONCEPT OF HEAT AND TEMPERATURE STUDENT VERSION

This educational kit contains materials and instructions suitable for safe hands-on inquiry-based experimentation into the nature and properties of heat and temperature. This kit is primarily aimed at students in Middle School but may be used by Elementary or High School students by slightly altering the instructions. Instructions are also included for Science Fair activities and optional Probreware/Data-Logging activities. Experiments that can be performed what is heat and temperature, how do materials absorb heat, what happens to materials when they are heated, how do materials react when heated etc. Items included in the kit Ball and Ring-1, Conductometer-1, Compound Bar -1, Leslie's Cube -1 & Thermometer-2.



### KT1008-2 CONCEPT OF HEAT AND TEMPERATURE TEACHER VERSION

This educational kit contains materials and instructions suitable for safe hands-on inquiry-based experimentation into the nature and properties of heat and temperature. This kit is primarily aimed at students in Middle School but may be used by Elementary or High School students by slightly altering the instructions. Instructions are also included for Science Fair activities and optional Probreware/Data-Logging activities. Experiments that can be performed what is heat and temperature, how do materials absorb heat, what happens to materials when they are heated, how do materials react when heated, measuring expansion etc. Items included in the kit Basic Linear Expansion apparatus- 1, Ball and Ring- 1, Conductometer-1, Compound Bar-1, Leslie's Cube-1 & Thermometer- 2.

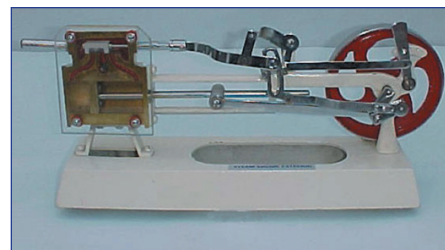


## EXTERNAL COMBUSTION ENGINES

### 10165 STEAM ENGINE MODEL

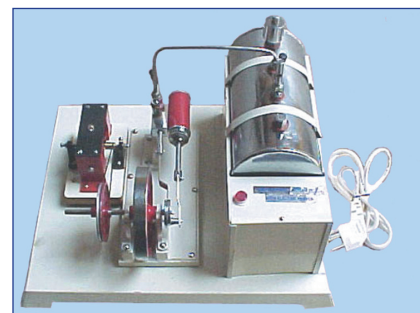
The cylinder is section cut and is covered with a glass plate.

Complete with working parts - piston, slide valve, link motion and reversing .

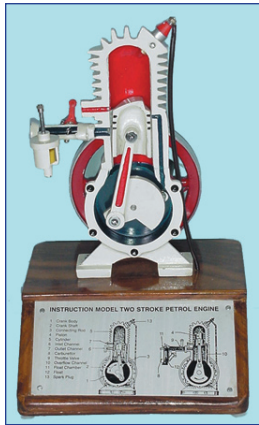


### 10167 STEAM ENGINE MODEL WITH BOILER

Operation of a commercial steam engine is well illustrated with this working model. The unit is provided with a horizontal boiler with whistle, safety valve, steam gauge. Electrically heated and with a small dynamo.



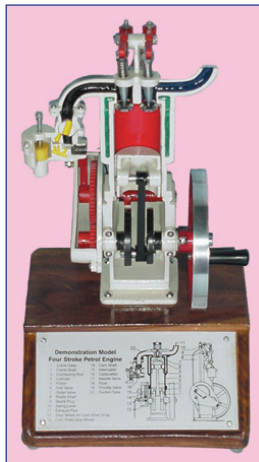
# INTERNAL COMBUSTION ENGINES



## 870 DEMONSTRATION TWO STROKE PETROL ENGINE

Huge - 14" x 9" x 8". The model represents the internal structure of engine. The internal surfaces are finished in different colors to indicate air, fuel and gas mixture and exhaust gas contents. The crankshaft can be rotated by hand wheel to show the operating cycle with electrical contact

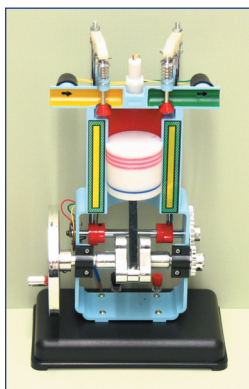
for illuminating a 3-volt lamp as a spark plug to simulate ignition. The carburetor is also shown in section. The model is cast alloy construction, mounted on a polished wooden base.



## 871 DEMONSTRATION FOUR STROKE PETROL ENGINE

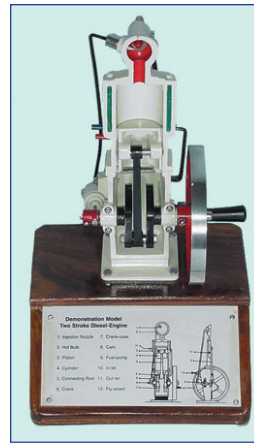
Huge - 14" x 8" x 7". The model represents the internal structure of engine. The internal surfaces are finished in different colors to indicate air, fuel and gas mixture and exhaust gas contents. The crankshaft can be rotated by hand wheel to show the operating cycle with electrical contact for illuminating a 3-volt lamp as a spark plug to simulate ignition.

The carburetor is also shown in section. The model is cast alloy construction, mounted on a polished wooden base.



## 871-10 PETROL ENGINE MODEL 4 STROKE.

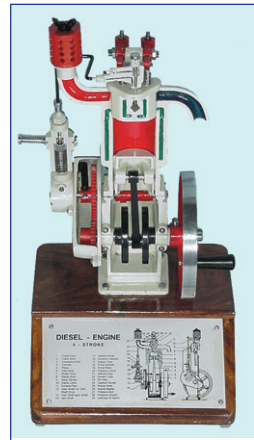
To study the working and principle of a Petrol Engine. Cranking a gear driven timing mechanism, the air inlet and exhaust and the oil ejection can be studied with indicating lamps. Works on 1 AA Battery (not supplied). 7" x 4 1/2" x 12".



## 875 DEMONSTRATION TWO STROKE DIESEL ENGINE

Huge - 14" x 8" x 7". The model represents the internal structure and the operating principle. The internal surfaces finished in different colors to indicate air, fuel and gas mixture, and exhaust gas contents. With cam operated jerk pump and manually operated air inlet diaphragm injection nozzle and starting valve. The firing point of the engine is shown by a 3-volt

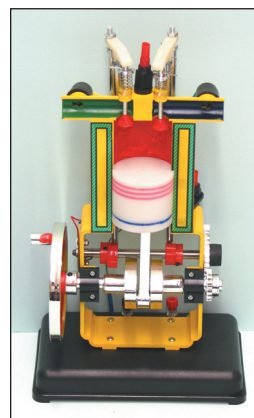
bulb which glows at the correct point in the cycle by means of an electrical contact system in the model. The model is cast alloy construction, mounted on a polished wooden base.



## 876 DEMONSTRATION FOUR STROKE DIESEL ENGINE

Huge - 16" x 7" x 6". The model represents the internal structure and the operating principle. The internal surfaces finished in different colors to indicate air, fuel and gas mixture, and exhaust gas contents. With cam operated jerk pump and manually operated air inlet diaphragm injection nozzle and starting valve. The firing point of the engine is shown by a 3-volt

bulb which glows at the correct point in the cycle by means of an electrical contact system in the model. The model is cast alloy construction, mounted on a polished wooden base.



## 876-10 DIESEL ENGINE 4 STROKE

To study the working and principle of a Diesel Engine. Cranking a gear driven timing mechanism, the air inlet and exhaust and the oil ejection can be studied with indicating lamps. Works on 1 AA Battery (not supplied). 7" x 4 1/2" x 12"

# LIGHT PRISMS

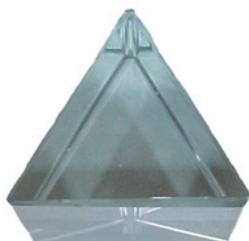
## 960 OPTICAL PIN STRAIGHT 2"

Straight Steel optical Pins 2" long, smooth sharp points with well formed heads.



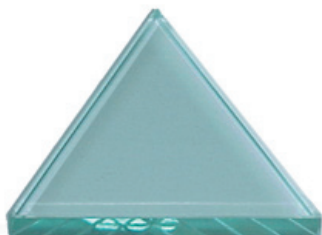
## 1011 PRISM EQUILATERAL

Glass, big size. 50 mm (approx.) size of face x 50 mm height (approx.). Polished faces.



## 1016 PRISM RIGHT ANGLE

Glass, big size. 50 mm (approx.) size of face. Polished faces.



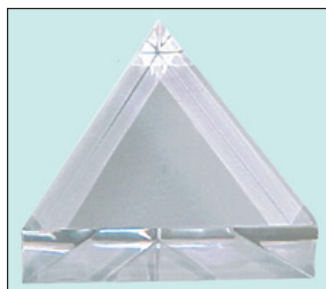
## 1017 PRISM FLAT EQUILATERAL

Glass, 9mm Thick, 75 mm Sides.



## 1018 PRISM FLAT RIGHT ANGLE

Glass, 9 mm Thick, 100 mm hypotenuse.



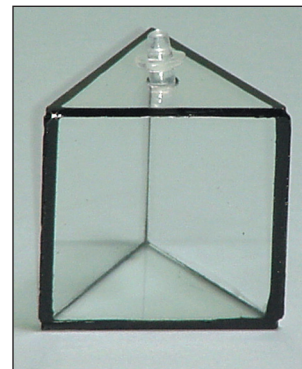
## 1090-4 ACRYLIC PRISM EQUILATERAL

75 mm x 25mm, Side x Thickness.

**PRISM HOLLOW** Prism with hole to allow fluids to be added. Equilateral. Comes with stopper. To study refraction in liquids of different refractive indices.

## 1020-1 PRISM HOLLOW GLASS

Equilateral, 50 mm glass Sides.



## 1022 PRISM HOLLOW ACRYLIC

Equilateral, 50 mm acrylic Sides.

## 1028-1 PRISM CROWN GLASS

Prism Crown Glass refractive index 1.51. For Spectrometer (# 1175-1), and general refraction experiments. Equilateral 32 mm sides.



## 1017-3 PRISM ACRYLIC SET OF 3

Prism Acrylic Optically Polished, Equilateral Set of 3 includes 1 each of :  
25 mm Long x 25 mm Side, 50 mm Long x 25 mm Side, 75 mm Long x 25 mm Side.



**1017-4 PRISM ACRYLIC** Prism Acrylic Optically Polished, Equilateral 25 mm Long x 25 mm Side.

**1017-5 PRISM ACRYLIC** Prism Acrylic Optically Polished, Equilateral 75 mm Long x 25 mm Side.

**1017-8 PRISM ACRYLIC** Prism Acrylic Optically Polished, Equilateral 50 mm Long x 25 mm Side.

## REFRACTION BLOCKS

### GLASS BLOCK RECTANGULAR

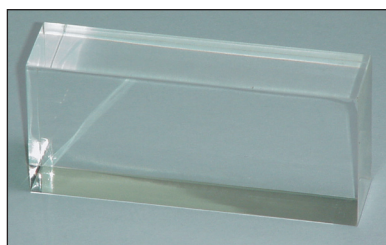
For refraction experiments. Made out of Glass Sheet, bubble free. Optically polished on all sides. Edges slightly beveled. Length x Width x Height.



**1105-2** 75mm x 50mm x 18mm

**1105-7** 75mm x 50mm x 15mm

### 1080-3 ACRYLIC BLOCK RECTANGULAR



For refraction experiments. Made out of Acrylic Sheet, bubble free. Optically polished on all sides. Edges slightly beveled. 100mm x 45 mm x 25 mm. Length x Width x Height.

### 1084-1 PRISM SET OF 6, ACRYLIC



Ideal for performing refraction experiments and to study behavior of light after passing thru different shapes. Set of 6, made from clear acrylic, 15 mm thick. All the sides are polished for extra

clarity. Supplied in wooden box, with cut-out storage spaces in foam for each part.

Equilateral Prism 75 mm sides x 15 mm thick.

Rectangular Block 75 mm x 50 mm x 15 mm thick.

Semi-circular Block 90 mm base x 15 mm thick.

2 Double Concave Lenses 90 mm long x 15 mm

thick Double Convex Lens 90 mm long x 15 mm thick.

### 1132-1 LASER LIGHT WITH MAGNETIC BACK



For use in refraction experiments or optical demonstrations. Magnetic backing for easy mounting on chalk boards or marker boards. 650nm Laser, Not to be used as a pointer.

### 1084-5 PRISM ACRYLIC SET OF 7 MAGNETIC BACK



Ideal for performing refraction experiments and to study behavior of light after passing thru different shapes. Each piece has a magnetic back for mounting on a magnetic chalk or

marker board. The bottom of the pieces are painted white so that the ray of light can be easily seen. Set of 7, made from clear acrylic, 15 mm thick. All the sides are polished for extra clarity. Supplied in box, with cut-out storage spaces in foam for each part.

Equilateral Prism 95mm sides

Isocelles Prism 135mm x 95mm x 95mm

Semi-circular Block 130mm base

Double Concave Lenses 130mm long

Double Convex Lens 130mm long

Plano-Concave Lens 130mm long

Plano-Convex Lens 130mm long

## MIRRORS



**MIRRORS CONCAVE** Glass, optically worked. Back silvered with protective coating. Sizing by, Diameter x Focal Length.

**1059-1** 5cm x 5cm

**1059-2** 7.5cm x 7.5cm

**1059-5** 100mm x 250mm

**1059-7** 37mm x 250mm

**1059-9** 50mm x 150mm

**1059-14** 38mm x 150mm

**1059-15** 75mm x 150mm



**MIRRORS CONVEX** Glass, optically worked. Back silvered with protective coating. Sizing by, Diameter x Focal Length.

**1059-3** 5cm x 5cm

**1059-4** 7.5cm x 7.5cm

**1059-6** 100mm x 250mm

**1059-8** 37mm x 250mm

**1059-10** 37mm x 150mm

**1059-11** 50mm x 150mm

**1059-12** 75mm x 150mm

### PLANE MIRRORS

Glass, back silvered with protective coating.



**1065-1** 5cm x 15cm

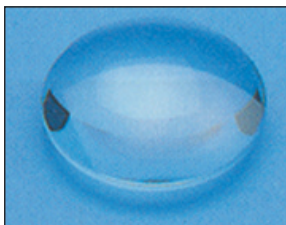
**1065-2** 10cm x 10cm

**1065-3** 10cm x 15cm

# LENSES

## LENSES DOUBLE CONVEX

Glass, optically worked, with ground edges. Sizing by, Diameter x Focal Length.



- |                              |                               |
|------------------------------|-------------------------------|
| <b>1074-1</b> 38 mm x 5 cm   | <b>1074-2</b> 38 mm x 10 cm   |
| <b>1074-3</b> 38 mm x 15 cm  | <b>1074-4</b> 38 mm x 20 cm   |
| <b>1074-5</b> 38 mm x 30 cm  |                               |
| <b>1075-1</b> 50 mm x 5 cm   | <b>1075-2</b> 50 mm x 10 cm   |
| <b>1075-3</b> 50 mm x 15 cm  | <b>1075-4</b> 50 mm x 20 cm   |
| <b>1075-5</b> 50 mm x 25 cm  | <b>1075-6</b> 50 mm x 30 cm   |
| <b>1075-7</b> 50 mm x 500 mm | <b>1075-8</b> 50 mm x 1000 mm |
| <b>1077-3</b> 75 mm x 15 cm  | <b>1077-4</b> 75 mm x 20 cm   |

## LENSES DOUBLE CONCAVE

Glass, optically worked, with ground edges. Sizing by, Diameter x Focal Length.



- |                               |                             |
|-------------------------------|-----------------------------|
| <b>1078-1</b> 38 mm x 10 cm   | <b>1078-2</b> 38 mm x 15 cm |
| <b>1078-3</b> 38 mm x 20 cm   | <b>1078-4</b> 38 mm x 50 mm |
| <b>1078-5</b> 38 mm x 300 mm  |                             |
| <b>1079-1</b> 50 mm x 5 cm    | <b>1079-2</b> 50 mm x 10 cm |
| <b>1079-3</b> 50 mm x 15 cm   | <b>1079-4</b> 50 mm x 20 cm |
| <b>1079-5</b> 50 mm x 30 cm   |                             |
| <b>1081-4</b> 75 mm x 2000 mm |                             |

## 1080-1 ACRYLIC LENS DOUBLE CONVEX

75 mm long.



## 1080-2 ACRYLIC LENS DOUBLE CONCAVE

75 mm long.



## 1082 NEUTRALIZATION LENS SET

This set of two glass lenses when placed together give zero power thereby neutralizing the '+' and '-' effect. Set of two lenses 38 mm diameter, +115 mm and -115 mm focal length. Supplied in plastic storage box.



## LENSES DEMONSTRATION, SET OF 6

Glass lenses 50 mm diameter optically worked, ground edges. The set comprises of one each double convex, plano-convex, convexo-concave, double concave, plano-concave and concavo-convex lenses, packed in individually labeled pouches.



- 1083-1** 38 mm Diameter set  
**1083-2** 50 mm Diameter set

## LENS DEMONSTRATION SET OF 6

Packed in wooden box with individual slots for lenses.

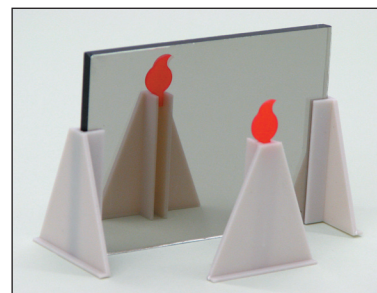


- 1083-3** 38 mm  
**1083-4** 50 mm

## 1065-50 PLANE MIRROR IMAGE FORMATION

**DISTANCE** No more use of prickly pins to demonstrate this important principle.

To demonstrate that the image formed in a Plane Mirror is as far behind in the Mirror as the object is from the Mirror or that the image distance is equal to the object distance. It consists of a specially coated mirror in which you can view the image from the front and can also see thru the mirror. If the object which in this case is a mounted flame cut out is placed in front and a similar is placed on the back and parallax error is removed then it will be found that the object and the image are at the same distance.



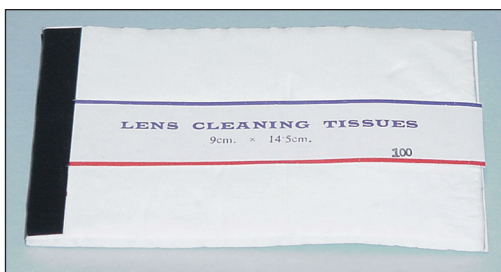


**1065-51  
PLANE MIRROR  
REFLECTION  
ANGLE OF  
INCIDENCE AND  
REFLECTION**

No more use of prickly pins to demonstrate this

important principle. This is self contained unit with a light source to demonstrate that in Plane Mirror Reflection the Angle of Incidence is equal to the Angle of Reflection. It consists of a graduated metal protractor mounted on a base, with a light source producing a beam of light.

**1174-1 LENS CLEANING PAPER** Lint free, to clean lenses and other glass objects without scratching the surface. 140 mm x 95 mm sheet size, booklet of 100 sheets.

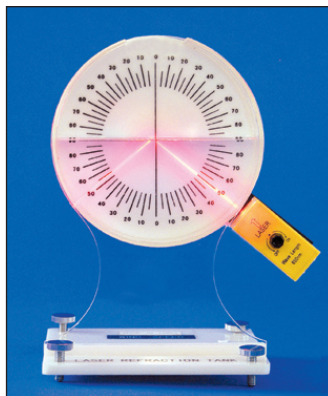


**961 LENS  
HOLDER**

Wooden, polished. Mounted on base with slot to hold lenses or mirrors. Can be used with meter scale to form simple optical bench.

**1123 NEWTON'S RING APPARATUS**

To demonstrate interference of light. Consists of a pair of glass plates, optically polished, 60 mm in diameter, one plane and the other plano-convex mounted together in a baked enamel finish metal frame. Pressure between plates adjustable by three nickel plated brass screws.



**997-1  
REFRACTION  
TANK WITH  
LASER**

A self contained unit to measure and study refraction of light. Incident and refractive rays are easily seen and measured. Light rays air into water, water to air and water in water can

be studied easily with the help of built-in laser, as a light source, which revolves and can be fixed at any point around a circular graduated scale. With leveling screws to level the water in the tank. Circular scale 160 mm ( 6-3/8 in. ) Diameter.



**1129 NEWTON'S  
COLOR DISC**

For demonstrating that white light is composed of the seven colors of the spectrum by rotating a disc with the seven colors. Comprising of a seven colored metal disc attached to a pulley mounted on a metal stand driven by belt with the help of a hand driven wheel.

**1131-1 COLOR MIXER ADDITION**

To learn and teach how different colors can be made by addition / mixing of the basic three primary colors Red, Blue and Green, like Yellow, Magenta, Cyan, White etc. Learn Color Mixing, Complementary Colors, Color Fatigue and Colored Shadows. Apparatus consists of Three Tubes, 6 3/8" / 160mm long, emitting a different light each, Red, Blue and Green. Comes complete with Screen 6.5" / 165mm x 4 1/4" / 105mm, total height on stand 7.5" / 190mm. Height of Tube Carrying Cradle 8.5" / 210mm. For Classroom

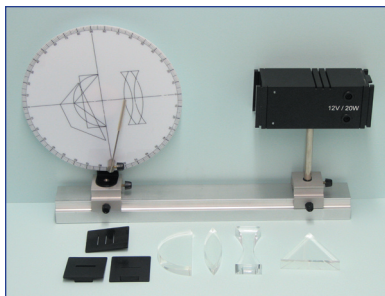


Demonstration, you can achieve color circles 9" in diameter without losing intensity. Operates on 6V DC, Power Adaptor and all connecting wires included. Comes complete with instructions.

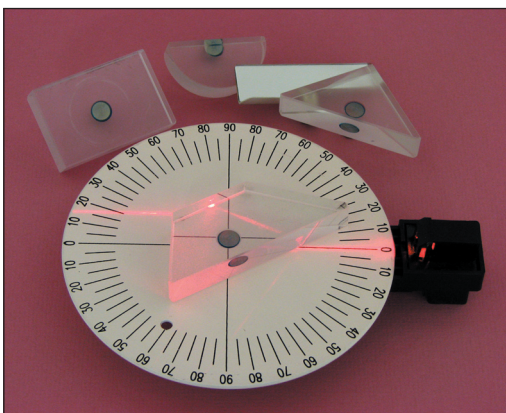
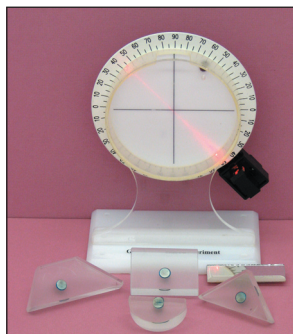


**1084-20  
PRISMS REFRACTION  
EXPERIMENT APPARATUS**

To study refraction of light in different shapes of Acrylic blocks / Prisms. Consists of a Ray Box mounted on an Aluminum Channel 16" long and a Graduated Disc 8" dia, Mounted on the channel. The Disc can hold any given prism in place. When light from the Ray Box is passed thru the mounted shape of prism the incidence and the refracted ray of light can be easily observed and traced. The Ray Box operates on 12v 20W dc. Power Supply not included. Set of Prisms included.

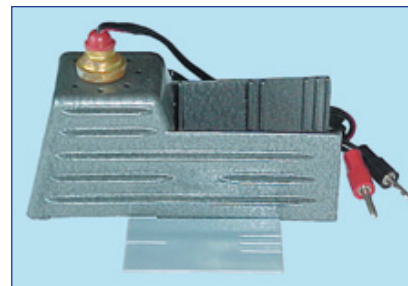


**1084-50 COMPLETE LASER REFRACTION LIQUID AND SOLID APPARATUS** Complete unit to demonstrate and study Refraction in Water, Refraction in Acrylic / Glass blocks and Reflection in Plane Mirror. Consists of a Laser Mounted graduated Plastic Disc 6"(150mm) dia., which can lay flat on its surface and act as a table to demonstrate and study refraction in solid acrylic blocks or reflection in a plane mirror, or it can be mounted on the back of the tank which can hold liquids such as water to demonstrate and study refraction in water / liquids. Comes complete with four acrylic blocks one rectangular, one trapezoid, one triangular and one semi circular, one plane mirror, with instructions and storage box with thick foam cutouts to store all pieces in one box. Operates on 2 AAA Batteries not included. Base 6 1/4"(155mm) x 4"(100mm).



**1114  
RAY BOX**

A metal ventilated lamp house having an open front with extended sides finned externally for heat dissipation and with vertical internal grooves to accommodate a slit plate and a cylindrical lens. The light source is 12 volt lamp with one meter of twin flex cord with 4 mm banana plugs for electric connection. Complete with slit plate having single and triple slits and whitened on one side and other side black. Supplied without lens.

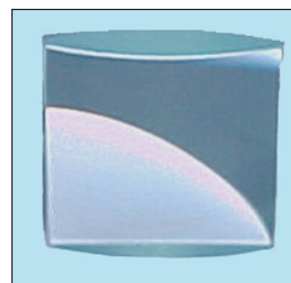


**1114-5 RAY BOX WITH LENS**

Same as above but supplied complete with Ray Box Lens # 1115.

**1115 RAY BOX LENS**

Cylindrical glass lens for use with Ray Box Catalog # 1114. Size 50 mm x 45 mm, Length x Width, focal length +14D.



**1114-50  
LIGHT RAY BOX**

To study color mixing and behavior of light with lenses and refraction blocks (not supplied), where parallel ray of lights are required. Has a built-in lens to produce parallel rays of light. Strong Plastic Construction, with finned sides for heat dissipation. Comes complete with 3 filters red, blue and green, 3 slit plates with one, two, three and four slits. Operates on 12V 2Amps dc. Size 6 1/2"(165mm) x 3"(75mm) x 2 1/8"(55mm).



**2037-3 MULTI-VOLTAGE REGULATED POWER SUPPLY**

Ideal for all small applications for lab and general use. Ideal for any device drawing up to 2A. Fully regulated to deliver constant DC power. Rotary selector switch selects 3, 4 1/2, 6, 7 1/2, 9 and 12V. Power projects or small battery operated devices. Color coded binding posts makes connection easy. Input 110v ac.



**1116 RAY OPTICS KIT** To investigate the properties of lenses and to construct simple optical instruments. Kit comprises of the below:

**Two** lamp holders, each in cast alloy shade with two axial slots. Complete with two meter 2-core cable and lamp. Shade has integral support arm which is clamped at right angle to the vertical rod, 165 mm long, fitted on heavy cast base, stove hammer finish.

**One each** right and left hand cylindrical lamp shield of light alloy in matt black finish with slot parallel to the axis, size 190 x 60 mm, Height x Diameter.

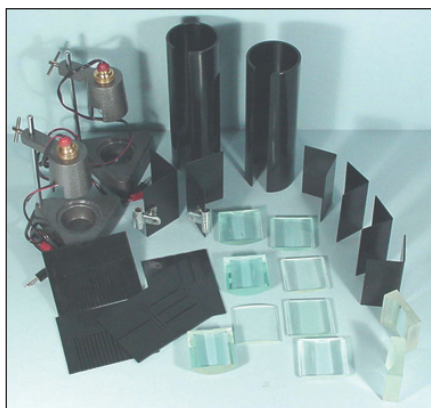
**Two** black plastic plates, 100 x 80 mm, with 17 equispaced parallel slots.

**Two** black plastic plates, 130 x 80 mm, each with single and triple slits.

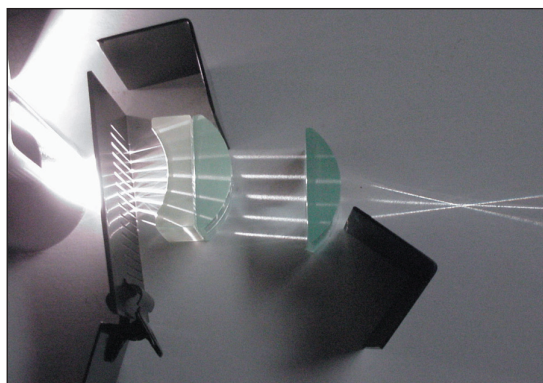
**Two** metal support brackets, matt black finish with spring loaded clips to hold the plates.

**Four** black finish metal light barriers, height 80 mm.

**Ten** Cylindrical Lens (8 plano-convex, and 2 plano-concave), size 50 x 50 mm, Side x Height.



Below is Ray Optics Kit ( # 1116 ) set up for just one of the many experiments you can perform with this kit.



**1117 LIGHT BOX** Comes complete with the below accessories and is used to perform experiments in reflection, refraction and color mixing. The box has hinged sides with mirrors used for mixing of colors and rays of light. An adjustable lens in the box is used to produce divergent, convergent or parallel rays of light. The light box has grooves to accept slit plates or color filters. Operates on 12 V 2 A dc. Spare bulb provided. Supplied in a thermocole box with place for each part. Instructions included. Included in the kit are:

**8** Acrylic plastic blocks - one rectangular, one semi-circular, one double concave, one equilateral 60 x 60 x 60 deg., two right angle 90 x 60 x 30 deg. & 90 x 45 45 deg., one circular, one double convex.

**8** mounted color filters.

**2** Slit Plates.

**3** Mirrors - one plane mirror, one semicircular, one parabolic.

**1** Set of Colored Cards.



### 1175-1 SPECTROMETER STUDENT

An economically priced Spectrometer, but capable of performing most of the experiments like spectras, angle of prisms, refractive indexes etc. Consists of heavy base with 170 mm diameter circle, divided 0 to 360 degrees, which rotates independently and has locking screw.

Collimator: Fixed, with adjustable axis, objective lens with focusing system, variable aperture slit.

Telescope: Moveable with set screw and fine motion screw, adjustable axis. Telescope pillar carries vernier scale for accurate measurements. Focusable objective Lens. Ramsden Eyepiece with cross-wires and locking ring for focus lock.

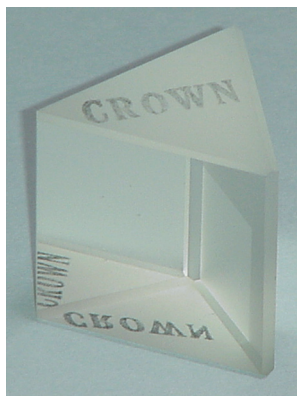
Prism Table: Provided with three leveling screws and engraved lines for prism placement in experiments.

Comes complete with Prism Clamp, Grating Holder, Tommy Bar for axis adjustment and Instruction Sheet.



### 1028-1 PRISM CROWN GLASS

Prism Crown Glass refractive index 1.51. For Spectrometer (# 1175-1), and general refraction experiments. Equilateral 32 mm Sides.



### 1190-1 DIFFRACTION GRATING

Glass mounted for use with Spectrometers and Spectrum Tubes. Viewing area 44 mm x 30 mm. 15,000 lines per inch.



### 1190-20

#### EDUCATIONAL DIFFRACTION GRATING

Three in one. Three Diffraction Grating mounted on the same slide 3" x 1 1/4", 100 lines/mm, 300 lines/mm and 600 lines/mm. The individual gratings are 1/2" x 3/8".



**SPECTRUM TUBES** Filled with Spectroscopically pure sample of gas. Straight form, with a piece of capillary in the middle. Total Length about 26cm. Aluminum Electrodes.

- 2152-13 Air
- 2152-1 Ammonia
- 2152-2 Argon
- 2152-3 Carbon Dioxide
- 2152-14 Chlorine
- 2152-18 Deuterium
- 2152-4 Helium
- 2152-5 Hydrogen
- 2152-15 Iodine
- 2152-6 Krypton
- 2152-7 Mercury Vapors
- 2152-8 Neon
- 2152-9 Nitrogen
- 2152-10 Oxygen
- 2152-11 Sulphur
- 2152-12 Water Vapors



**SPECTRUM TUBES DELUXE** Filled with Spectroscopically purified sample of gas. Straight form, with a piece of capillary in the middle. Total Length about 26cm. Stronger cap, nickel electrodes, clear glass.

- 2155-13 Air, Deluxe
- 2155-1 Ammonia, Deluxe
- 2155-2 Argon, Deluxe
- 2155-16 Bromine, Deluxe
- 2155-3 Carbon Dioxide, Deluxe
- 2155-17 Carbon Monoxide, Deluxe
- 2155-14 Chlorine, Deluxe
- 2155-18 Deuterium, Deluxe
- 2155-4 Helium, Deluxe
- 2155-5 Hydrogen, Deluxe
- 2155-15 Iodine, Deluxe
- 2155-6 Krypton, Deluxe
- 2155-7 Mercury Vapors, Deluxe
- 2155-8 Neon, Deluxe
- 2155-9 Nitrogen, Deluxe
- 2155-10 Oxygen, Deluxe
- 2155-11 Sulphur, Deluxe
- 2155-12 Water Vapors, Deluxe
- 2155-19 Xenon, Deluxe



## KT 1009-1

### CONCEPT OF LIGHT STUDENT VERSION

This educational kit contains materials and instructions suitable for safe hands-on inquiry-based experimentation into the nature and properties of Light. This kit is primarily aimed at students in Middle School but may be used by Elementary or High School students by slightly altering the instructions. Instructions are also included for Science Fair activities and optional Probeware / Data-Logging activities. Experiments that can be performed include what is light, how does light travel, how do lenses effect light, how do mirrors affect light etc. Items included in the kit Prism Set (6 Acrylic) Triangular Prism-1, Half Round Prism-1, Double Concave Prism-2, Double Convex Prism-1, Rectangular Prism (Brick)-1, Wooden Storage Box-1, Ray Box-1, Plane Mirror-1 & Concave Mirror-1.



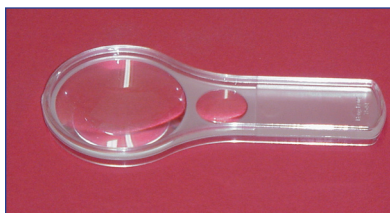
## KT 1009-2

### CONCEPT OF LIGHT TEACHER VERSION

This educational kit contains materials and instructions suitable for safe hands-on inquiry-based experimentation into the nature and properties of Light. This kit is primarily aimed at students in Middle School but may be used by Elementary or High School students by slightly altering the instructions. Instructions are also included for Science Fair activities and optional Probeware/Data-Logging activities. Experiments that can be performed include what is light, how does light travel, how do lenses effect light, how do mirrors affect light, how does color relate to light etc. Items included in the kit Prism Set (6 Acrylic) Triangular Prism-1, Half Round Prism-1, Double Concave Prism-2, Double Convex Prism-1, Rectangular Prism (Brick)-1, Wooden Storage Box-1, Ray Box-1, Plane Mirror-1, Concave Mirror-1 & Newton Color Disc on stand



## MAGNIFIERS

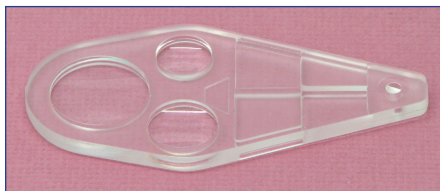


### 7101-1 STUDENT MAGNIFIER

A finely molded plastic magnifier having 2 magnifying areas (3x, 6x).

These inexpensive magnifiers are of unusual quality and just right for young people.

### 7101-3 MAGNIFIER STUDENT 3 MAGNIFICATIONS



Strong plastic construction, 4" long, with a hole on one end to thread a lanai. Three magnifiers 25mm 5x, 18mm 13x, 14mm 20x.



### MAGNIFIERS, READING GLASS

Glass lens, unbreakable plastic mount with handle. Sizing by Diameter of lens.

- 1091-1 50 mm
- 1091-2 62 mm
- 1091-3 75 mm

### MAGNIFIERS, READING GLASS

Glass Lens, plated metal mount with handle. Sizing by Diameter of lens.

- 1095 50 mm
- 1096 62 mm
- 1097 75 mm
- 1098 100 mm



### 1185-20 MAGNIFIER FOLDING HANDLE 2x, 4x

Strong plastic construction. Folding Handle. Lens 4" x 2", dual magnification 2x & 4x. Comes with protective case. Great for carrying as handle fold



## MAGNIFIER METAL MOUNT PLASTIC

**HANDLE** Glass magnifier in metal mount with plastic mount. Excellent for all kinds of uses.



- 7105-3 2" dia., 5x magnification
- 7105-5 3" dia., 3x magnification
- 7105-6 4" dia., 2.5x magnification

## MAGNIFIER PLASTIC MOUNT PLASTIC

**HANDLE** General use magnifier. Strong plastic body, handle designed for comfortable grip.



- 1093-3 2" dia., 5x magnification
- 1093-5 3" dia., 3x magnification
- 1093-6 4" dia., 2.5x magnification

## MAGNIFIER DUAL MAGNIFICATION

Bi-focal magnification. Handheld magnifiers, superior body construction, one piece. Dual magnification with bi-focal.



- 7100-1 2" Diameter, 2.5x Lens Magnification, 5x Bi-focal Magnification.
- 7100-3 3" Diameter, 2x Lens Magnification, 4x Bi-focal Magnification.
- 7100-5 4" Diameter, 2x Lens Magnification, 4x Bi-focal Magnification.

**MAGNIFIER FOLDING** Pocket type, 25 mm Diameter glass lens, mounted in plastic case.

- 1099-1 Single Lens
- 1099-2 Double Lens
- 1099-3 Triple Lens



## 1100 MAGNIFIER FOLDING, LOUPE, 10X

Pocket type. A pair of glass plano-convex lenses arranged giving a tolerably flat field of view with minimum chromatic aberration. Mounted in plastic body with metal cover. Magnification x10.



## 1102 TRIPOD MAGNIFIER

Designed specially for botanist, zoologist and anatomists. A 100 mm Diameter glass lens fitted in a baked black enamel finish aluminum metal frame with three legs, which can swivel out and thus allowing a larger area for viewing.



## 1103 TRIPOD MAGNIFIER SMALL

Bakelite body. 10 x magnification, 20 mm viewing area.



**MAGNIFIER ILLUMINATED** Illuminated magnifier, strong plastic body. Revolving switch in handle, works on two AA batteries, not supplied. Great for Map Reading, Artists, Engineers, Hobbyists, Scientist, Stamp Collectors.

- 1185-2** 2" Diameter lens, Dual Magnification 2.5x & 5x.
- 1185-4** 3" Diameter lens, Dual Magnification 2x & 4x.



**1185-30 MAGNIFIER ILLUMINATED MULTI-ANGLE 3.5"** Illuminated round magnifier. Strong plastic construction. 3.5" Diameter lens, dual magnification 2x & 4x. Handle flips open to convert into multi-angle stand. Versatile, can be used as hands free, or hand held. Works on two AA batteries, not supplied.



**1185-40 MAGNIFIER BOX TYPE 8x WITH SCALE** Plastic construction, one piece, open bottom for viewing insects and small objects, clear acrylic sides for light to pass through. 1" Diameter. Lens, 8x adjustable focusing. With measuring scale graduated in 0.1mm intervals. Great for Graphic Art, Stamp Collectors, Scientists.

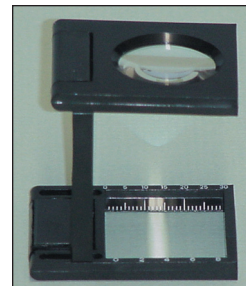


**1185-41 MAGNIFIER BOX TYPE 8x** Plastic construction, one piece, open bottom for viewing insects and small objects, clear acrylic sides for light to pass through. 1" Diameter lens, 8x adjustable focusing. Great for Stamp Collectors, Scientists, Insect viewing.

**1185-42 MAGNIFIER BOX 8x W/SCALE ILLUMINATED** Plastic construction, one piece, open bottom for viewing insects and small objects, clear acrylic sides for light to pass through. Illuminated, works on two AA Batteries, not supplied. 1" Diameter Lens, 8x Adjustable focusing. With handle and measuring scale graduated in 0.1mm intervals. Great for Graphic Art, Stamp Collectors, Scientists.



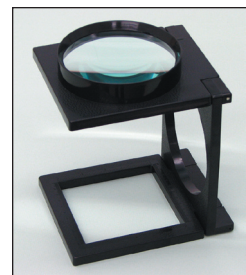
**1185-43 MAGNIFIER BOX TYPE 6x** Plastic construction, one piece, open bottom for viewing insects and small objects, clear acrylic sides for light to pass through. 1.8" Diameter Lens, 8x Magnification fixed focusing. Bottom diameter: 2.25". Total height 2.1". Great for viewing insects.



**7102-1 LINEN TESTER** Fixed focus, 5x, 1" Diameter lens, base has scale. Folds flat for storage. Excellent for thread count or biology studies.



**7102-5 LINEN TESTER WITH LIGHT** Fixed focus, 5x, 1" Diameter lens, base has scale. Folds flat for storage. Excellent for thread count or biology studies.



**7106-8 GIANT FOLDING MAGNIFIER** Strong plastic construction. Can be folded for storage. Base is graduated in inches and cm. 4 1/8" diameter lens with 2x Magnification. Can be used to view small and big objects.

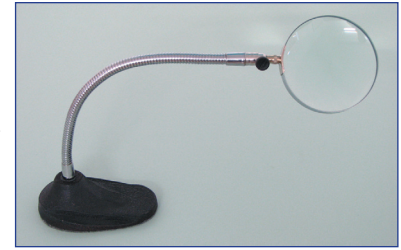
**7103-1  
MAGNIFIER 8  
MAGNIFICATIONS**

3.5" Diameter body, with 1" lenses. Capable of 8 magnifications 5x – 12x. Rotate the dial and the magnifications change. The lenses rotate back into the body, fully protected. Excellent for all kinds of work.



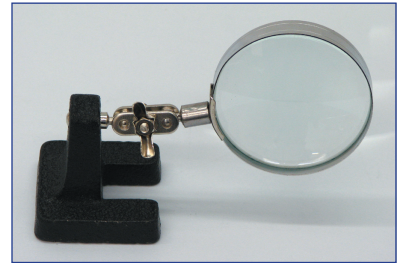
**7107-5  
GOOSENECK  
MAGNIFIER**

4", 2.5x metal mounted magnifier attached to a 12" flexible metal gooseneck. Mounted on a stable heavy black cast iron metal base 5" long. The magnifier can be rotated and set to desired position.



**7108-5 HORSESHOE BASE MAGNIFIER**

2.5", 5x metal mount magnifier with adjustable universal joint mounted on a cast iron horseshoe base. Magnifier has a wide range of uses in all labs and as well to study rocks and minerals.

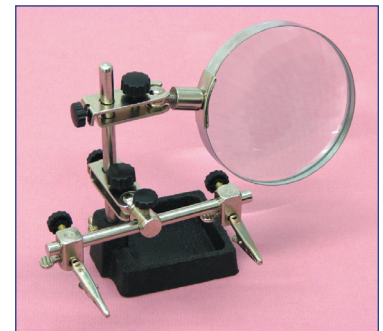


**B10-1  
MINI ZOOM  
MICROSCOPE  
ILLUMINATED**

Built in illumination. Small enough to fit into the pocket. Zoom magnification 60x -100x. Easy operation, one wheel for focus, other for zoom. 3" Height x 1 3/4" Width x 3/4" Diameter. With instructions. Requires two AAA batteries, not supplied.

**MAGNIFIER HELPING HAND WITH CLIPS**

A very versatile hands free magnifier. Hold the viewing object in clips and your hands are free to do other jobs. Magnifier in metal mount mounted on a heavy black cast iron base. Magnifier mounted in universal joint to adjust viewing angle and height of magnifier can be adjusted. Two clips mounted on rod, which can move sideways and up down to adjust angle. Total height 5".



**B10-3 POCKET MICROSCOPE  
ILLUMINATED**

Illuminated pocket microscope 6" L x 1 3/4" W, ideal for viewing any where especially in the field. Magnification 30x. Focusing by turning the wheel. Requires two AA batteries, not supplied



**B10-5  
POCKET ZOOM  
MICROSCOPE  
ILLUMINATED**

Illuminated pocket microscope 5 5/8" L x 1 3/4" W, ideal for viewing any where especially in the field. Zoom 60x to 100x. Focusing by turning the wheel. Requires two AA batteries, not supplied. Comes complete with stand, which accepts slides.

**7109-4** 2.5" dia. Magnifier 5x.  
**7109-6** 3.5" dia. Magnifier 3x.

**7104-5 BUG VIEWER TWO WAY**

Three dimensional two way viewer for a variety of objects. Leafs, Insects, Flower parts or other objects. Place the object on the stage and view from top and from the side viewer view the underside of the object. 4" dia x 5" tall, dimensions without handles, with handles 7.5" wide. Stage 2.5" dia.

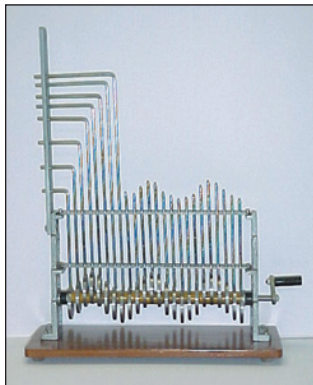


**B10-6 POCKET  
ZOOM MICROSCOPE  
ILLUMINATED**

Illuminated pocket microscope 5 5/8" L x 1 3/4" W, ideal for viewing any where especially in the field. Zoom 160x to 200x. Focusing by turning the wheel. Requires two AA batteries, not supplied. Comes complete with stand, which accepts slides.



# SOUND



## 1266 WAVE MODEL

For demonstrating longitudinal and transverse wave motion. Consisting of a number of eccentric discs supporting a series of metal rods, joined to a handle. On revolving the handle, simulation of waves can be obtained on the rods running in a metal guide. Mounted on a nicely polished wooden case. **With Instructions.**



## 1275-4 BELL AND VACUUM

To demonstrate the principle that sound does not travel in vacuum. This is a modified unit which does not require external power source for the bell. Comes complete with Bell Jar, Bell which requires 2 AA batteries (not included), Vacuum Pump Plate and Vacuum

Hose. Assembled unit is 8.5 in. x 11.5 in. Diameter x Height.

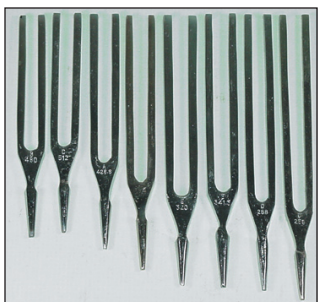
**TUNING FORKS** Tuning Forks as in Catalog # 1298-1, but individually available.

- |                     |                       |
|---------------------|-----------------------|
| <b>1300-1</b> C-256 | <b>1300-2</b> D-288   |
| <b>1300-3</b> E-320 | <b>1300-4</b> F-341.3 |
| <b>1300-5</b> G-384 | <b>1300-6</b> A-426.6 |
| <b>1300-7</b> B-480 | <b>1300-8</b> C-512   |



## 1298-1 TUNING FORK SET OF 8

Chromium plated steel (specially meant for vibration), plain shank, with frequencies marked. Conical pointed end for accurate and complete transfer of vibration to the experiment base. The frequencies are electronically tested. Packed in set of 8. One each of C-256, D-288, E-320, F-341.3, G-384, A-426.6, B-480, C-512.



## 1298-2 TUNING FORK SET OF 8

Steel N.P. Tuning Forks set of 8, with long handle for convenient handling. Frequency engraved on handle. Packed in thermocole box for storage. 1 each of, C-256, D-288, E-320, F-341.3, G-384, A-426.6, B-480, C-512.

**NOTE: Steel Tuning Forks are better than Aluminum Tuning Forks, because they Vibrate longer due to their heavier mass. Thereby helping in experiment time.**

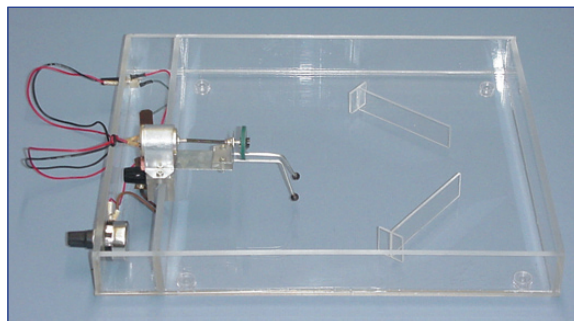
## 1309-1 RESONANT TUNING FORKS SET

For the demonstration of Resonance of Sound. Included in this set are a pair of Heavy Aluminum 440 Hz Tuning Forks, a sliding bar to change frequency, Two Resonance boxes and a striking mallet. Inside measurements of Resonance Boxes are 1.5" H x 3.125" W x 6.75" L.



## 1341-10 RIPPLE TANK FOR OVERHEAD PROJECTOR

Heavy Plexiglas construction. For use with an overhead projector or on the table top. Great for observing propagation, reflection, interference and diffraction of waves. Comes complete with adjustable vibrator, water tank, 2 baffles and adjustable control knob. Needs 1 D Cell battery (not included). Dimensions 288 mm x 330 mm x 38 mm. Width x Length x Height.





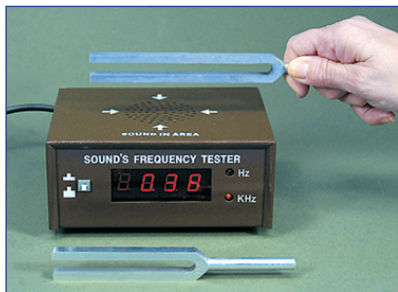
**1341-20  
RIPPLE TANK WITH PROJECTION  
SCREEN**

A unique self contained unit in which waves are projected onto a screen for easy viewing. A mirror mounted at 45 degrees in the base unit causes the reflection of the waves to be projected onto the screen, 10 in. x 9 in. The light source is a stroboscope light mounted like an overhead projector. The basin, 12 in. x 10 in., is removable to add or drain water. Comes complete with adjustable 2 and 3 prong wave generators and 2 baffles. Wave generation can be tuned to match light strobe. Total height of unit is 26 inches.



**1342-1  
SOUND  
FREQUENCY  
TESTER  
DIGITAL**

For testing sound wave frequencies, like frequency of tuning forks. Large 4 place digital readout measuring in Hz and KHz. Comes complete with 2 tuning forks 512 and 256. Operates on 110V AC.



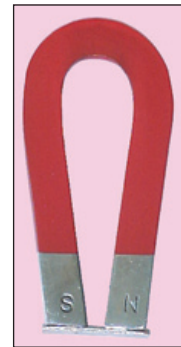
**1667 BELL ELECTRIC**  
On bakelite base with detachable cover, metal gong 70 mm Diameter. For use on 3 to 6V dc.



**MAGNETISM**

**HORSESHOE MAGNETS**

Steel, red spray painted, with keeper.



- 1372-1** 50 mm
- 1372-2** 75 mm
- 1372-3** 100 mm
- 1372-4** 125 mm
- 1372-5** 150 mm

**BAR MAGNETS**

Cobalt Steel, Alnico Alloy, in pairs, with keepers.

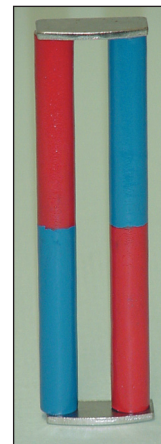
- 1374-1** 50 mm
- 1374-2** 75 mm
- 1374-3** 100 mm
- 1374-4** 125 mm
- 1374-5** 150 mm



**CYLINDRICAL MAGNETS**

Alnico cylindrical magnets grounded on both edges, color coded for poles. Sold in pairs, with keepers.

- 1379-1** 25 mm x 5 mm
- 1379-6** 25 mm x 10 mm
- 1379-2** 50 mm x 5 mm
- 1379-3** 50 mm x 10 mm
- 1379-4** 100 mm x 10 mm
- 1379-5** 125 mm x 10 mm



**1380-1 FLOATING  
MAGNETS SET**

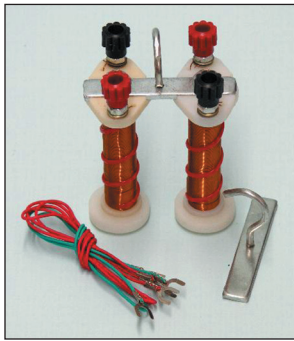
Set of 3 Floating Magnets, each 1 ¼" / 34 mm dia., 3/8" / 9mm thick, plastic covered reduce breakage with half red North and half blue South. Mounted on base 4" / 100 mm dia. x 8 ½" / 215 mm ht. To demonstrate that like poles repel and opposite poles attract.





**1381-1  
IRON FILINGS**

Coarse, for experiments in magnetism. Pack of 500 gm, in sprinkler type plastic bottle.



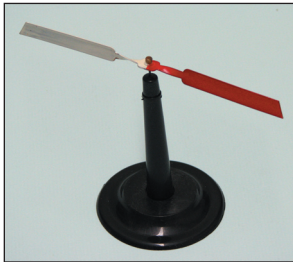
**1388-10  
ELECTROMAGNET**

To demonstrate the principle of an Electromagnet. Comes complete with hanging hook, loading plate with hook and connecting wires. Supplied with a plastic storage box. Operates on 3-6V DC. 65 mm L x 55 mm W.



**1388  
ELECTROMAGNET DEMONSTRATION**

U-shape, the two coils on the limbs are removable and are fitted with terminals for electric connection. The ends of the core are ground flat to make good magnetic contact. Supplied with carrying hook.



**1392-10 COMPASS DEMONSTRATION**

To study and demonstrate working of a compass and magnetic effects. Consists of a 140 mm long magnetic needle with North Pole colored red and South Pole colored White. Mounted on a stable base 100 mm high.

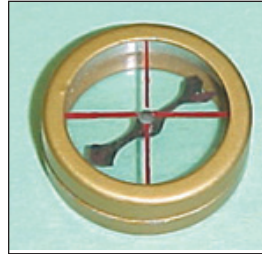
**1392-20 MAGNETIC NEEDLE SET**

To demonstrate and study magnetic fields. 12 Needle Stands and 17 Magnetic Needles. Stands are 34 mm high and Needles are 29 mm long.



**1394 MAGNETIC COMPASS**

Small, 12.5 mm Diameter with N, S, E and W marked. For lines of forces experiments or other experiments in magnetism or electromagnetism.



**1396 MAGNETIC COMPASS**

With top and bottom clear glass faces and an arrow shape needle pivoted between them. The arrow head representing the North Pole. The glass face is marked with a cross.



**1398-22  
LENSATIC COMPASS**

Highly accurate but affordable. Excellent for Map orientation, terrain feature location or course following on

the ground. Dial graduation 0 – 360 deg in 5 deg increments and 6000 miles in 20 mile increments. Protective housing, degree scale, rotating bezel, sighting wire top cover and thumb support for stability. Strong metal diecasted body. Shock resistant, not water proof.



**1398-25  
MAGNETIC COMPASS  
40 MM WITH RING,  
METAL BODY**

Metal body compass with ring, glass top. Graduated 0 – 360 deg. 40 mm Diameter.



**1405-20 MAGNETIC COMPASS 40 MM,  
PLASTIC BODY**

Clear visibility. Graduated 0 – 360 deg. Strong Plastic body.



**1405-21  
MAGNETIC COMPASS  
45 MM, PLASTIC BODY  
WITH COVER**

Plastic Body with hinged cover and lanyard. 45 mm diameter, graduated 0 – 360 deg

### 1405-22 MAGNETIC COMPASS 28 MM, PLASTIC BODY

Sturdy plastic body. 28 mm diameter, graduated scale.



### 1405-23 MAGNETIC COMPASS 20 MM, PLASTIC BODY

Sturdy plastic body. 20 mm diameter, graduated scale.



### 1405-24 MAGNETIC COMPASS 15 MM, PLASTIC BODY

Sturdy plastic body. 15 mm diameter. Excellent for plotting lines of force.



### 1405-15 COMPASS LARGE

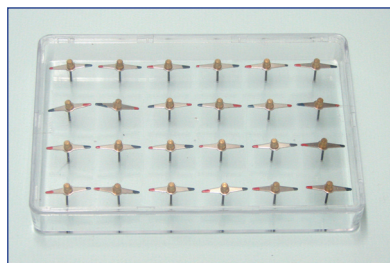
Plastic Body extra large Compass 3.5" (90mm) dia, with a clear plastic top. Dial graduated in degrees with 8 marked points.



### 1406-10 LINES OF FORCES / MAGNETIC FIELD APPARATUS

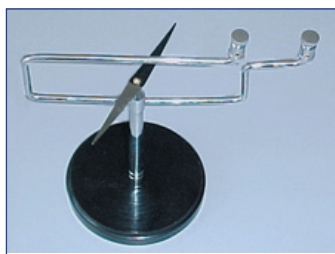
No more messing with iron fillings.

This apparatus can be used to demonstrate and study magnetic forces of magnets with ease. Comprised of 24 mounted magnetic needles in a plastic box 150 mm x 100 mm x 20 mm.



### 1433 OERSTED'S APPARATUS

To show the action of electric current on a magnet. A magnetic needle with brass bearing supported by pivot mounted on a base and surrounded by a rectangle of copper rod fitted with terminals.



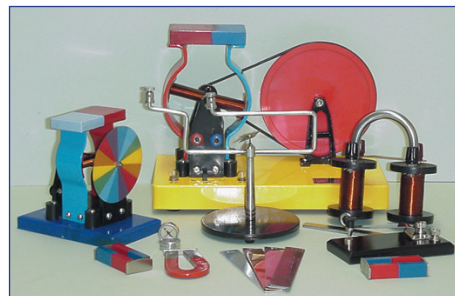
### KT1010-1 CONCEPT OF MAGNETS AND ELECTROMAGNETISM STUDENT VERSION

This educational kit contains materials and instructions suitable for safe hands-on inquiry-based experimentation into the nature and properties of magnets and electromagnetism. Instructions are also included for Science Fair activities and optional Proeware/Data-Logging activities. Experiments that can be performed include how a compass works, why and how magnets react to things, is electricity magnetic, working of an electromagnet, can magnets generate electricity etc. Items included in the kit Bar Magnet -2prs, Horseshoe Magnet -1, Aluminum Strip -1, Iron Strip -1, Copper Strip -1, Zinc Strip -1, Electromagnet -1, Contact Key -1, Magnetic Compass -2 & Oersted's Law Apparatus -1.



### KT1010-2 CONCEPT OF MAGNETS AND ELECTROMAGNETISM TEACHER VERSION

This educational kit contains materials and instructions suitable for safe hands-on inquiry-based experimentation into the nature and properties of magnets and electromagnetism. Instructions are also included for Science Fair activities and optional Proeware/Data-Logging activities. Experiments that can be performed include how a compass works, why and how magnets react to things, is electricity magnetic, working of an electromagnet, can magnets generate electricity, analyzing a generator, construction of a motor etc. Items included in the kit Dynamo Generator AC/DC -1, Motor model -1, Bar Magnet -2prs, Horseshoe Magnet -1, Aluminum Strip -1, Iron Strip -1, Copper Strip -1, Zinc Strip -1, Electromagnet -1, Contact Key -1, Magnetic Compass -2 & Oersted's Law Apparatus -1.



# ELECTROSTATICS



**1476-5 ELECTROSTATIC GENERATOR (VAN DEGRAFF)** An excellent quality generator. Consists of aluminum collector sphere mounted above neoprene belt; sturdy base and removable terminal housing and Clear Belt Housing Tube for easy viewing of working parts. Dimensions :Dome : 7 - 3/4 " Diameter. Height : 24 "



**1478-10 WIMSHURST GENERATOR** Two plates 250 mm in diameter are supported in two rigid uprights and driven by hand in opposite directions. They are heavy, high resistance plastic with sectors of aluminum sheets. Leyden Jars (condensers) made of Borosilicate Glass

and aluminum foil store electricity until discharged by the dischargers. The whole unit is mounted on a wooden base.

**FRICTION ROD** Hard rubber, ebonite, rounded edges Length x Diameter.



**1479** 8" (200mm) x 3/8" (9mm)

**1481** 280mm x 12mm

## 1502 ELECTROSCOPE PITH BALL

The pith balls are used as the leaves of an electroscope. The electroscope consists of a pair of pith balls attached to the ends of two strings which hang from a hook mounted on an insulated pillar on a stable metal tripod base.



## 1506-1 ELECTROSCOPE PITHBALL ECONOMY

An economical working pith ball electroscope with real pith balls.

## PITH BALLS GENUINE REAL



**1503-1** Pith Balls Plain, 12 per bag.



**1503-3** Pith Balls Aluminum paint, 6 per bag.



**1503-2** Pith Balls Plain with String, 6 per bag.



**1503-4** Pith Balls Aluminum paint with String, 6 per bag.



**1503-5** Pith Balls Assorted colors, 12 per bag.



**1503-6** Pith Balls Assorted colors with String, 6 per bag.



## 1504 ELECTROSCOPE FLASK FORM

Consists of a brass rod with brass disc and an attachment for leaves, supported in a cork for mounting in a 100 ml conical flask Complete with Borosilicate Glass 100 ml conical flask.



## 1505-2 ELECTROSCOPE METAL CASE

Rugged metal body construction with front and back glass faces for observation. The metal top and front glass are removable so that the leaves can be attached or removed with ease. Electroscope has a shadow scale.

### 1505-10 GOLD LEAF ELECTROSCOPE ROUND BIG

Big demonstration Electroscop, the whole class can see the deflection. Strong metal construction, 6 3/4" Diameter, total height 10 1/2". Transparent front glass plate, translucent back plate so that repulsion can easily be observed. Graduated back glass to compare charges. With terminal for earthing. Comes complete with Instructions.



### 1505-15 GOLD LEAF ELECTROSCOPE RECTANGULAR BIG

Big demonstration Electroscop, the whole class can see the deflection. Strong metal construction, 6" x 5" x 2 1/2", total height 7 1/2", with ball. Transparent removable front glass plate, translucent back plate so that repulsion can easily be observed. With terminal for earthing. Comes complete with Instructions.



## ELECTRICITY

### 1667 BELL ELECTRIC

On bakelite base with detachable cover, metal gong 70 mm Diameter. For use on 3V - 6V DC.

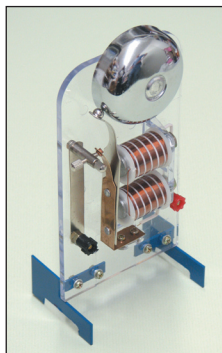


### 1671 BELL DEMONSTRATION

All parts easily visible, rigid construction, mounted on wooden board nicely polished. Workable on 3 - 4 Volts AC or DC.

### 1671-10 BELL DEMONSTRATION

All parts easily Visible. Excellent for teaching the principle of an electromagnet. Mounted on Acrylic Base. 190 mm x 90 mm. Works on 3-6VDC.



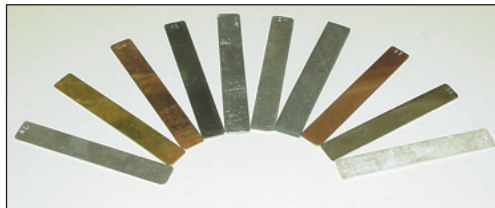
### ELECTRODES ROUND

5" x 1/4", Length x Diameter, without terminals

- 1532 Carbon
- 1555 Copper
- 1556 Zinc



**ELECTRODES** For use with student cells or in various other chemical or electricity experiments. Flat type with stamped symbol of the metal. 5" x 3/4" x 3/64". Length x Width x Thickness.



- |                              |                   |
|------------------------------|-------------------|
| 1561-1 Aluminum              | 1561-2 Brass      |
| 1561-3 Copper                | 1561-4 Iron       |
| 1561-5 Lead                  | 1561-6 Zinc       |
| 1561-7 Carbon but 1/8" thick | 1561-8 Bronze     |
| 1561-9 Stainless Steel       | 1561-10 Magnesium |
| 1561-12 Nickel               | 1561-13 Tin       |
| 1561-14 Silver               |                   |

**1561-20 ELECTRODES SET OF 8** As above. This set includes 1 each of, Aluminum, Brass, Copper, Iron, Lead, Zinc, Carbon, Nickel.

**1561-21 ELECTRODES SET OF 10** As above. This set includes 1 each of, Aluminum, Brass, Copper, Iron, Lead, Zinc, Carbon, Bronze, Stainless Steel, Nickel.

**1561-22 ELECTRODES SET OF 11** As above. This set includes 1 each of, Aluminum, Brass, Copper, Iron, Lead, Zinc, Carbon, Bronze, Stainless Steel, Magnesium, Nickel.

### 1553 LECLANCHE CELL

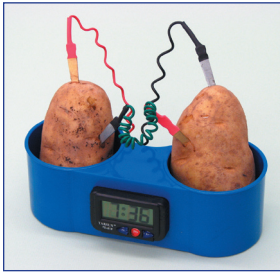
The Father of today's dry cell battery. Consists of a Charged Porous Pot 140 x 60 mm, Height x Diameter, with brass terminal having e.m.f. 1.5 volts and Zinc rod 12.5 mm diameter in a rectangular inert plastic jar.





### 1529-1 SIMPLE / VOLTIC CELL

For teaching the basic concept of generating electricity electrochemically. Consists of a chemically inert plastic jar with plastic cap fitted with Zinc and Copper plates fitted to terminals. Big, size 4" Diameter x 6" Height.

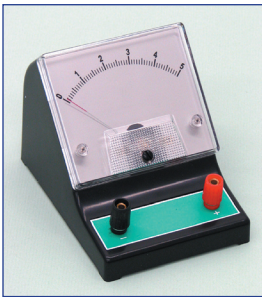


### 1529-15 FRUIT POTATO CLOCK

To demonstrate the principle electrochemical cells. This digital clock runs on potatoes, oranges, plants, soda etc. The acid in the material reacts with the electrodes to produce low

voltage current. You can experiment with different items to observe what happens. Color of the body may vary.

## ELECTRIC METERS



Full size student meter, rectangular face 3" scale. Fully encased plastic body. Overload protection,  $\pm 2.5\%$  accuracy, with zero adjustment screw.

## AMMETER

- 1732-6 Ammeter 0-5A
- 1733-2 Ammeter Double Range 1A/5A

## VOLTMETER

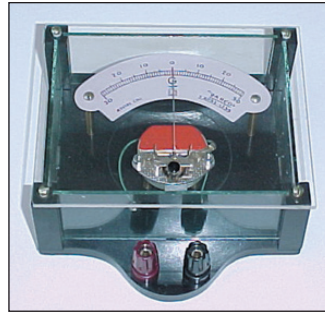
- 1740-5 Voltmeter 0-3 V
- 1740-6 Voltmeter 0-5 V
- 1740-8 Voltmeter 0-10 V
- 1743-1 Voltmeter Double Range 1.5/15V
- 1743-2 Voltmeter Double Range 5 /15V
- 1743-25 Voltmeter Triple 0-3/15/30
- 1743-26 Voltmeter Triple 0-3/10/15V

## GALVANOMETER

- 1741-1 Galvanometer 30-0-30
- 1741-2 Galvanometer 35-0-35

## DEMONSTRATION METERS

Working demo, mounted on Bakelite base with transparent sides and top. All parts of the movement are visible. Complete with two terminals black and red.



- 1747-1 Ammeter
- 1747-2 Voltmeter
- 1747-3 Galvanometer



### 1750-3 MULTIMETER DIGITAL

Digital Multimeter excellent for all application. 125 mm x 65 mm x 25 mm. Complete with pair of Test Leads. Operates on 9 Volt Battery, included.

Measuring: DC Volts Range: 200mV, 2000mV, 20V, 1000V  
AV Volts Range: 200V, 750V

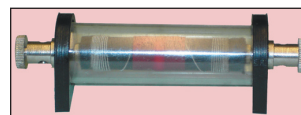
DC Amps: 200 $\mu$ A, 2000 $\mu$ A, 20mA, 200mA, 10A.  
Resistance: 200 ohms, 2000 ohms, 20Kohms, 200Kohms, 2000Kohms, Diode, hFE: NPN PNP



### 1783-3 RESISTANCE BOX

Designed for quick and accurate work. In polished wooden box bakelite panel figured in white. The coils

of Constantan wire double silk covered are wound non-inductively. The coils are mounted on stem of the dial studs with a ball click device to ensure correct location; the brushes are of laminated phosphor-bronze, with large contact area to give a low and constant dial contact resistance. 3 dials, 0-10 x 1, 0-10 x 10, 0-10 x 100 ohms. For DC use.



### 1794 RESISTANCE COIL DEMONSTRATION

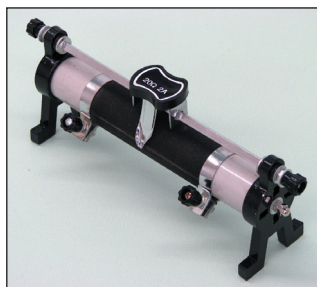
Non-inductively wound double silk covered Constantan coils on plastic rod enclosed in transparent plastic tube with two terminals and values are marked. 1 Watt. Ranges 0.1 to 1000 ohms. Specify your range.

**SLIDE WIRE RHEOSTATS** For use as series resistance or as a potentiometer. Slide wire type. Oxidized Copper-nickel alloy wire is wound on a porcelain tube to provide perfect insulation. Phosphor bronze contact provided on nickel plated brass slider rod to give rapid and smooth movement. Three brass terminals are provided, one at each end of the wire and the third at one end of the slider rod thus the rheostat can also be used as a potentiometer. Resistance in ohms and current carrying capacity is engraved.



- 1856-21** 5.6 ohms - 8 amps, 250 mm long
- 1856-22** 11 ohms - 6.2 amps, 300 mm long
- 1856-23** 22 ohms - 4.4 amps, 300 mm long
- 1856-24** 44 ohms - 3.1 amps, 350 mm long
- 1856-25** 89 ohms - 2.2 amps, 350 mm long
- 1856-26** 357 ohms - 1.1 amps, 350 mm long

- 1868-1** 10 ohms 2.0 amps
- 1868-2** 20 ohms 2.0 amps
- 1868-3** 200 ohms 1.25 amps
- 1868-4** 50 ohms 1.5 amps
- 1868-5** 50 ohms 2.0 amps



**1896-1 WHEATSTONE BRIDGE / METER BRIDGE**

Consists of 1.1 meter long hardwood laminated top base, fitted with 1 meter long 24 swg Constantan resistance wire on a hardwood meter rule graduated in mm. 4 gap type for precise measurements. Copper strips 12 mm x 3 mm are used. Electrical connections through 4 mm socket terminals. Comes complete with Pencil Jockey. Used in resistance experiments including determination of an unknown resistance.



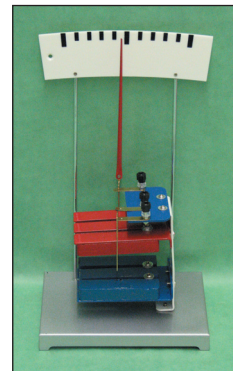
**1905 OHM'S LAW APPARATUS**

To verify Ohm's Law. The apparatus consists of one wire wound rheostat, one moving coil voltmeter and one moving coil ammeter, mounted on a bakelite plate in a wooden case. With four terminals, two for battery connection and two for resistance coil. Supplied with one resistance coil, without battery



**1456-1 AMPERES LAW APPARATUS**

To demonstrate Amperes law that that when electricity is passed thru a magnetic field it produces an electric field, which in this apparatus can be observed by the deflection of the needle. Consists of two poles of Magnets mounted on a stand, on which swings a pointer. When electric current is passed the pointer deflects on one side and when the current is reversed it deflects in the opposite direction. Operates on 3-6 Volts DC.



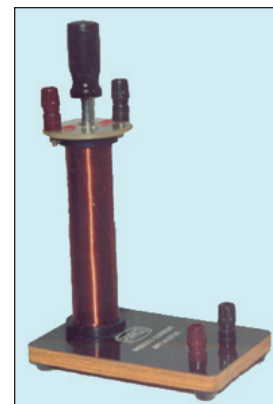
**1917-10 INDUCTION COIL ELECTRONIC**

For use with spectrum tubes, cathode ray tubes etc. Produces a strong spark, high voltage output 10 KV-60KV. Adjustable power source with reversible polarity. Operates on 110V AC.



**1927 PRIMARY AND SECONDARY COILS**

Comprising a primary coil of insulated copper wire wound on a cylinder and fitted with terminals, together with a secondary coil of fine insulated copper wire wound on a cylinder into which the primary coil may be fitted. A soft iron core for inserting in the primary coil is included. To demonstrate the concept of induced current and with the soft iron core the electromagnetic effect can also be demonstrated.



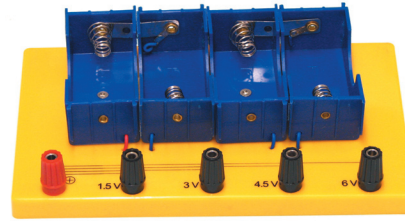


### 1927-10 DEMONSTRATION PRIMARY AND SECONDARY COIL

To study and demonstrate the principles of Electromagnetic Induction and principles of a transformer. It can be used with a Galvanometer to

demonstrate induced current.

Consists of : Primary coil 3 1/4" H x 2 1/2" Dia.  
Secondary coil 3 1/2" H x 1 1/4" Dia.  
and Soft Iron Rod 4 1/4" L x 3/8" Dia.

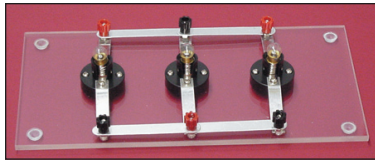


### 1929-10 BATTERY HOLDER 4 'D' CELL MOUNTED

4 'D' Cell Size battery holders mounted on strong plastic base. Each cell

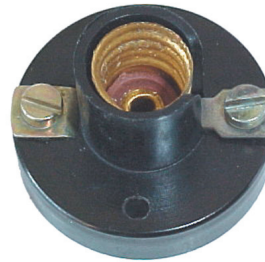
can be individually tapped to draw current or in addition of 1, 2, 3 or 4 to give 1.5v, 3v, 4.5v or 6v. Can be used with 4mm banana plug leads or with crocodile clip leads. Base 7 3/4" x 4 1/2".

### 1952-5 LAMP BOARD THREE LAMPS



For series and parallel experiments. Mounted on strong clear acrylic base. Three lamp holders, connecting bus bars allow easy

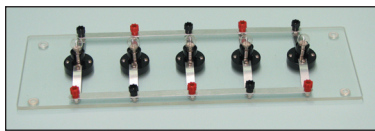
changing from series to parallel. Complete with 3 lamps. Size 5" x 10".



### 1930 LAMP SOCKET

Metal contacts, mounted in round bakelite base. Screw terminals. For miniature lamps which can be easily screwed in and out.

### 1952-6 LAMP BOARD, 5 LAMPS



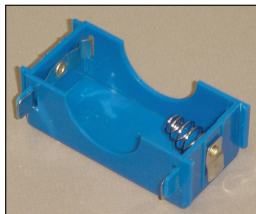
For series and parallel experiments. Mounted on strong clear acrylic base. 5 lamp holders,

removable connecting bus bars allow easy changing from series to parallel. Complete with 5 lamps, ( 6.3 Volt Bulb ). Size 5" x 15".

### 1930-1 LAMP HOLDER MINIATURE WITH TERMINALS

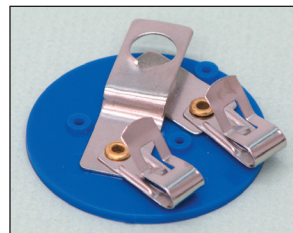


Strong plastic base. Screw type terminals allow easy connections.



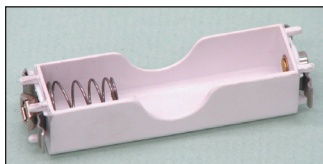
### 1929-8 BATTERY HOLDER D CELL

Strong plastic construction. Can be connected in series or parallel for multiple current outputs. Single D Cell holder.



### 1930-20 MINIATURE LAMP BULB HOLDER

Metal components mounted on a plastic base 1 3/4" dia.



### 1929-9 BATTERY HOLDER AA CELL

Designed to illustrate both series and parallel circuits. Made of high impact plastic. Holds

standard "AA" size battery. Each unit has male and female button connections to connect as many as required without using leads. Extensions on sides also allows easy wire connections.



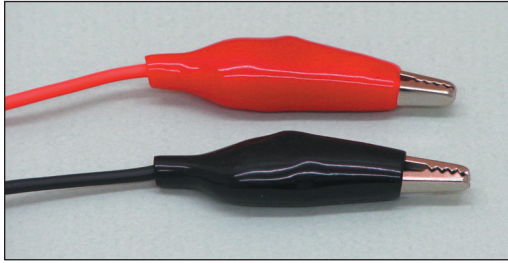
### LAMP BULB

Lamp for above lamp holders.

1931-2 1.5v  
1931-3 2.5v  
1931-6 6v



## ALLIGATOR CLIP LEADS



### ALLIGATOR CLIP LEADS SMALL

Sheathed Alligator Clips 27 mm / 1", on both ends. Total Length 20 Inches ( 53 cm ). Perfect for all kinds of low voltage uses.

**1602-3** Red pack of 10.

**1602-4** Black pack of 10.

### ALLIGATOR CLIP LEADS MEDIUM

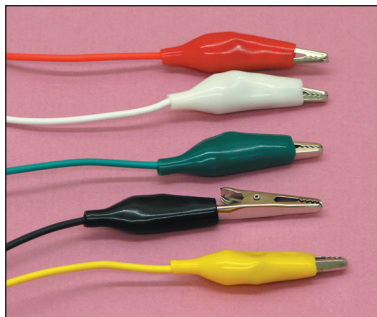
Sheathed Alligator Clips 32mm / 1 1/4", on both ends. Total Length 20 Inches ( 53 cm ). Perfect for all kinds of low voltage uses.

**1602-12** Red pack of 10.

**1602-13** Black pack of 10.

### ALLIGATOR CLIP LEADS MULTI-COLOR

**SET OF 10** 2 each of Red, White, Green, Black and Yellow. Perfect for all kinds of low voltage uses.

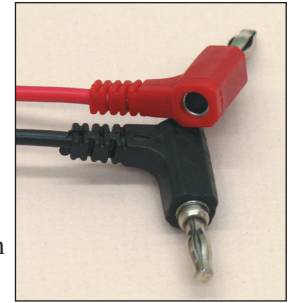


**1602-30** Sheathed Alligator Clips Small 27 mm / 1", on both ends. Total Length 20". Pack of 10 Leads.

**1602-31** Sheathed Alligator Clips Medium 32 mm / 1 1/4", on both ends. Total Length 20". Pack of 10 Leads.

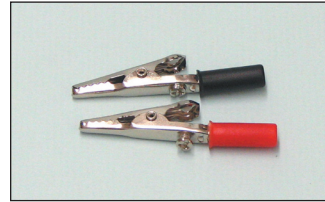
## BANANA PLUG LEAD STACKABLE 10 PK

Banana Plug Lead Stackable, banana plugs both ends. The banana plugs have holes in the ends into which another banana plug can be inserted to elongate the length of the lead. Total length of lead 18 3/4" (470mm), plug 1 3/8" (34mm), for 4mm sockets. Pack of 10.



**1603-13** Banana Plug Lead Stackable Red 10 pk

**1603-14** Banana Plug Lead Stackable Black 10 pk



### ALLIGATOR CLIP WITH SCREW

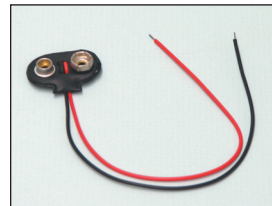
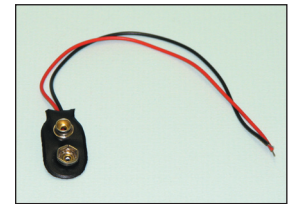
Alligator Clip Insulated with Screw. 55 mm long.

**1603-20** Insulated with Screw, Red. 55 mm long.

**1603-21** Insulated with Screw, Black. 55 mm long.

### 1604-30 9V BATTERY CONNECTOR

Insulated Red and Black in line Leads. 150 mm / 6" long. Snap-in connector.



### 1604-31 9V BATTERY CONNECTOR

Insulated Red and Black Side Leads. 150 mm / 6" long. Snap-in connector.



### 1617-1 BATTERY TESTER HANDHELD

Handheld Battery Tester, one hand operation. No lead wires to mess with. Tests "AAA" through "D" size, and 9V batteries. Size 2" x 2" x 3/4". Supplied without battery.

### 1617-2 BATTERY TESTER HANDHELD

Handheld Battery Tester. No lead wires to mess with. Tests Button Cells, "AAA", "AA", and 9V batteries. Size 5" x 1 1/2" x 3/4". Supplied without battery.





## COPPER WIRE BARE

- 1653-2** Copper Wire Bare 16 SWG 4oz / 125gm
- 1653-3** Copper Wire Bare 18 SWG 4oz / 125gm.
- 1653-4** Copper Wire Bare 20 SWG 4oz / 125gm
- 1653-5** Copper Wire Bare 22 SWG 4oz / 125gm
- 1653-6** Copper Wire Bare 24 SWG 4oz / 125gm
- 1653-2P** Copper Wire Bare 16 SWG 1lb.
- 1653-3P** Copper Wire Bare 18 SWG 1lb.
- 1653-4P** Copper Wire Bare 20 SWG 1lb.
- 1653-5P** Copper Wire Bare 22 SWG 1lb.
- 1653-6P** Copper Wire Bare 24 SWG 1lb.



## COPPER WIRE ENAMELLED

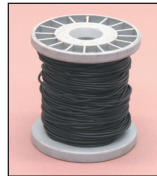
- 1662-2** Copper Wire Enamelled 16 SWG 4oz / 125gm
- 1662-3** Copper Wire Enamelled 18 SWG 4oz / 125gm
- 1662-4** Copper Wire Enamelled 20 SWG 4oz / 125gm
- 1662-5** Copper Wire Enamelled 22 SWG 4oz / 125gm
- 1662-6** Copper Wire Enamelled 24 SWG 4oz / 125gm
- 1662-2P** Copper Wire Enamelled 16 SWG 1 lb.
- 1662-3P** Copper Wire Enamelled 18 SWG 1 lb.
- 1662-4P** Copper Wire Enamelled 20 SWG 1 lb.
- 1662-5P** Copper Wire Enamelled 22 SWG 1 lb.
- 1662-6P** Copper Wire Enamelled 24 SWG 1 lb.



## NICHROME WIRE BARE

- 1658-2** Nichrome Wire 16 SWG 4oz / 125gm.
- 1658-3** Nichrome Wire 18 SWG 4oz / 125gm.
- 1658-4** Nichrome Wire 20 SWG 4oz / 125gm.
- 1658-5** Nichrome Wire 22 SWG 4oz / 125gm.
- 1658-6** Nichrome Wire 24 SWG 4oz / 125gm.
- 1658-7** Nichrome Wire 26 SWG 4oz / 125gm.

## PVC COATED COPPER WIRE 100ft



**1663-6**  
PVC Coated Copper  
Wire 22 SWG Black



**1663-7**  
PVC Coated Copper  
Wire 22 SWG Blue



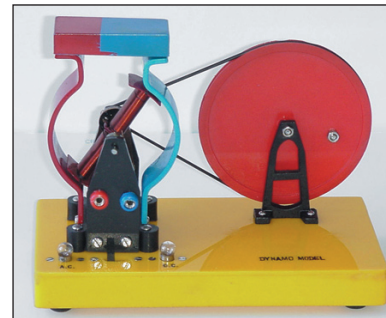
**1663-5**  
PVC Coated Copper  
Wire 22 SWG White



**1663-8**  
PVC Coated Copper  
Wire 22 SWG Red

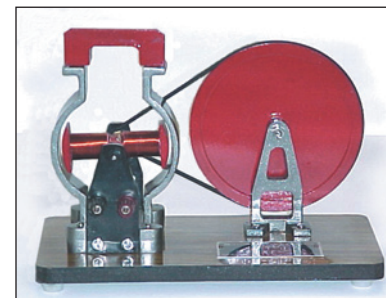
## 1936 DYNAMO, GENERATOR AC / DC

To generate ac (alternating current) and or dc (direct current). On turning the wheel current starts to generate, on flipping the switch to ac or dc the corresponding bulb lights up. Open construction and all the parts are easily visible.



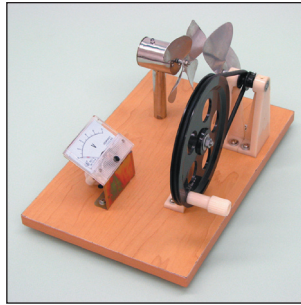
## 1937 MOTOR GENERATOR UNIT

To demonstrate that the basic structure of a motor and electric generator is the same. The construction of the apparatus is such that all the parts are readily observable. When the apparatus is turned by turning the wheel by hand and a mounted LED (provided) is inserted in the 4 mm sockets the LED lights up thereby demonstrating the working of a generator. Then instead of the LED if current is provided by a battery in the same 4 mm sockets the apparatus acts as a motor. Supplied without battery.



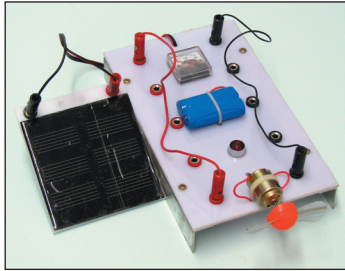
### 7003-1 WINDMILL DEMONSTRATOR

Windmill, Wind power generator. To demonstrate generation of electricity by wind powered turbine. Wind produced by hand cranked fan which in turn turns a second fan connected to a generator. When the fan rotates it produces electricity and lights up a small bulb and also a voltmeter is connected which indicates the amount of current being produced. Comes complete with instructions. Dimensions 12”(300mm) x 805”(215mm) x 7.5”(190mm).



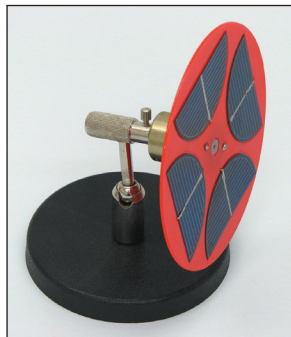
### 7002-1 SOLAR KIT

To demonstrate the effect of Solar Power. Kit comes with a mounted Solar Cell 3 1/2” x 3 1/2”, with terminals. A motor, a LED, a Rechargeable Battery and an Ammeter are mounted on a base 8” x 4 3/4”, each with its own pair of terminals. When the Solar Cell is connected to the base and power generated from the Solar cell, on exposing it to the sun, is given to either one of the components, it begins to function. This demonstrates that Solar Power can be converted to Mechanical Energy, Light Energy, Battery Power and Current.



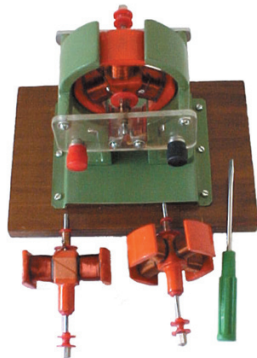
### 7002-10 SOLAR CELL DEMONSTRATOR

To demonstrate the conversion of Solar / Light Energy into mechanical Energy. The device consists of 4 Solar Cells mounted on a plastic disc 4.5” in diameter, which in turn are connected to a DC motor. When placed in the Sun or near a Lamp the wheel starts to spin, speed changes with intensity of light.



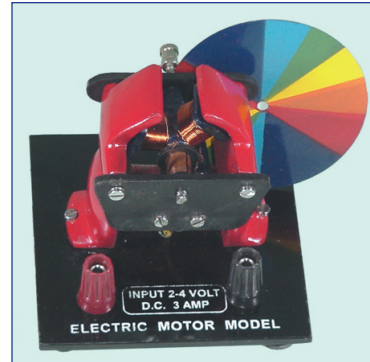
### 1938 MOTOR DEMONSTRATION MODEL

Ideal for introduction of the construction and working of an electric motor. Also demonstrates that a motor can have two, three or four pole armatures. Large size, mounted on a wooden base. Supplied with interchangeable three types of armatures two pole, three pole and four pole. Workable on 6-8 Volts DC.



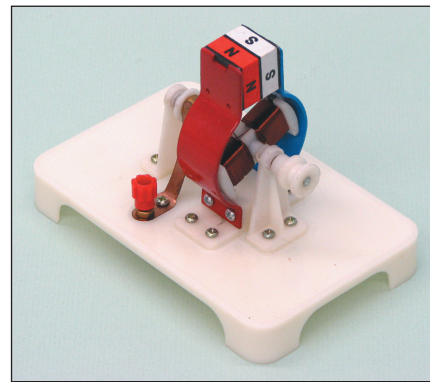
### 1940-1 MOTOR MODEL

Cast iron body, mounted on perspex base, workable on 3 - 6 volts dc, having about 6000 rpm. Complete with Newton's Color Disc.



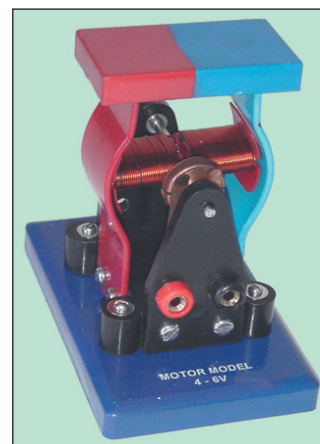
### 1940-20 MOTOR MODEL DEMONSTRATION

Open model. Shows all the parts of a motor. Operating voltage 3 - 6V



### 1943 MOTOR DEMONSTRATION

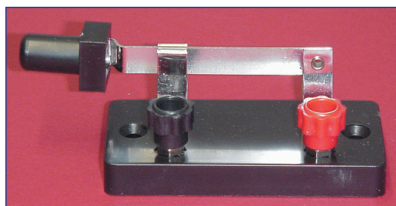
Open model. Shows all the parts of a motor. Operating voltage 4 - 6V. Supplied complete with color disc. 120 x 80 x 115 mm. Length x Width x Height.



**KNIFE SWITCHES** Sturdy construction, plastic base. Brass contact points, screw terminals allow easy connections. A basic requirement for electricity circuits.

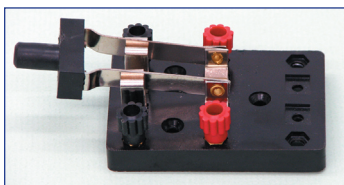
**1990-1**

Single Pole Single Throw



**1990-2**

Single Pole Double Throw



**1990-3 PLASTIC KNIFE SWITCHES**

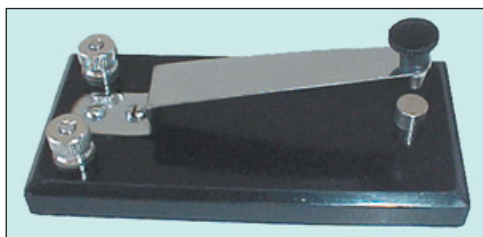
Available in four configurations with brass poles and knives. Bakelite bases.



**1990-4** Double Pole Double Throw



**1994 CONTACT KEY** Or also known as Tapping Key. Used in Morse Code experiments and can also be used as a simple on / off switch. Mounted on bakelite base, all metal parts nickel plated brass.

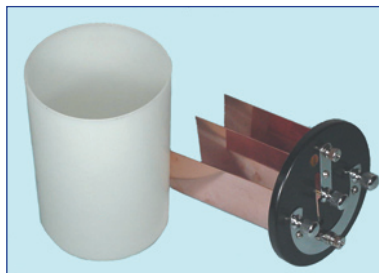


**1997 THERMOCOUPLE**

A very simple and effective way to demonstrate the production of thermoelectric E.M.F., that when two wires of different metals joined at one end, when heated from one end and the other end is cool, electric charge flows thru them. Consists of one each wire copper and constantan 300 mm long twisted and brazed together at one end. Complete with instructions.



**2028 COPPER VOLTAMETER / ELECTROLYSIS APPARATUS**



For demonstrating and conducting electrolysis experiments. Three thick copper plates with brass terminals suspended from a bakelite cover in inert plastic jar. The outer plates form the anode and the central one is cathode. The centre plate can be taken in or out of the holder easily for weighing.

**741 CALORIMETER ELECTRIC**

Consists of an inner aluminum vessel 75 mm x 50 mm, Height x Diameter, and an outer aluminum vessel 100



mm x 75 mm, Height x Diameter, with a bakelite cover with two terminals, which are cross-drilled at their lower ends and are fitted with a heating coil, the upper ends are fitted with standard sockets for electrical connections. The bakelite cover has holes for thermometer and a stirrer.

Supplied complete with stirrer but without thermometer.

**741-10 CALORIMETER ELECTRIC.**

For determining the heat capacity and electrical equivalent.



With a plastic transparent cover with a heating coil, stirrer and a drilled rubber stopper to accept a thermometer (not supplied). The space between the outer and inner calorimeter is insulated. Works on 6 volts DC. Consists of : Outer Calorimeter 5" H x 4 1/4" Dia. Inner Calorimeter 2 3/4" H x 2 1/2" Dia.

**2031-1  
POWER SUPPLY  
DC REGULATED  
0-30V, 5A**

Regulated DC Power Supply 0-30V, 5A. Operating Voltage 110v. 120 x 168 x 260 mm.



**2037-3 MULTI-VOLTAGE REGULATED  
POWER SUPPLY**

Multi-Voltage regulated power supply. Ideal for all small applications for lab and general use. Ideal for any device drawing up to 2A. Fully regulated to deliver constant DC power. Rotary selector switch selects 3, 4 1/2, 6, 7 1/2, 9 and 12V. Power projects or small battery operated devices. Color coded binding posts makes connection easy. Input 110v ac.



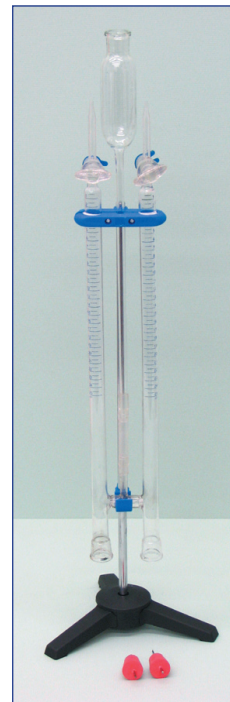
**2017-20  
HOFFMAN ELECTROLYSIS  
APPARATUS**

Hoffman Electrolysis Apparatus with Platinum and Carbon Electrodes. Platinum Electrodes are used for electrolysis of water and Carbon Electrodes for the electrolysis of ammonia or hydrochloric acid. For qualitative and quantitative measurement of the effect of electric current on liquid. The glass unit has two connected limbs, graduated to 60ml capacity, integral with reservoir tube and funnel shaped bulb, with a stopcock at the top of each limb. The lower part of the limb accepts the electrodes. Complete with pair of Platinum and Carbon Electrodes. Overall length of glass part 55cm. Without the hardware shown.



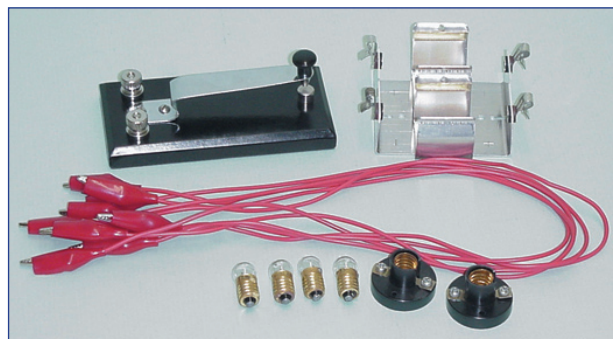
**2017-30 HOFFMAN  
ELECTROLYSIS  
APPARATUS JR.  
COMPLETE**

Hoffman Electrolysis Apparatus with Platinum and Carbon Electrodes. Platinum Electrodes are used for electrolysis of water and Carbon Electrodes for the electrolysis of ammonia or hydrochloric acid. For qualitative and quantitative measurement of the effect of electric current on liquid. The glass unit has two connected limbs, graduated to 25ml capacity, integral with reservoir tube and funnel shaped bulb, with a stopcock at the top of each limb. The lower part of the limb accepts the electrodes. Complete with pair of Platinum and Carbon Electrodes, stand and all hardware needed to support the apparatus. Overall length of glass part 19.5”(490mm).



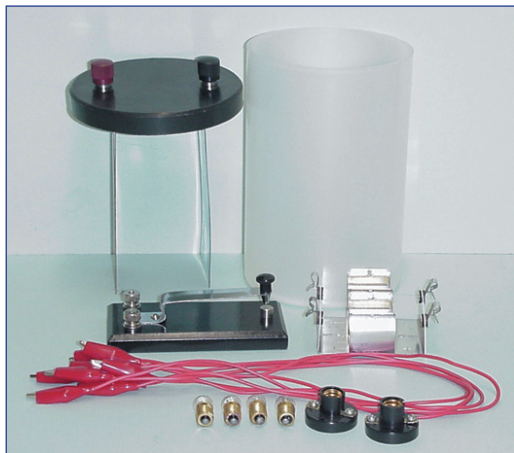
**KT1011-1 CONCEPT OF ELECTRICITY  
STUDENT VERSION KIT**

This educational kit contains materials and instructions suitable for safe hands-on inquiry-based experimentation into the nature and properties of electricity and simple electric circuits. This kit is primarily aimed at students in Middle School but may be used by Elementary or High School students by slightly altering the instructions. Instructions are also included for Science Fair activities and optional Probeware/Data-Logging activities. Experiments that can be performed include building a circuit, to find out what kind of items conduct electricity, series and parallel circuits etc. Items included in the kit, Lamp Socket 2, Contact Key 1, D-Cell Battery Box 1, 3-Volt Light Bulb 4 and Hookup Wires 5.



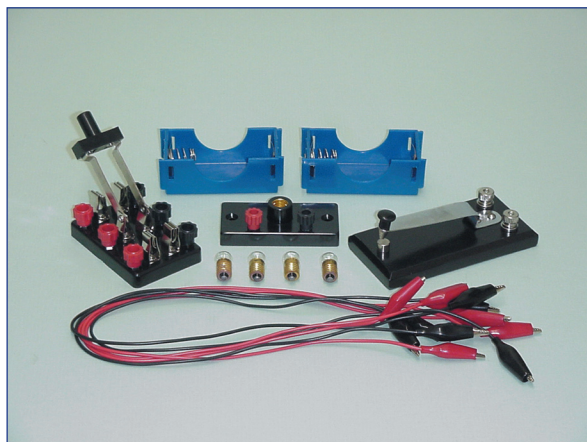
## KT1011-2 CONCEPT OF ELECTRICITY TEACHER VERSION KIT

This educational kit contains materials and instructions suitable for safe hands-on inquiry-based experimentation into the nature and properties of electricity and simple electric circuits. This kit is primarily aimed at students in Middle School but may be used by Elementary or High School students by slightly altering the instructions. Instructions are also included for Science Fair activities and optional Probeware/Data-Logging activities. Experiments that can be performed include building a circuit, to find out what kind of items conduct electricity, series and parallel circuits, how a battery works, build a battery etc. Items included in the kit, Simple Voltaic Cell -1, Lamp Socket -2, Contact Key -1, D-Cell Battery Box -1, 3-Volt Light Bulb -4 and Hookup Wires -5.



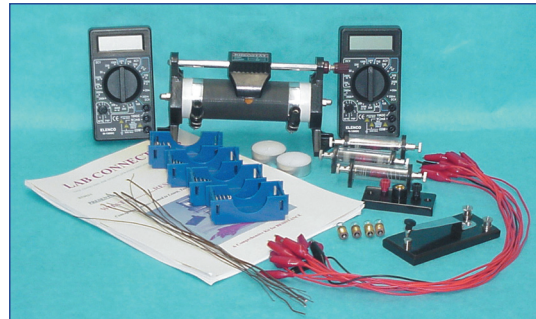
## KT1011-5 ELECTRIC PARTS KIT BASIC

Kit comprising of commonly used items in electricity experiments. Items included in the kit, Battery Holder – 2, Lamp Holder Miniature With Terminals – 1, Knife Switch Double Pole Double Throw – 1, Contact Key – 1, Lamp Bulb 2.5 V – 4, Alligator Clip Lead Red – 3, Alligator Clip Lead Black – 3.



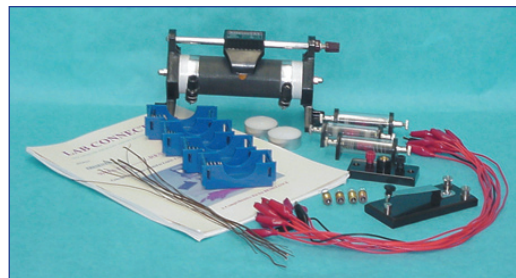
## KT1012-1 CONCEPT OF RESISTANCE

Concepts you always wanted to Learn, Teach and Prove about Resistance. In this kit our endeavor is to explain and prove by experiments the concept of Resistance and to prove the various laws governing resistance. All the important laws, concepts, definitions have been explained and experiments provided to prove those laws and concepts. Like Ohms Law, Factors affecting Resistance length, cross-section, heat, Series, Parallel etc. In detail Instructional Booklet provided. Comes complete with 2 Multimeters, for use as voltmeter and ammeter, rheostat, battery boxes, test wires, resistance coils, alligator clip leads, candles, lamp socket, bulbs and contact key. Performs 11 experiments.



## KT1012-2 CONCEPT OF RESISTANCE

Kit as above KT 1012-1, but without multi-meters.



## KT1013-1 ELECTRICITY KIT

24 parts used in most Electricity experiments. Comes in a plastic storage box. Kit comprises of :

1 – Voltmeter DC 3V, 1 – Ammeter DC 0.6 A, 3 – Single Pole Single Throw Knife Switches, 2 – D Cell Battery Holders, 1 – Small Rheostat, 1 – Mounted Resistance, 2 – Lamp Holders, 3 – Bulbs, 10 – Connecting Wires.



**KT1101-1 BRAIN BOX SNAP CIRCUIT KIT  
80 EXPERIMENTS / PROJECTS**

To teach principles of Electronics and Electricity. Experiments and kit building with ease, practically no tools needed. Each part is designed for easy and quick assembly. Components connected together with press-studs. The easy to handle components snap together to create a huge number of different circuits on the base board. Many hours of fun while learning. The process of actually building the circuits provides a real understanding of how circuits work. All wires are secured within the components so the kit is entirely safe and amazingly simple to operate. Kids of all ages will rapidly learn how to set up the circuits and will be entranced by the results of their experiments. Older kids will increase their knowledge of electronics by using their imaginations to design their own circuits. Understanding of Electronics is a vital part of a child's scientific education. These kits remove the frustration of handling small and delicate electronic parts, replacing them with safe and reliable components. They work on AA Batteries, not provided. Complete with instruction booklet.



**KT1101-2 BRAIN BOX SNAP CIRCUIT KIT  
188 EXPERIMENTS / PROJECTS**



**KT1101-3 BRAIN BOX SNAP CIRCUIT KIT  
500 EXPERIMENTS / PROJECTS.**



**KT1101-4 BRAIN BOX SNAP CIRCUIT KIT  
1200 EXPERIMENTS / PROJECTS**



**LABORATORY CARTS STAINLESS STEEL**

Strong stainless steel construction. Strong Handle. Guard rails on both shelves. Distance between shelves 16.5”(420mm). With 3” swivel castors. Size by shelf size, handle extra.

**7500-1** 24”(600mm) x 17”(430mm) x 34.5”(880mm)

**7500-2** 27”(600mm) x 17”(430mm) x 34.5”(880mm)



# BURNERS

## 3014-2 ALCOHOL LAMP / BURNER



Flint glass, 120 ml capacity. Can be used straight or tilted, liquid will not spill. Hexagonal shape of sides resists tilting on side. Metal cap. To use ethanol (95%denatured ethyl alcohol only).



**3014-12 WICKS FOR ALCOHOL LAMP BURNER** Replacement wicks for Burner # 3014-2. Pack of 12.



## 3017-1 LAB MICRO BUTANE BURNER

A replacement for Spirit Lamp. Large base offers stability and tip resistance. Easily portable

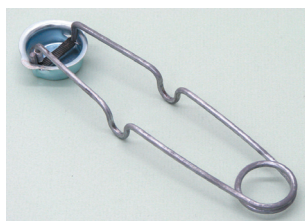
in the entire Lab. No need to install gas lines, refills easily with readily available butane refillable cartridges. No need for a lighter, Solid state push button ignition system, adjustable flame size. Height: 3.35 “, Burns for 1.5 hrs per refill, Max Temperature 1100 deg C / 2000 deg F



## 3019-2 BUTANE FUEL

Premium Quality. Tripple refined butane fuel. Cleaner burning fuel and prevents clogging of ports. Ships without extra hazard charge with ORM-D label. 1.8oz

## 3019-1 FLINT SPARK LIGHTER



Strong steel construction. Spark produced when snapped across the rasp. Zinc plated hood traps gas for ignition. Used for igniting burners. 7.25”(190mm) long.

**3019-3 FLINTS** Replacement flints for Flint Spark Lighter. Pack of 5.



## BUNSEN BURNER

Nickel plated brass burner tube 11 mm diameter with rotatable non-removable air regulator. On stable cast iron base, baked hammertone finish, with serrated gas inlet tube 9 mm outer diameter.

**3025** For Natural Gas  
**3026** For LP or Bottled Gas



**BUNSEN BURNER** Nickel plated brass burner tube 13 mm diameter with an adjustable non-removable screw type air regulator on heavy stable cast iron base, baked enamel finish, with serrated brass 9 mm diameter gas inlet tube.

**3027** For Natural Gas  
**3028** For LP or Bottled Gas



## BUNSEN BURNER WITH STABILIZER CAP

Nickel plated brass tube 12 mm diameter with a non-removable screw type air regulator also provided with a threaded needle valve flame intensity regulator, with brass 9 mm diameter serrated gas inlet tube. On stable heavy cast iron base, baked hammertone finish.

**3029-1** For Natural Gas  
**3029** For LP or Bottled Gas

## FLAME FAST BUNSEN BURNER

Nickel plated brass burner tube 13 mm diameter with rotatable non-removable air regulator, on stable cast iron base, baked hammertone finish, with serrated gas inlet tube.

**3031** For Natural Gas  
**3032** For LP or Bottled Gas



## FLAME FAST BUNSEN BURNER

Same as catalog # 3031 & 3032 but provided with threaded needle valve to regulate the intensity of the flame.

**3033-1** For Natural Gas  
**3033** For LP or Bottled Gas



**MEKER BURNER** For high temperature work. Nickel plated brass tube with rotatable non-removable air regulator. Perforated metal burner head 25 mm Diameter produces an evenly aerated flame of uniform intensity. On heavy stable cast iron base, baked hammertone finish, with serrated gas inlet tube 9 mm Diameter.

- 3050** For Natural Gas
- 3051** For LP or Bottled Gas



**LOW PROFILE HOT PLATE**

Circular designed aluminum hot plate with cast-in 620W heating element. Epoxy-coated metal case housing, 4" High x 7" Wide. Demand -type, capillary thermostat has temperature range of 50 to 350 deg C ( 122 to 662 deg F ). Operates on 110 V AC.



- 3071-1** 5.375 in (140mm)
- 3071-2** 7in (180mm)

**3053 BURNER HIGH TEMPERATURE**

Injector shaped nickel plated brass tube with stainless steel grid produces short wide flame of uniform intensity, grid depth prevents flashback. With needle valve gas regulator and rotatable air ports. Riffled gas inlet tube tapered from 6 mm to 11 mm. On stable heavy cast iron synthetic stove enamel base. Grid top 40 mm Diameter, overall Height 220 mm. For Natural or LPGas.



**3071-10 HOT PLATE**

Excellent Rugged heat-resistant and anti-corrosive aluminum casting body with high class powder coating. Systematically designed with centered weight. High density Ceramic coated stainless steel top plate gives a chemical and corrosion resistant surface, especially against strong acids. 180mm x 180mm. Electronic Solid State Controller holds temperature within 2.5 deg. Temperature Range 380 deg C max. Power Consumption Max 800watt, 4A. Supplied with a Stainless Steel Rod 12"(300mm), without clamp, beaker or thermometer.



**BUNSEN BURNER** With flame stabilizer, die-cast nickel plated metal base, 12.5 mm aluminum tube with rotatable air regulator. Serrated 9mm gas inlet tube, total height 150 mm.

- 3057-1** For Natural Gas
- 3057-2** For LP or Bottled Gas



**HEATING MANTLE**

Designed for use with Round Bottom Flasks. Epoxy coated aluminum housing. Replaceable, flexible heater cartridge. Maximum temperature 450 C.



- 3070-1** For use with 250ml Round Bottom Flasks
- 3070-2** For use with 500ml Round Bottom Flasks
- 3070-3** For use with 1000ml Round Bottom Flasks
- 3070-5** For use with 2000ml Round Bottom Flasks

**3072-1 LOW PROFILE MAGNETIC STIRRER**

5 - 3/8 Inch ( 140 mm ). Circular designed aluminum stirrer. Epoxy-coated metal case housing, 3-1/2" x 5-3/8". Operating Voltage - 110 V. The stirrer is variable speed ( 80 to 1500 rpm ). Comes complete with 9mm x 25mm PTFE coated stir bar.





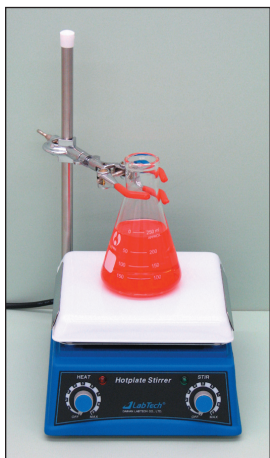
### LOW PROFILE HOT PLATE / MAGNETIC STIRRER

5-3/8 Inch (140 mm ). Circular designed aluminum hot plate/ stirrer with cast-in 620W heating element. Epoxy-coated metal case housing, 3-1/2" x 5-3/8". Demand -type,

capillary thermostat has temperature range of 50 to 350 deg C ( 122 to 662 deg F ). Operating Voltage - 110 V. The stirrer is variable speed ( 80 to 1500 rpm ) Comes complete with 9mm x 25mm PTFE coated stir bar.

**3073-1** 5.375 in (140mm)

**3073-2** 7in (180mm)



### 3073-10 MAGNETIC STIRRER AND HOT PLATE

Excellent Rugged heat-resistant and anti-corrosive aluminum casting body with high class powder coating. Systematically designed with centered weight. High density Ceramic coated stainless steel top plate gives a chemical and corrosion resistant surface, especially against strong acids. 180mm x 180mm.

Precise Solid State Electronic

speed control from 60 to 1500 rpm, provides precise high and low speed operation and a gentle revolution.

Durable Stirring Motor. Technically designed PCB board eliminates an electrical load and regulates energy distribution. Bearing type motor keeps a gentle rotation. Temperature Range 380 deg C max.

Power Consumption Max 500watt, 3A.

Supplied with a Stainless Steel Rod 12"(300mm), without clamp and flask.

## WATER BATHS

### 3100-4 WATER BATH, HEMISPHERICAL

Made from thick aluminum sheet, with two handles and set of concentric rings. 200 mm Diameter.



### 3102-1 WATER BATH, CYLINDRICAL

Made from thick aluminum sheet, with set of concentric rings. Black plastic handles. 200 mm x 150 mm. Diameter x Height.

## CENTRIFUGES

### CENTRIFUGE, HAND DRIVEN

Single speed, hand driven machine consisting of a substantial cast iron body enclosing a steel pinion and worm drive fitted with a ball-thrust race. With removable crank handle and one thumb screw clamp to clamp the machine to a table. The head has captive union rings to accommodate 15 ml buckets. Body baked hammertone finish. Complete with metal buckets and glass centrifuge tubes.



**3200** For two tubes

**3201** For four tubes



### 3202-10 MICROCENTRIFUGE FOR 1.5ML & 2.0 ML TUBES

Strong, Durable, Hinged Transparent Heavy Plastic Cover. Strip and centrifuge rotor in one unit. Special Unique design allows rotors to be changed from centrifuge tube to strip tube quickly. Can Hold 3 different sizes of microcentrifuge tubes, 2.0ml, 1.5ml and 0.2ml. Includes six

0.5ml tube adaptors. Centrifuge tubes: 6600 rpm, 2000 x g Strip tubes: 6300 rpm, 2200 x g With On/Off switch, and safety feature that when the lid is opened the machine shuts off. Color may vary with the supply from manufacturer.

## STANDS

### 3349 'A' SHAPE SUPPORT BASE WITH ROD

Cast iron, baked hammertone finish base with threaded hole for fixing the rod. Base 21 cm x 20 cm, Base width x Length, plated steel rod 3/8" x 20", Diameter x Length, one end half round other end machine threaded.



### 3349-21 SUPPORT STAND A-SHAPE NESTING 8"(195MM)

Support Stand A-Shape Nesting / Stacking for easy storage, black enamel finish. 8"(195mm) long side, weighs 3.9lb. Steel Nickel Plated rod 0.5"(12.5mm) dia x 24"(600mm) Long.

### 3349-22

8.5"(215mm) long side, weighs 5.4lb. Steel Nickel Plated rod 0.5"(12.5mm) dia x 24"(600mm) Long.

### 3349-23

10.75"(270mm) long side, weighs 8.15lb. Steel Nickel Plated rod 0.5"(12.5mm) dia x 24"(600mm) Long.

### SUPPORT STAND WITH ROD

Cast iron, rectangular, baked black enamel finish base with threaded hole for fixing the rod. Plated steel rod, one end half round other end machine threaded.

**3351-1** Base 4" x 6", Length x Width, Rod 5/16" x 18", Diameter x Length.

**3351-2** Base 5" x 8", Length x Width, Rod 3/8" x 20", Diameter x Length.

**3351-3** Base 6" x 9", Length x Width, Rod 1/2" x 24", Diameter x Length.

**3351-4** Base 6" x 11", Length x Width, Rod 1/2" x 36", Diameter x Length.



### SUPPORTS TRIANGULAR WITH ROD

Cast iron, triangular, baked black enamel finish base with threaded hole for fixing the rod. Plated steel rod, one end half round other end machine threaded.

**3355-22** 4.25" (110mm) base leg length, Rod 0.39" (10mm) x 23.5" (595mm), Diameter x Length.

**3355-23** 4.75" (120mm) base leg length, Rod 0.39" (10mm) x 23.5" (595mm), Diameter x Length.

**3355-25** 6" (170mm) base leg length, Rod 0.47" (12mm) x 23.5" (595mm), Diameter x Length.



### BURNER STANDS, TRIPODS

Single ring type, cast iron top and mild steel legs. The top finished in baked hammertone and the legs are plated and are removable.

**3361-1** Ring 3" diameter, legs 6" long.

**3361-2** Ring 4" diameter, legs 9" long.



### 3361-20 BURNER STAND ADJUSTABLE

Strong Zinc Diecasted top 4.5" diameter, 6" height. Comes with a removable adjustable plate to hold burner at any height to vary flame heat for heating. Can be used with any burner having base 3" base diameter, height 4.5".



### RINGS SUPPORT EXTENSION

Plated steel, with straight stem for clamping into a clamp holder for mounting rod.



**3370-1** 2" Ring Diameter

**3370-2** 3" Ring Diameter

**3370-3** 4" Ring Diameter



### SUPPORT RINGS WITH CLAMP

Cast iron, baked hammertone finish, with clamp for mounting on rods up to 12.5 mm diameter. Nickel plated brass clamping screw.

- 3372-1 2" Ring Diameter    3372-2 3" Ring Diameter  
 3372-3 4" Ring Diameter    3372-4 5" Ring Diameter

### WIRE SUPPORT RINGS WITH CLAMP

Plated steel ring with threaded stem attached to an aluminum clamp baked enamel finish for mounting on rods. Accepts rods up to 3/4" diameter. Nickel plated brass clamping screw.



- 3373-1 2" Ring Diameter    3373-2 3" Ring Diameter  
 3373-3 4" Ring Diameter    3373-4 5" Ring Diameter  
 3373-5 5.5" Ring Diameter

## CLAMPS

### BURET CLAMPS. SHEETMETAL

Constructed out of sheet metal. Rubber covered jaws for securely gripping of Burets. Economical.



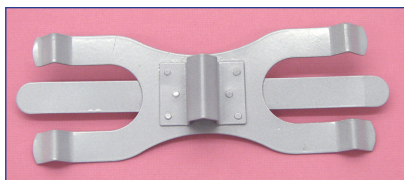
3379-1 For One Buret

3379-2 For Two Burets



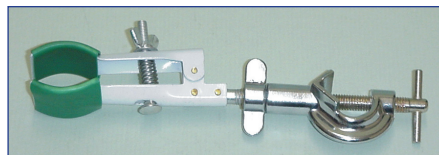
### 3379-5 BURET BURETTE CLAMP DOUBLE

Heavy Sheet Metal, stove enamel finish. Hold two burettes. Can be mounted on to rod upto 0.6"(16mm) diameter



### 3380-1 CLAMP SWIVEL UTILITY / GENERAL PURPOSE

For holding burets or a general purpose clamp in the lab. 360° rotatable, can be locked at any angle, rubber lined jaws open 1/2" to 1 3/4". Accepts rods up to 3/4".



### BURET CLAMPS

For holding burets up to 100 ml. Provided with a positive grip and release. Comprising light weight but mechanically strong body with nickel plated brass jaws rubber covered having spring action which effect a positive grip without obscuring the graduations. A single nickel plated brass thumb screw secures the clamp to a rod. The clamp surface is baked hammertone finish



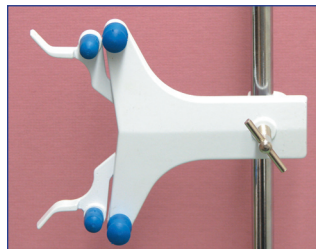
3380 For One Buret – Fits up to 13 mm rod

3381 For Two Burets – Fit up to 13 mm rod

3381-1 For Two Burets – Fits up to 19 mm rod



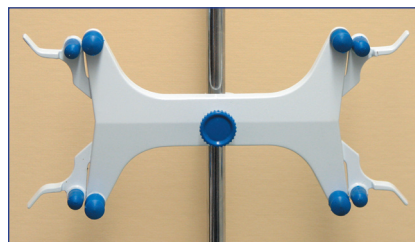
### 3380-10 BURET BURETTE CLAMP SINGLE



Buret Clamp Single. Strong Die Cast Body. Spring loaded, rubber covered grips. For Single Buret. About 6" wide, Accepts Rods upto 16 mm

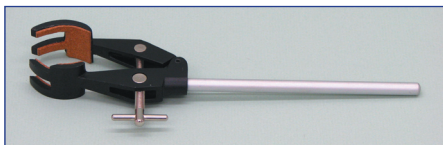
### 3381-10 BURET BURETTE CLAMP DOUBLE

Strong Die Cast Body. Spring loaded, rubber covered grips. For Two Buret. About 10" wide, Accepts Rods upto 16 mm.



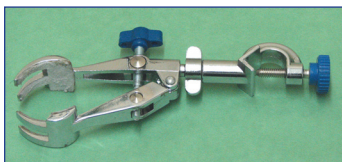
### 3406 EXTENSION CLAMP

With interlocking jaws. Pressure die cast out of a light alloy. Strong for holding objects up to 100 mm diameter, cork lined jaws provide secure grip. Nickel plated brass thumb screw and anodized aluminum stem 150 mm x 8 mm, Length x Diameter.



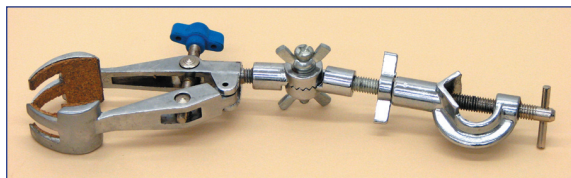
### 3406-10 CLAMP SWIVEL FOUR FINGER

Strong die-cast construction. Covered jaws for protection and grip. Swivels 360 deg and can be locked in any angle. Jaw opens to 4", accepts rods upto 20 mm. Total Length 7"



### 3406-22 CLAMP 4 FINGER ADJUSTABLE WITH SWIVEL HOLDER

Pressure Die-casted, zinc alloy, 4 finger clamp, interlocking jaws, mounted on a swivel base, so that the clamp can turn horizontally and be locked at any angle with the wing nut. In turn attached to a swivel clamp holder. Total length 10"(250mm), clamp holder can accept rods upto 5/8"(16mm). Maximum Jaw opening 3 1/2"(90mm).



### 3531-5 CLAMP EXTENSION STEEL

Extension Clamp Steel, Chrome Plated, cork lines jaws. Total length 11"(280mm), rod 7 7/8"(175mm)L x 1/4"(6mm) dia. Maximum jaw opening 2"(50mm).



### 3531-1 CLAMP EXTENSION STEEL

Extension Clamp Steel, White Enamel finish, rubber covered jaws. Total length 10"(255mm), rod 6 1/4"(160mm)L x 0.27"(7.5mm) dia. Maximum jaw opening 2"(50mm).



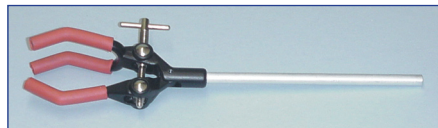
### 3410 CONDENSER CLAMP

Three finger, nickel plated brass construction. For condensers and other objects up to 100 mm diameter. Rubber covered jaws provide six point contact for secure firm grip. Having nickel plated brass adjusting wing nut.



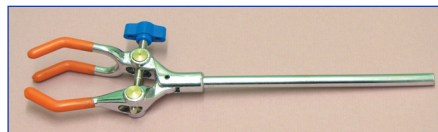
### 3410-10 CLAMP THREE FINGER

Aluminum Alloy, three finger clamp, rubber lined jaws. 10" long, 3" opening.



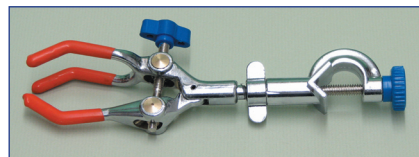
### 3410-15 CLAMP EXTENSION CONDENSER THREE FINGER

Strong die-cast construction. Three finger type, rubber covered jaws for protection and grip. Jaws open 3.5", Stem dia. 8mm,. Total Length 260 mm.



### 3410-18 CLAMP CONDENSER THREE FINGER SWIVEL TYPE

Strong die-cast construction. Covered jaws for protection and grip. Swivels 360 deg and can be locked in any angle. Jaw opens to 3.5", accepts rods upto 20 mm. Total Length 7 3/4".

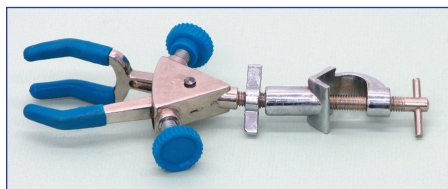


### 3410-50 CLAMP 3 FINGER DOUBLE ADJUSTABLE

3 Finger Double Adjustable Extension Clamp. Strong alloy die casted jaws, are double adjustable. One screw moves one jaw and the other screw moves the other two jaws. Total length 10"(255mm), Steel rod NP 6"(150mm) L x 0.45"(11.5mm) dia. Maximum Jaw opening 2.5"(65mm).



### 3410-52 CLAMP 3 FINGER DOUBLE ADJUSTABLE SWIVEL



3 Finger Double Adjustable Clamp. Strong alloy die casted jaws, are double adjustable. One screw moves

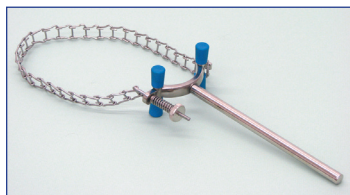
one jaw and the other screw moves the other two jaws. Attached to a die casted swivel clamp holder, which accepts rods upto 0.6”(16mm). Maximum Jaw opening 2.5”(65mm). Total length 7”(175mm).

### 3410-20 CLAMP THREE FINGER SWIVEL WITH ROD

Pressure Die-casted, zinc alloy, 3 finger clamp, mounted on a swivel base, so that the clamp can turn horizontally and be locked at any angle with the wing nut. Total length 11 1/2”(295mm), rod 4 3/4”(125mm) L x 0.3”(7.8mm) dia. Maximum Jaw opening 3 1/4”(80mm).



### 3398-1 CHAIN CLAMP



Chain Clamp to hold big and irregular objects. Consists of a strong brass chain which can accept objects upto 6.5”(165mm) diameter. Mounted on a rod

7.75”(195mm) L x 0.46”(11.7mm) dia.

### 3510-1 THERMOMETER CLAMP ADJUSTABLE

360° rotatable jaws. Overall length 7”. Rod to thermometer about 5-3/4”. Accepts rods up to 5/8”.



### 3545 TEST TUBE CLAMP STODDARD TYPE WITH FINGER GRIPS

Large 6.5” long, spring action self closing, rectangular jaws. Provided with finger grips for secure grip. Thick plated steel wire construction.



### TEST TUBE CLAMP STODDARD TYPE

Regular size, spring action self closing rectangular jaws. Thick steel wire construction. Pack of 6.

3543-1 Steel NP

3543-2 Steel Brass Plated

### 3544 TEST TUBE CLAMP STODDARD TYPE

Large 6.5” long, spring action self closing, rectangular jaws. Thick plated steel wire construction.

### 3555 TEST TUBE CLAMP WOODEN

Thick, with steel spring.

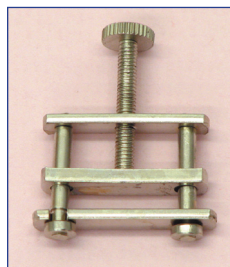


### PINCHCOCK MOHR'S

Plated steel, thick quality.

3430 Small

3432 Big



### HOFFMAN TUBING CLAMP

Nickel Plated Brass, stout quality. With hinged bottom bar for direct fitting and removal without accessing the ends of the tube. The screw does not protrude from the bottom of the top bar, therefore there is no damage to the tube.

3440-10 Accepts tubing upto 0.36”(9mm)

3440-12 Accepts tubing upto 0.5”(12.5mm)

3440-14 Accepts tubing upto 1.37”(35mm)

### FLASK PVC VINYL LEAD RING



Vinyl coated lead ring used to stabilize glassware and plasticware on shakers or immersed in water baths. Vinyl coating protects benchtops and labware.

3559-1 OD 3.3”(85mm) x ID 2”(50mm) x Thickness 0.65”(16mm), Wt. 0.6lb.

3559-2 OD 4”(100mm) x ID 2.26”(57mm) x Thickness 0.87”(22mm), Wt. 1.15lb.

3559-3 OD 4.42”(112mm) x ID 2.45”(62mm) x Thickness 1”(25mm), Wt. 1.80lb.

3559-4 OD 5”(127mm) x ID 3”(75mm) x Thickness 1”(25mm), Wt. 2.20lb.

# CLAMP HOLDERS

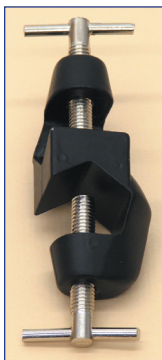
## 3407 CLAMP HOLDER

Pressure die-cast out of light alloy with off set jaws for its strength. The two vee grooves in the body are accurate and give a firm grip on rods, both accept rods upto 18 mm diameter. Black baked enamel finish.



### 3407-6 CLAMP HOLDER

Strong Cast Iron body, enamel finish. Accepts Rods upto 0.63"(16mm).



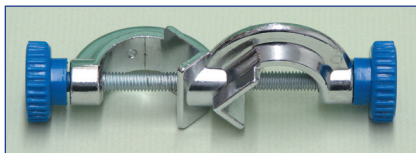
## 3407-7 CLAMP HOLDER NP

Strong Alloy Casted NP Body. Accepts rods upto 0.6"(16mm).



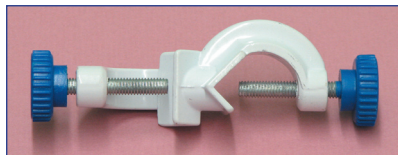
## 3407-10 CLAMP HOLDER PLATED

Strong Die Cast Body. 'V's' at right angle. Accept Rods upto 21 mm dia.



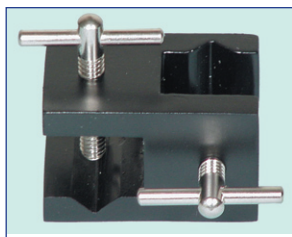
## 3407-15 CLAMP HOLDER BAKED ENAMEL

Strong Die Cast Body. 'V's' at right angle. Accept Rods upto 21 mm dia.



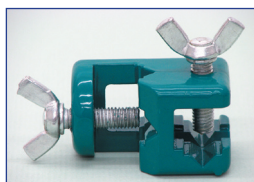
## 3408 CLAMP HOLDER UNIVERSAL

Very versatile. Accepts rods up to 3/4".



## 3408-10 CLAMP HOLDER UNIVERSAL

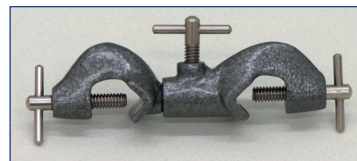
Zinc Alloy Pressure Diecasted. Very versatile. Accepts rods upto 0.59"(15mm).



## 3409 CLAMP HOLDER ADJUSTABLE

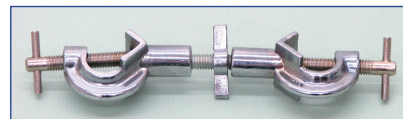
Aluminum, baked hammertone finish.

Nickel plated brass clamping screws. It swivels and can be locked at any angle. Accepts rods upto 5/8" / 16 mm diameter.



## 3409-10 CLAMP HOLDER ADJUSTABLE SWIVEL LARGE

Strong pressure die-casted alloy. It swivels and can be locked at any angle. Accepts rods upto 5/8" / 16 mm diameter.



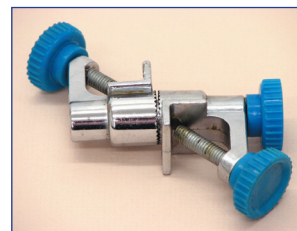
## 3409-12 CLAMP HOLDER ADJUSTABLE DOUBLE SWIVEL ROTATABLE

Strong pressure die-casted alloy. Both sides Swivels and in center can move horizontally and locked at any angle, with inetrlocking teeth. Both ends Accept rods upto 5/8"(16mm) diameter.



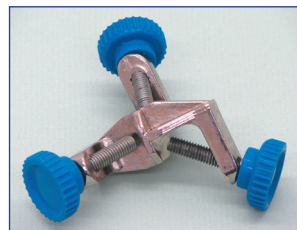
## 3409-50 CLAMP HOLDER ROTATABLE

The clamp holder rottates on its axis and can be locked at any angle and the circular movement is restricted by interlocking teeth. Accepts rods 0.55"(13mm). Strong pressure die-casted alloy.



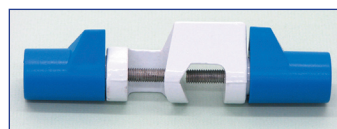
## 3409-55 CLAMP HOLDER 3 WAY

Strong alloy pressure diecasted body. Very versatile 3 way holder. Can hold rods upto 0.6"(16mm) in all three sides.

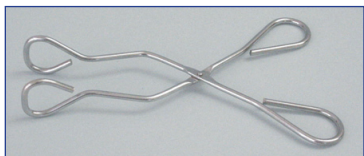


## 3407-50 CLAMP HOLDER EXTRA LARGE

Extra Large Clamp Holder. Strong pressure diecasted alloy body. With V grooves 90 deg each other. Accepts rods upto 0.78"(20mm). Length 6.5"(165mm), Width 1.7"(43mm).

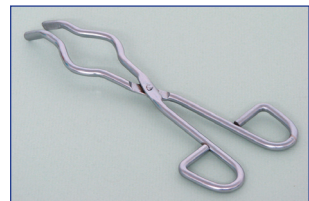


**3511 UTILITY TONGS** Steel, nickel plated. For general laboratory use, for picking and carrying objects. 210 mm Long.

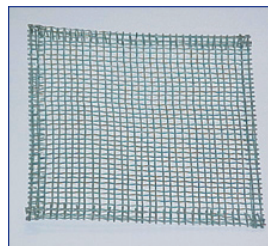


**3453 CORK BORER SHARPNER**

Plated metal cone with hinged cutter blade set in slot, with wooden handle.



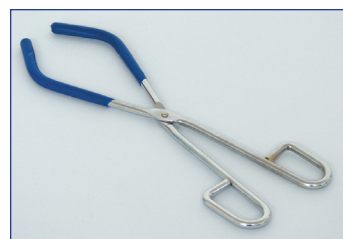
**3513 CRUCIBLE TONGS**  
Stout and thick plated steel. With bow and flattened hinge riveted joint, jaws corrugated inside for secure grip. 8" Long.



**WIRE GAUZE**

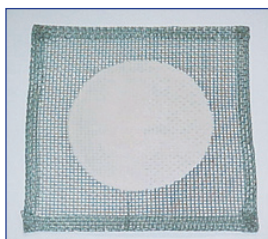
Plain, made from GI wire extra stout quality. In squares. The sides are turned in.

- 3413-1** 4" x 4"
- 3413-2** 5" x 5"
- 3413-3** 6" x 6"



**BEAKER TONGS**  
Made from 1/4" thick steel rod. For handling beakers etc. Can hold beakers 50 to 1500 ml.  
**3530-1** Steel NP  
**3530-2** Steel NP,  
With Protective Sleaving

**WIRE GAUZE CERAMIC CENTER**



Ceramic center. Made from GI wire extra stout quality, in squares. The sides are turned in.

- 3419-1** 4" x 4"
- 3419-2** 5" x 5"
- 3419-3** 6" x 6"



**CORK BORER SET**  
Nickel plated brass, with individual handles. With rod for cleaning borers.

- 3452-1** Set of 6, 4mm - 12 mm
- 3452-2** Set of 12, 4 mm - 20 mm
- 3452-3** Set of 9, 4 mm - 16 mm

**3425 BLOW PIPE** Mouth, Nickel plated brass, 8" L.



**3457 CORK BORING MACHINE**



Hand driven, for boring straight and uniform holes in cork or rubber stoppers. Cast iron frame baked enamel finish with wooden platform to support stopper. Base has four holes for mounting on table or bench top. The spindle has a center hole through which passes the cleaning rod. Complete with set of 12 plated steel borers.



**3470 DEFLAGRATION SPOON**  
With plated stout steel spoon 18 mm wide x 5 mm deep, spot welded with 14" long plated steel wire. Complete with plated steel cover 3.5" Diameter and cork for holding the wire at any length.

**3458 CORK BORER SET FOR CORK BORING MACHINE**  
Spare, plated steel, set of 12.

**3484-1 GLASS TUBING CUTTER**

Caste, Aluminum alloy. Hardened Steel cutting wheel, Spring loaded to stay open. Cuts tubing up to 1 1/2" (38mm) Diameter.





# SPATULAS

## 3563-10 SPATULAS PLASTIC SET OF 3

Spatulas Plastic Disposable, but strong enough to be used over and over again. Spoon one end 1.3”(33mm) long for all. Length of First 5.7”(146mm), Second 5.18”(131mm), Third 4.8”(122mm).



## SPATULA

Stainless steel, polished, one side spoon other flat.



**3568-1** 150 mm Long

**3568-2** 200 mm Long

## 3568-70 SPATULA DOUBLE SPOON

Spatula Stainless Steel Spoon on both ends. One spoon 0.84”(21mm) L x 0.55”(14.5mm) W, Second Spoon 1.14”(29mm) L x 0.75”(19mm) W. Total length 8”(200mm)



## SPATULA MICRO SPOON FLAT

Spatula Stainless steel Micro, spoon one end other end flat.



### 3568-27

Spoon 0.45”(11mm) Long x 0.33”(8mm) Wide, Flat end 0.79”(20mm) Long x 0.33”(8mm) Wide. Total length 6.25”(160mm).

### 3568-29

Spoon 0.45”(11mm) Long x 0.33”(8mm) Wide, Flat end 0.9”(22mm) Long x 0.33”(8mm) Wide. Total length 9.5”(235mm).

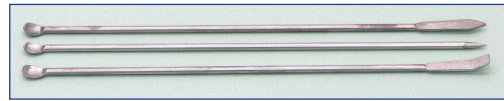
## 3569-9 SPATULA MICRO SCOOP FLAT

7.25”(190mm) Spatula Micro Stainless Steel Scoop at one end Flat the other end. Scoop 1.26”(32mm) Long x 0.29”(7.5mm) Wide. Flat end 1.43”(36mm) Long x 0.31”(8mm) Wide. Total Length 7.25”(190mm).



## 3570-20 SPATULA MICRO SPOON SET OF 3

Spatula Stainless Steel set of 3. All spatulas 8.34”(225mm) Long, with one end Spoon 0.35”(9mm) Long x 0.3”(7.7mm) Wide. One Spatula with Pointed end, Second with Bent End 1.14”(29mm) Long x 0.26”(6.75mm) Wide and Third with Arrow end 1.36”(34mm) Long.



## SPATULA SINGLE SPOON / SCOOP



**3569-12** Spoon 1.2”(30mm) Long x 0.6”(15mm) Wide. 6.25”(160mm) Long.

**3569-13** Spoon 1.2”(30mm) Long x 0.6”(15mm) Wide. 7”(180mm) Long.

## 3571-1 SPATULA WITH PLASTIC HANDLE

Stainless Steel, round end. Plastic handle. Total Length 6.5”.



## 3571-5 SPATULA MICRO WITH PLASTIC HANDLE

Stainless Steel Micro-Spatula with a flat end and Plastic handle. Spatula 1.18”(30mm) L x 0.3”(8mm) Wide, Total Length 6.5”(165mm).



## SPATULA FLAT AND BENT

Stainless Steel Spatula made out of stout 0.14”(3.6mm) rod. Flat one end, Bent the other end. Flat end 1.1”(28mm) Long x 0.3”(7.6mm) wide, Bent end 1.15”(29mm) Long x 0.29”(7.5mm) Wide.



**3569-1** Total Length 5”(125mm).

**3569-2** Total Length 7”(180mm).

**3569-4** Total Length 8”(200mm).

**3569-11** Total Length 8.75”(220mm).

## 3569-8 SPATULA ARROW AND BENT

**8.25”(210MM) LONG** Stainless Steel Spatula made out of stout 0.14”(3.6mm) rod. Arrow one end, Bent the other end. Arrow end 1.2”(30mm) Long, Bent end 1.15”(29mm) Long x 0.29”(7.5mm) Wide. Total Length 8.25”(210mm). Excellent for breaking those lumps.

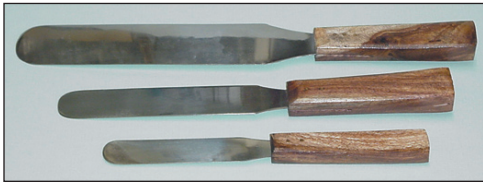




**3580 LAB SCOOP**  
Stainless steel, 6" long.

**SPATULAS WITH WOODEN HANDLES**

Stainless Steel flexible blade with hardwood riveted handle, nicely polished.



- 3573-3 Blade 4" x 19 mm
- 3573-5 Blade 6" x 25 mm
- 3573-6 Blade 8" x 35 mm

**3655 INOCULATING LOOP HOLDER**

**KOLLE TYPE** Nickel plated brass rod with nickel plated brass screw chuck. Fitted into bakelite handle. For holding inoculating loops. Overall length 250 mm.



**3657 INOCULATING LOOP ONLY** A 3" long, 25 gauge Nichrome wire with loop at one end. Pack of 25.



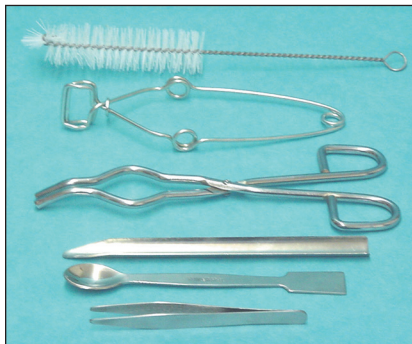
**3656 INOCULATING LOOP / ALUMINUM**

**HANDLE** Consists of a 3" long, 25 gauge Nichrome wire with a loop at one end and the other end mounted in an 8" long aluminum handle.



**3656-1 INOCULATING NEEDLE / ALUMINUM HANDLE**

Consists of a 3" long, 25 gauge Nichrome wire mounted in an 8" long aluminum handle.



**KT3001-1 LAB TOOL KIT**

Kit includes 1 each of Test Tube Brush, Test Tube Clamp, Crucible Tongs, Lab Scoop, 6" Spatula and Forceps.



**KT3001-2 DELUXE LAB TOOL KIT**

Kit includes 1 each of Test Tube Rack for 6, Test Tube Brush, Test Tube Clamp, Crucible Tongs, Lab Scoop, 6" Spatula and Forceps.

**KT3001-5 SPATULA AND SPOON SET OF 7**



A valuable set of 7 instruments in the lab for weighing, mixing, scrapping or spreading material. Tweezers included for accurate handling of small quantities. All

instruments are of Stainless Steel construction. Included in the kit are one each of the following:

- Spatula Wooden Handle Blade 4" long x 19mm
- Tweezers Forceps 5"(125mm) Long
- Spatula Flat and Bent 7"(180mm) Long Flat end 1.1"(28mm) Long x 0.3"(7.6mm) wide, Bent end 1.15"(29mm) Long x 0.29"(7.5mm) Wide. Total Length 7"(180mm).
- Spatula Spoon one end Flat one end 6" Long
- Lab Scoop Scoopula 6.5" Long
- Spatula Micro, Spoon one end other end Flat. Spoon 0.45"(11mm) Long x 0.33"(8mm) Wide, Flat end 0.79"(20mm) Long x 0.33"(8mm) Wide. Total length 6.25"(160mm).
- Spatula Micro, Scoop at one end Flat the other end. Spoon 1.26"(32mm) Long x 0.29"(7.5mm) Wide. Flat end 1.43"(36mm) Long x 0.31"(8mm) Wide. Total Length 7.25"(190mm).



**KT3002-1 GENERAL HARDWARE KIT**

Kit includes 1 each of Support Stand with Rod, Wire Gauze with Ceramic Center, 4" x 9" Burner Stand,

Test Tube Rack For 6, Swivel Clamp, Test Tube Clamp, Beaker Tongs, Crucible Tongs, Pinchcock, Clamp Holder, 4" Support Ring, Clay Triangle.

## FILTERING KITS

Excellent kit for filtering. Consists of one each of Borosilicate Glass Filtering Flask, Porcelain Buchner Funnel, Vacuum Pump Hand with Gauge, Filter Paper Pack of 100 and rubber stopper with hole to accept Buchner Funnel. Packed in box for easy storage.



**KT3303-1** 500ml Filtering Flask, Buchner Funnel 90 mm, Filter Paper 90 mm.

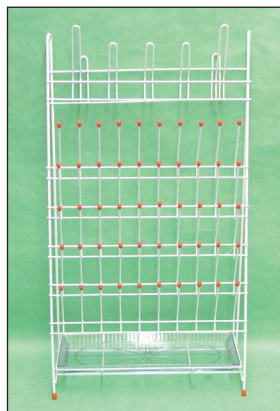
**KT3303-3** 250ml Filtering Flask, Buchner Funnel 70 mm, Filter Paper 70 mm.

**KT3303-5** 1000ml Filtering Flask, Buchner Funnel 90 mm, Filter Paper 90 mm.

**KT3303-7** 2000ml Filtering Flask, Buchner Funnel 110 mm, Filter Paper 110 mm.

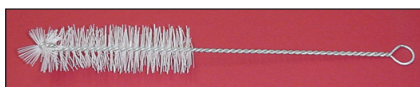
## 3455-1 DRYING / DRAINING RACK

All purpose drying rack. Can be used to dry or store test tubes, beakers, flasks etc. It is self standing, but can also be wall mounted. Comes with a removable heavy acrylic drain pan 13" x 5 1/2" x 3/4". It can hold 55 pieces on 50 pins – 4" long, 2 pins – 4 3/8" long and 3 pins – 3" long. The pins are rubber tipped for cushioning. 14" Wide x 5 1/2" Deep x 26" High.



## TEST TUBE BRUSHES

Galvanized Iron handle with loop. White nylon bristles.



**3501-1** Small, Approximate Size, Total 6" long, Bristle 2.25" x 0.75".

**3501-2** Medium, Approximate Size, Total 9" long, Bristle 4.25" x 1".

**3501-3** Large, Approximate Size, Total 12" long, Bristle 5.25" x 1.5".

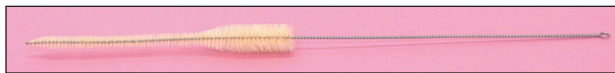
## 3502-1 BEAKER / JAR BRUSH

Beaker or Jar Brush with wooden handle. Brush .2"(80mm) dia. x 6"(150mm) L. Wooden Handle 9.5"(240mm) Long. Total 15"(380mm) long.



## 3499-1 PIPETTE BRUSH

Pipette Brush on braded galvanized wire with loop at end. Brush 7 7/8"(195mm) Long x 0.78"(19mm) widest dia., narrows to 0.38"(9mm). Total length 17"(430mm).



## LAB APRON BLACK

**RUBBERIZED** Made of chemically resistant PVC. Lightweight and Flexible Aprons. Reinforced at points of strains. With neck loop and waist ties.

**3340-1** 27"W x 36"L

**3340-2** 27"W x 42"L

**3340-3** 36"W x 42"L

**3340-4** 36"W x 46"L

## LAB APRON TRANSLUCENT

6 mil thick. Aprons Resistant to lab chemicals, acids, bases, oil and grease. With reinforced neck loop and waist ties.

**3342-1** 27"W x 36"L

**3342-2** 27"W x 42"L

**3342-4** 36"W x 36"L



## PLASTIC SAFETY GOGGLES

Superior Quality Protective Goggles. Clear Lens. Made in USA. Recyclable clear vinyl body. 0.064 polycarbonate lens. Elastic adjustable headband for secure fit. Can be worn over prescription glasses. 100% U.V. Protection. Meets ANSI Z87.1 CE, and UL standards. In case of Fogless Lens the lens keeps viewing area clean. The fogless lenses have a special coating, proper cleaning with lens paper should be used to prevent scratching of lens.



**3341-21**

Impact resistant. Direct Vent, Clear Lens.

**3341-25**

Impact resistant. Direct Vent. Clear Fogless lens.



**3341-31**

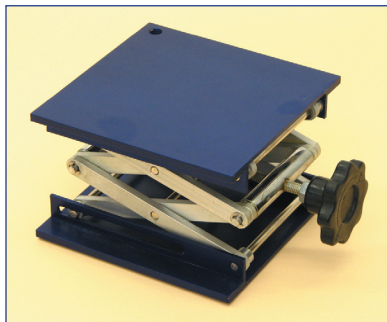
Chemical Splash and Impact resistant. Indirect Vent. Clear Lens.

**3341-35**

Chemical Splash and Impact resistant. Indirect Vent. Clear Fogless

## LAB JACKS

### LAB JACKS ALUMINUM



Ideal for supporting or elevating different objects in the lab, like beakers, flasks, water baths, stirrer etc. Fitted with oversized knob for easy adjustment. Laboratory Jack Aluminum Base and Top Plate both same size.

**3588-1** 4"(100mm) square. Elevates from 1.75"(40mm) to 6"(150mm).

**3588-2** 6"(150mm) square. Elevates from 2.36"(60mm) to 10.3"(265mm).

**3588-3** 8"(200mm) square. Elevates from 2.5"(65mm) to 11.75"(300mm).

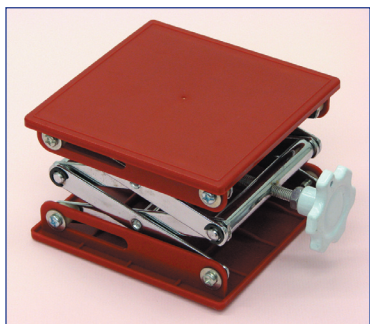
### LAB JACKS STAINLESS STEEL



Ideal for supporting or elevating different objects in the lab, like beakers, flasks, water baths, stirrer etc. Fitted with oversized knob for easy adjustment. Laboratory Jack Aluminum Base and Top Plate both same size.

**3586-2** 6"(150mm) square. Elevates from 3.25"(85mm) to 10.75"(275mm).

**3586-3** 8"(200mm) square. Elevates from 3.25"(85mm) to 11"(280mm).



### 3587-2 LAB JACK PVC PLASTIC 6"(150MM)

Ideal for supporting or elevating different objects in the lab, like beakers, flasks, water baths, stirrer etc. Fitted with oversized knob for

easy adjustment. Laboratory Jack PVC Plastic Base and Top Plate both 6"(150mm) square. Elevates from 2.5"(65mm) to 9.5"(240mm).

## TEST TUBE STANDS / RACKS

### 3742 TEST TUBE RACK POLYETHYLENE



of  
mm, four in between holes 20 mm in Diameter.

Stout, white, in line, for 6 tubes, holes in the top plate correspond with hemispherical depressions in the base. With side pillars and six vertical pins for drying tubes. Two side holes 25

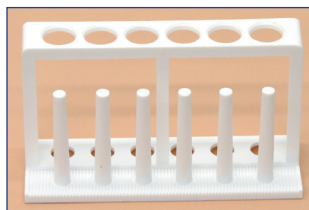
### 6860-1 TEST TUBE RACK PP FOR 6 KIT FORM



Stout, white, with drying pins for 6 tubes. Holes in top plate correspond with hemispherical depressions in the base. All six holes 25 mm in diameter.

### 3742-5 TEST TUBE RACK STAND FOR 6

Test Tube Rack for 6 Tubes with 6 drying pins. Strong

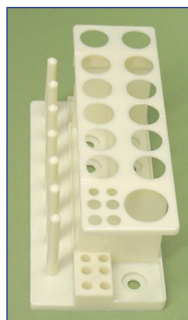


plastic construction. Accepts Tubes upto 0.7"(18mm) in diameter.

### 3742-20

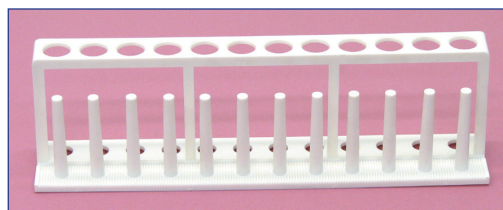
### TEST TUBE RACK FOR 19 TUBES.

With 6 Drying Pins. Made of Plastic. Hole Diameters : 12 Holes - 22 mm, 1 Hole- 30 mm, 2 Holes- 7 mm, 4 Holes- 9 mm.



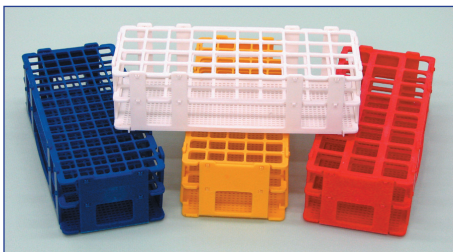
### 3743-20 TEST TUBE RACK STAND FOR 12

Test Tube Rack for 12 Tubes with 12 drying pins. Strong plastic construction. Accepts Tubes upto 0.7"(18mm) in diameter.



## TEST TUBE RACKS PLASTIC KIT / FOLDING TYPE

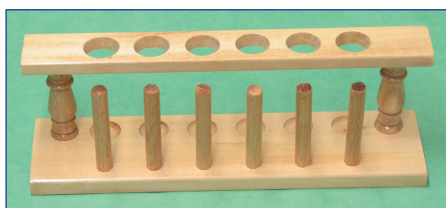
Stackable, steam autoclavable up to 121 deg C ( 250 deg F ). Can be disassembled for storage. 9 3/4 " x 4" x 2 1/2". Length x Width x Height.



- 3742-11** For 40 Tubes, 20mm diameter.
- 3742-12** For 24 Tubes, 25mm diameter.
- 3742-13** For 60 Tubes, 16mm diameter.
- 3742-14** For 90 Tubes, 13mm diameter.
- 3742-15** For 21 Tubes, 30mm diameter.

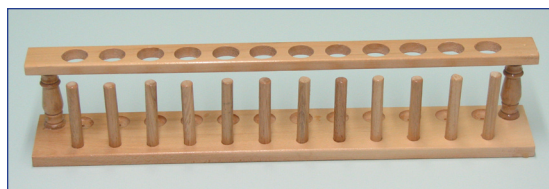
## 3847-2 TEST TUBE & DRYING RACK

Rack with six drying pins. Openings 22 mm. Base of heavy hardwood; designed for stability.



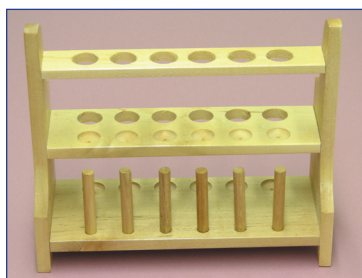
## 3849-2 TEST TUBE & DRYING RACK

Made of hardwood. Supports 12 test tubes upright or inverted. Has 12 holes for test tubes up to 22 mm dia., and 12 drying pins. 16-1/2" L x 3" W x 3-3/4" H.

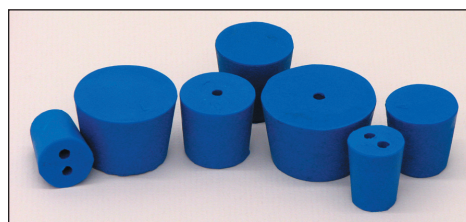


## 3849-1 TEST TUBE & DRYING RACK -

**20MM** Well-constructed wood test tube support. Holds 12 test tubes up to 22 mm in diameter. Includes two shelves and drying pins.



**RUBBER STOPPERS** Quality rubber stoppers. Resilient and long lasting. Pack of 1 lb.



- 3780-000-2-P** #000, 1 Hole
- 3780-000-3-P** #000, 2 Hole
- 3780-000-4** #000, Solid
- 3780-00-2-P** #00, 1 Hole
- 3780-00-3-P** #00, 2 Hole
- 3780-00-4** #00, Solid
- 3780-2-P** #0, 1 Hole
- 3780-3-P** #0, 2 Hole
- 3780-4** #0, Solid
- 3781-2-P** #1, 1 Hole
- 3781-3-P** #1, 2 Hole
- 3781-4** #1, Solid
- 3782-2-P** #2, 1 Hole
- 3782-3-P** #2, 2 Hole
- 3782-4** #2, Solid
- 3783-2-P** #3, 1 Hole
- 3783-3-P** #3, 2 Hole
- 3783-4** #3, Solid
- 3784-2-P** #4, 1 Hole
- 3784-3-P** #4, 2 Hole
- 3784-4** #4, Solid
- 3785-2-P** #5, 1 Hole
- 3785-3-P** #5, 2 Hole
- 3785-4** #5, Solid
- 3786-2-P** #6, 1 Hole
- 3786-3-P** #6, 2 Hole
- 3786-4** #6, Solid
- 3787-2-P** #7, 1 Hole
- 3787-3-P** #7, 2 Hole
- 3787-4** #7, Solid
- 3788-2-P** #8, 1 Hole
- 3788-3-P** #8, 2 Hole
- 3788-4** #8, Solid
- 3789-2-P** #9, 1 Hole
- 3789-3-P** #9, 2 Hole
- 3789-4** #9, Solid
- 3790-2-P** #10, 1 Hole
- 3790-3-P** #10, 2 Hole
- 3790-4** #10, Solid
- 3791-2-P** #11, 1 Hole
- 3791-3-P** #11, 2 Hole
- 3791-4** #11, Solid
- 3792-2-P** #12, 1 Hole
- 3792-3-P** #12, 2 Hole
- 3792-4** #12, Solid
- 3793-2-P** #13, 1 Hole
- 3793-3-P** #13, 2 Hole
- 3793-4** #13, Solid

## PORCELAINWARE

**EVAPORATING DISH** Porcelain, Glazed inside out.



- 3760-2** Upper Rim Dia. 68mm, Capacity 50ml
- 3760-3** Upper Rim Dia. 75mm, Capacity 75ml
- 3760-4** Upper Rim Dia. 86mm, Capacity 100ml
- 3760-5** Upper Rim Dia. 95mm, Capacity 125ml

**CRUCIBLE WITH LID LOW FORM**

Porcelain, with Lid, Glazed inside out.



- 3767-3** 15ml
- 3767-5** 30ml
- 3767-6** 50ml



**CRUCIBLE WITH LID TALL FORM**

Porcelain, with Lid, Glazed inside out.

- 3769-3** 15ml
- 3769-4** 30ml
- 3769-5** 50ml

**BUCHNER FUNNEL** Glazed porcelain, one piece construction, with fixed perforated plate. Straight sides with tapered stem. Sized by inner diameter.



- 3763-1** 42.5 mm
- 3763-2** 55 mm
- 3763-3** 70 mm
- 3763-4** 90 mm
- 3763-5** 110 mm
- 3763-6** 125 mm

**3765-2 SPOTTING TILE** 12 Cavities, porcelain glazed on top and sides. 115 mm x 90 mm. Length x Width.

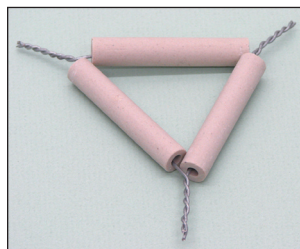


## MORTAR AND PESTLE



Glazed outside. Size by OD.

- 3779-14** 60mm
- 3779-1** 75mm
- 3779-2** 100mm
- 3779-3** 125mm
- 3779-6** 150mm
- 3779-11** 175mm



**CLAY PIPE TRIANGLES**

Made from high quality clay pipes.

- 3766-20** 2"(50mm) side
- 3766-22** 2.5"(62mm) side

## TEST PAPERS



**4301-1 BASE INDICATOR STRIPS RED LITMUS PAPER**

Students can test solutions for base determination. Easy-to-use red litmus paper turns blue for bases. 100 strips per vial.



**4302-1 ACID INDICATOR STRIPS BLUE LITMUS PAPER**

Students can test solutions for acid determination. Easy-to-use blue litmus strip turns red for acids. 100 strips per vial.



**4305-1 pH STRIPS PAPER, WIDE RANGE**

3/8 x 2 1/2" long. 100 strips per vial. Range: 1 to 14.

## FILTER PAPER

### QUALITATIVE FILTER PAPER

Excellent Quality. Ash Content 0.15%. Circular Filter Paper, Box of 100 circles. Sizing by diameter.



**QUALITATIVE FAST – CREPED** Retention: Coarse, Gelatinous, Precipitates.

- 6201-4 7cm
- 6201-6 9cm
- 6201-8 11cm
- 6201-9 12.5cm
- 6201-10 15cm
- 6201-11 18cm
- 6201-12 24cm

**QUALITATIVE MEDIUM - SMOOTH** Retention:

Crystalline, General Chemistry.

- 6202-4 7cm
- 6202-6 9cm
- 6202-8 11cm
- 6202-9 12.5cm
- 6202-10 15cm
- 6202-11 18cm
- 6202-12 24cm

**QUALITATIVE SLOW – SMOOTH** Retention: Fine

Crystalline, General Chemistry.

- 6203-4 7cm
- 6203-6 9cm
- 6203-8 11cm
- 6203-9 12.5cm
- 6203-10 15cm
- 6203-11 18cm
- 6203-12 24cm

### QUANTITATIVE FILTER PAPER

Pre-treated with double acid. Washed with distilled water.

Negligible ash content, 0.01%.

For precise Quantitative Analysis. Circular Filter Paper, Box of 100 circles. Sizing by diameter.

#### QUANTITATIVE FAST – SMOOTH

- 6205-4 7cm
- 6205-6 9cm
- 6205-8 11cm
- 6205-9 12.5cm
- 6205-10 15cm
- 6205-11 18cm

#### QUANTITATIVE MEDIUM – SMOOTH

- 6206-4 7cm
- 6206-6 9cm
- 6206-8 11cm
- 6206-9 12.5cm
- 6206-10 15cm
- 6206-11 18cm

## GLASSWARE

### PIPETTES

**VOLUMETRIC PIPETTE** Borosilicate Glass, calibrated to deliver. Reusable, permanent brown marking fused in glass.



- 3871-23 1 ml, Accuracy  $\pm 0.01$  ml
- 3871-24 5 ml, Accuracy  $\pm 0.02$  ml
- 3871-25 10 ml, Accuracy  $\pm 0.03$  ml
- 3871-28 20 ml, Accuracy  $\pm 0.06$  ml
- 3871-26 25 ml, Accuracy  $\pm 0.06$  ml
- 3871-27 50 ml, Accuracy  $\pm 0.10$  ml

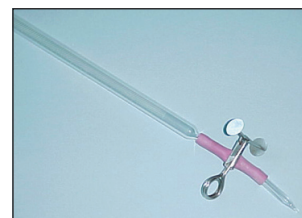
**MOHR'S PIPETTE** Borosilicate Glass, calibrated to deliver. Reusable, permanent brown scale fused in glass. Color coded for easy identification.

- 3874-3 1 ml x 0.01 ml
- 3874-4 2 ml x 0.02 ml
- 3874-5 5 ml x 0.05 ml
- 3874-6 10 ml x 0.10 ml
- 3874-7 25 ml x 0.10 ml
- 3874-8 50 ml x 0.20 ml



### BURETS

**BURET STUDENT GRADE** Also known as Mohr Burets. White engraved markings. To be used with buret tip assembly consisting of a glass tip, a piece of rubber tubing and a pinchcock. Thick wall construction. Made from Borosilicate Glass. Supplied complete with tip assembly.



- 3860-1 Capacity 50 ml
- 3860-2 Capacity 100 ml
- 3860-3 Capacity 25 ml

**BURET STUDENT GRADE** Same as Catalog # 3860, but made from Flint / Neutral Glass.

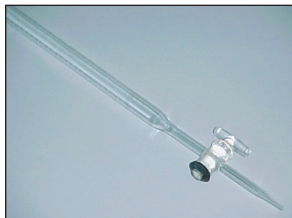
- 3862-2 Capacity 25 ml
- 3862-3 Capacity 50 ml

### BURET WITH GLASS STOPCOCK

Also known as Geissler Burets. Accurately graduated, with white engraved markings, with fitted straight bore glass leak proof stopcock with capillary jet. Thick wall construction. Made from Borosilicate Glass.



- 3865-2 Capacity 25 ml
- 3865-3 Capacity 50 ml
- 3865-4 Capacity 100 ml



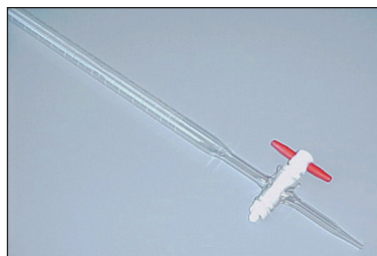
### BURET WITH GLASS STOPCOCK

Same as Catalog # 3865, but made from Flint / Neutral Glass.

**3863-2** Capacity 25 ml    **3863-3** Capacity 50 ml

### BURET WITH TEFLON PLUG STOPCOCK

Also known as Geissler Burets. Accurately graduated, with white engraved markings, with fitted straight bore glass body Teflon plug leak proof stopcock to prevent freezing, with capillary jet. Thick wall construction. Made from Borosilicate Glass.



**3868-2** Capacity 25 ml  
**3868-3** Capacity 50 ml  
**3868-4** Capacity 100 ml

### BURET ROTAFLO STOCOCK

Accurately graduated with enameled graduations. Fitted with Rotaflo Teflon PTFE Plug, screwhead stopcock. Excellent flow control.



**3869-2** Capacity 25ml  
**3869-2** Capacity 50ml  
**3869-4** Capacity 100ml



**ACRYLIC BURET WITH TEFLON STOPCOCK** Transparent Polymethylmethacrylate (Acrylic) body, with leakproof PTFE Plug stopcock with 'O' rings. Graduations 0.1ml. Resistant to most chemicals except Hydrofluoric acid and Ammonium Hydroxide.

**3870-2** Capacity 25ml  
**3870-3** Capacity 50ml  
**3870-4** Capacity 100ml



**3861 BURET TIP ASSEMBLY**  
Spare for use with Burets Catalog # 3860 & 3862. Consists of a Borosilicate Glass tip, pinchcock and a piece of rubber tubing.



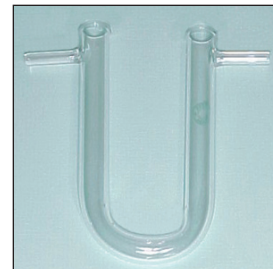
### DRYING TUBE

'U' shape. Made from Borosilicate Glass. Thick walled.

**3883-1** 100 mm Long  
**3883-2** 125 mm Long  
**3883-3** 150 mm Long

**DRYING TUBE WITH SIDE ARM** 'U' shape with side arm for connecting to rubber tubing. Made from Borosilicate Glass. Thick walled.

**3884-1** 100 mm Long  
**3884-2** 125 mm Long  
**3884-3** 150 mm Long



### 3890-2 CENTRIFUGE TUBE

Flint or Neutral glass, conical, 15 ml.

### 3892-2 CENTRIFUGE TUBE

Borosilicate Glass, conical, 15 ml.

### 3893-2 CENTRIFUGE TUBE

Borosilicate Glass, conical, graduated, 15 ml



### CONDENSER LIEBIG

Borosilicate Glass. Finds wide usage in the laboratory such as distillation, reflux operations, extraction etc. Sealed inner tube, large capacity of water jacket gives efficient cooling. Sized by effective length.

**3903-1** 200mm Plain Regular Ends  
**3903-2** 300mm Plain Regular Ends  
**3903-3** 400mm Plain Regular Ends  
**3903-4** 500mm Plain Regular Ends

**3923-1** 200mm 24/40 Joint ends  
**3923-2** 300mm 24/40 Joint ends  
**3923-3** 400mm 24/40 Joint ends  
**3923-4** 500mm 24/40 Joint ends

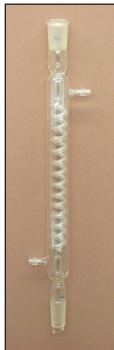




**CONDENSER GRAHAM** Borosilicate Glass. Coil type. This type of condenser increases the cooling area and thereby increasing efficiency.



- 3905-1** 200mm Plain Regular Ends
- 3905-2** 300mm Plain Regular Ends
- 3905-3** 400mm Plain Regular Ends
- 3905-4** 500mm Plain Regular Ends



- 3922-1** 200mm 24/40 Joint ends
- 3922-2** 300mm 24/40 Joint ends
- 3922-3** 400mm 24/40 Joint ends
- 3922-4** 500mm 24/40 Joint ends

### RETORT BOROSILICATE GLASS

With Ground Glass Stopper.

- 3938-2** Capacity 250ml
- 3938-3** Capacity 500ml
- 3938-4** Capacity 1000ml



### 3990-1 MELTING POINT TUBE

Thiele-Dennis type, this improved design tube increases the circulation rate. Made from Borosilicate Glass.



### SEPARATORY FUNNEL, PEAR, SQUIBB SHAPE, GLASS STOPCOCK

Borosilicate Glass. Glass leak proof stopcock. Stopped.

- 3963-0** Capacity 50 ml
- 3963-6** Capacity 100 ml
- 3963-3** Capacity 250 ml
- 3963-4** Capacity 500 ml
- 3963-5** Capacity 1000 ml
- 3963-7** Capacity 2000 ml



### SEPARATORY FUNNEL, PEAR, SQUIBB SHAPE, TEFLON PLUG STOPCOCK

Borosilicate Glass. Glass body leak proof stopcock with Teflon plug to reduce freezing. Stopped. Stopcock with Teflon plug.

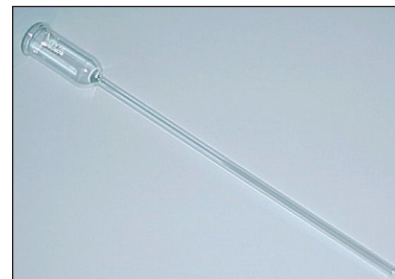
- 3964-0** Capacity 50 ml
- 3964-6** Capacity 100 ml
- 3964-3** Capacity 250 ml
- 3964-4** Capacity 500 ml
- 3964-5** Capacity 1000 ml
- 3964-7** Capacity 2000 ml



### THISTLE FUNNEL

Borosilicate Glass.  
Two sizes to choose from.

- 3966** 300 mm stem.
- 3966-1** 177 mm stem.



### GAS MEASURING TUBE

For collection and measurement of gases. Glass, closed at one end and open the other end. Graduated from the closed end downwards.

- 3970-2** 50 ml
- 3970-3** 100 ml



### GLASS FUNNEL

Borosilicate glass. Uniform thickness. Choose from 4 sizes.

- 6103-20** 54 mm, 50 mm stem
- 6103-21** 74 mm, 70 mm stem
- 6103-22** 94 mm, 90 mm stem
- 6103-23** 100 mm, 100 mm stem



### GLASS FUNNEL

Neutral glass. Uniform thickness. Choose from 4 sizes.

- 6103-24** 50 mm, 50 mm stem
- 6103-25** 60 mm, 60 mm stem
- 6103-27** 75 mm, 75 mm stem
- 6103-26** 100 mm, 100 mm stem

## PETRI DISH WITH COVER

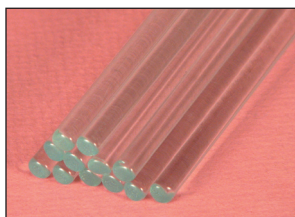
Uniform thickness and Size. Sold in pair of top and bottom. Made from soda lime glass.



- 6104-6** 60 mm x 17 mm
- 6104-7** 75 mm x 17 mm
- 6104-8** 90 mm x 12 mm
- 6104-4** 100 mm x 15 mm
- 6104-10** 150mm x 30 mm

## STIRRING RODS

Glass, with Polished ends.



- 3981-12** 150mm x 5mm
- 3981-13** 200mm x 5mm
- 3981-14** 250mm x 5mm
- 3981-15** 300mm x 5mm

## 6102-2 GLASS JAR 8" (200 MM) x 2" (50 MM), WITH COVER

Made of Soda Lime Glass. For use in various Physics, Chemistry and General lab Use. Cannot be heated.



## GLASS BELL JAR OPEN TOP WITH STOPPER

Made from Heavy Glass. Complete with Glass Stopper. Perfect for isolating experiments from outside interference or studying the Properties of Matter in a Vacuum.



- 6106-5** 6" x 8", 150 mm x 200 mm
- 6106-7** 6" x 10", 150 mm x 250 mm
- 6106-9** 8" x 12", 200 mm x 300 mm

## GLASS BELL JAR CLOSED KNOB TOP

Made from Heavy Glass. Complete with Glass Stopper. Perfect for isolating experiments from outside interference or studying the Properties of Matter in a Vacuum.



- 6112-5** 6" x 8", 150 mm x 200 mm
- 6112-7** 6" x 10", 150 mm x 250 mm
- 6112-9** 8" x 12", 200 mm x 300 mm

## GLASS DESSICATOR WITH COVER AND PORCELAIN PLATE

**6107-1** Top Chamber 6" / 150 mm inner diameter, 4"/100mm height, outer diameter 8.25"/ 280mm. Height 8.5"/ 210mm. Bottom Chamber 5" / 125mm diameter, 1.75"/ 40mm height.

**6107-2** Top chamber 8.25"/ 210 mm diameter, 4.5"/ 118 mm height, outer diameter 10.5"/ 265 mm. Height 10.5"/ 265 mm. Bottom Chamber 6.5"/ 160 mm diameter, 2" / 50 mm height.

**6107-4** Top chamber 11.5" / 300 mm diameter, 5.5" / 140 mm height, outer diameter 14.5"/ 365 mm. Height 13.5"/ 340 mm. Bottom Chamber 9.5"/ 225 mm diameter, 3.5"/ 70 mm height.



## TEST TUBES Borosilicate Glass.



- 6135-1** 10 x 75 mm
- 6135-2** 12 x 75 mm
- 6135-3** 13 x 100 mm
- 6135-4** 15 x 125 mm
- 6135-5** 16 x 150 mm
- 6135-6** 20 x 150 mm
- 6135-7** 25 x 150 mm
- 6135-8** 25 x 200 mm
- 6135-9** 18 x 150 mm

**DROPPER GLASS WITH TEAT** Glass Medicine / Eye Dropper / Pipettes. Rubber Bulb. High luster selected glass. Pack of 12.

- 4306-30-12** 3" Long
- 4306-40-12** 4" Long



## GRADUATED CYLINDER

All glass, made from Borosilicate glass.

- 6130-19** 5 ml
- 6130-20** 10 ml
- 6130-21** 25 ml
- 6130-22** 50 ml
- 6130-23** 100ml
- 6130-24** 250 ml
- 6130-25** 500 ml
- 6130-26** 1000 ml
- 6130-27** 2000 ml



## GRADUATED CYLINDER SETS

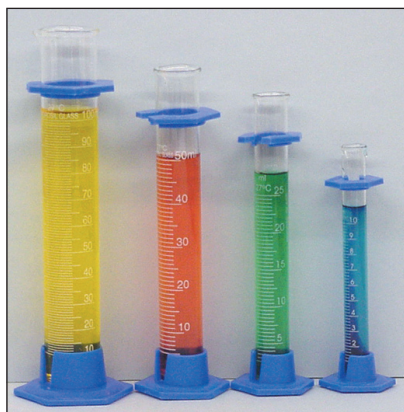
All glass, made from Borosilicate glass.

- 6130-51** Graduated Cylinder Set of 3. Includes 10 ml, 50 ml and 100 ml cylinders.
- 6130-52** Graduated Cylinder Set of 4. Includes 10 ml, 25 ml, 50 ml and 100 ml cylinders.
- 6130-53** Graduated Cylinder Set of 4. Includes 10 ml, 50 ml, 100 ml and 250 ml cylinders.
- 6130-54** Graduated Cylinder Set of 5. Includes 10 ml, 25 ml, 50 ml, 100 ml and 250 ml cylinders.

## GRADUATED MEASURING GLASS

**CYLINDER** Graduated Measuring Cylinder made from heavy Borosilicate Glass. Sturdy strong plastic base and bumper guard. They are calibrated to contain. Durable White Enamel Graduations, Single Scale.

- 6132-1** 5 ml
- 6132-2** 10 ml
- 6132-3** 25 ml
- 6132-4** 50 ml
- 6132-5** 100 ml
- 6132-6** 250 ml
- 6132-7** 500 ml
- 6132-8** 1000 ml



## GRADUATED MEASURING GLASS

**CYLINDER SETS** Graduated Measuring Cylinder sets made from heavy Borosilicate Glass. Sturdy strong plastic base and bumper guard. They are Calibrated to contain. Durable White Enamel Graduations, Single Scale.

- 6132-51** Graduated Cylinder Set of 3. Includes 10 ml, 50 ml and 100 ml cylinders.
- 6132-52** Graduated Cylinder Set of 4. Includes 10 ml, 25 ml, 50 ml and 100 ml cylinders.

**GRADUATED BEAKER** All glass, made from Borosilicate glass. Double graduations, reinforced rim. Accuracy  $\pm 5\%$  at full capacity.



- |                        |                        |
|------------------------|------------------------|
| <b>6131-13</b> 10 ml   | <b>6131-1</b> 50 ml    |
| <b>6131-2</b> 100 ml   | <b>6131-3</b> 150 ml   |
| <b>6131-4</b> 250 ml   | <b>6131-5</b> 400 ml   |
| <b>6131-7</b> 600 ml   | <b>6131-8</b> 800 ml   |
| <b>6131-9</b> 1000 ml  | <b>6131-10</b> 2000 ml |
| <b>6131-11</b> 4000 ml | <b>6131-12</b> 5000 ml |

## GRADUATED BEAKER SETS

- 6131-51** Graduated Beaker Set of 3. Includes 1 each of 50 ml, 100 ml and 250 ml beakers.
- 6131-53** Graduated Beaker Set of 5. Includes 1 each of 50 ml, 100 ml, 250 ml, 600 ml and 1000ml beakers.

## FLASK ERLENMEYER

Heavy Borosilicate glass. Uniform thickness and beaded top rim. Accuracy  $\pm 5\%$  at full capacity.



- |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|
| <b>6138-1</b> 50 ml   | <b>6138-2</b> 100 ml  | <b>6138-4</b> 125 ml  |
| <b>6138-5</b> 250 ml  | <b>6138-6</b> 500 ml  | <b>6138-7</b> 1000 ml |
| <b>6138-8</b> 2000 ml | <b>6138-9</b> 5000 ml |                       |

## FLASK ERLENMEYER SETS

- 6138-51** Erlenmeyer Flask Set of 3. Includes 1 each of 50 ml, 125 ml and 250 ml flasks.
- 6138-53** Erlenmeyer Flask Set of 5. Includes 1 each of 50 ml, 125 ml, 250 ml, 500 ml and 1000ml flasks.

## CONICAL FILTERING FLASK

Heavy duty glass with sturdy wall and heavy rim. Accepts hose with 3/8" inside Diameter.

- 6152-4** 100 ml
- 6152-5** 250 ml
- 6152-7** 500 ml
- 6152-8** 1000 ml
- 6152-9** 2000 ml



## FLASK VOLUMETRIC WITH STOPPER

Borosilicate glass, heavy tubing neck. Calibrated to contain, with Polyethylene stopper.



|                |         |                |         |
|----------------|---------|----------------|---------|
| <b>6108-40</b> | 25 ml   | <b>6108-35</b> | 50 ml   |
| <b>6108-36</b> | 100 ml  | <b>6108-37</b> | 250 ml  |
| <b>6108-33</b> | 500 ml  | <b>6108-34</b> | 1000 ml |
| <b>6108-38</b> | 2000 ml | <b>6108-39</b> | 5000 ml |

## FLASK FLAT BOTTOM FLORENCE

Borosilicate glass, flat bottom, tooled neck.



|                |         |
|----------------|---------|
| <b>6139-20</b> | 50 ml   |
| <b>6139-21</b> | 100 ml  |
| <b>6139-22</b> | 250 ml  |
| <b>6139-23</b> | 500 ml  |
| <b>6139-24</b> | 1000 ml |
| <b>6139-25</b> | 2000 ml |
| <b>6139-28</b> | 5000 ml |



## FLASK ROUND BOTTOM

Borosilicate glass, round bottom, tooled neck.

|                |         |
|----------------|---------|
| <b>6111-20</b> | 50 ml   |
| <b>6111-21</b> | 100 ml  |
| <b>6111-22</b> | 250 ml  |
| <b>6111-23</b> | 500 ml  |
| <b>6111-24</b> | 1000 ml |
| <b>6111-25</b> | 2000 ml |
| <b>6111-28</b> | 5000 ml |



## FLASK FLAT BOTTOM FLORENCE 24/40 JOINT

Borosilicate Glass.

|                |        |
|----------------|--------|
| <b>6157-3</b>  | 250ml  |
| <b>6157-5</b>  | 500ml  |
| <b>6157-7</b>  | 1000ml |
| <b>6157-8</b>  | 2000ml |
| <b>6157-9</b>  | 3000ml |
| <b>6157-10</b> | 5000ml |



## FLASK ROUND BOTTOM 24/40 JOINT

Borosilicate Glass.

|                |        |
|----------------|--------|
| <b>6156-3</b>  | 250ml  |
| <b>6156-5</b>  | 500ml  |
| <b>6156-7</b>  | 1000ml |
| <b>6156-8</b>  | 2000ml |
| <b>6156-9</b>  | 3000ml |
| <b>6156-10</b> | 5000ml |

## KT6301-1 GLASSWARE KIT



Kit includes: 1- 10 ml and 1- 100 ml Glass Cylinders  
1- 600 ml, 1- 50 ml and 2- 250 ml Glass Beakers  
1- 500 ml, 1- 50 ml and 2- 250 ml Glass Erlenmeyer Flasks  
1- 1 ml Mohr's Pipet  
12- Test Tubes  
12- Eye Droppers  
12- Glass Stirrers  
1- 50 mm Glass Funnel and 1- Alcohol Lamp.



**REAGENT BOTTLE CLEAR APOTHECARY JAR** Clear Soda glass, narrow mouth, ground glass stopper.

- 6100-1 125ml
- 6100-2 250ml
- 6100-3 500ml
- 6100-4 1000ml

**REAGENT BOTTLE AMBER APOTHECARY JAR** Amber Soda glass, narrow mouth, ground glass stopper.

- 6101-1 125ml    6101-2 250ml
- 6101-3 500ml    6101-4 1000ml



**JARS WIDE MOUTH FLINT WITH CAP** (black or white cap depending upon availability). Wide Mouth.

- 6154-1 1 oz, 38/400
- 6154-2 2 oz, 53/400
- 6154-4 4 oz, 58/400
- 6154-8 8 oz, 58/400
- 6154-16 16 oz, 89/400
- 6154-32 32 oz, 89/400



**BOSTON ROUND FLINT GLASS BOTTLES WITH CAP**

- 6155-1 1 oz, 20/400
- 6155-2 2 oz, 20/400
- 6155-4 4 oz, 22/400
- 6155-8 8 oz, 24/400
- 6155-16 16 oz, 28/400
- 6155-32 32 oz, 33/400



**DROPPING BOTTLE CLEAR** Clear glass Dropping Bottle with ground glass neck and Poly Stopper. The dropper can be removed for dispensing without removing the Poly Stopper.

- 6141-20 30ml
- 6141-21 60ml
- 6141-22 120ml



**DROPPING BOTTLE AMBER**

Amber glass Dropping Bottle with ground glass neck and Poly Stopper. The dropper can be removed for dispensing without removing the Poly Stopper.

- 6141-30 30ml
- 6141-31 60ml
- 6141-32 120ml



**6141-1 BARNES BOTTLE** Flint glass. Square, with rubber bulb and glass pipette, capacity 30 ml, 1 oz. Fits **WOODEN TRAY 3853-1**, sold separately.



**3853-1 WOODEN TRAY FOR BARNES BOTTLES**

Teak wood nicely polished tray. As the tray is made from Teak Wood it is resistant to liquid spillage. Without bottles.



**3853-2 BARNES DROPPING BOTTLES WITH TRAY** Clear flint glass square shape 30 ml bottles with glass pipette dropper rubber bulb stopper. Set of 5 bottles. Come complete with teak wood nicely polished tray. As the tray is made from Teak Wood it is resistant to liquid spillage.

# PLASTICWARE

## FIXED VOLUME MICRO-PIPETTE



Comfortable hand holding, easy to read, chemical resistant body. Economically priced to fit any budget. Accurate and repeatable. Many ranges to choose from. Individually packed.

- 3832-1 5  $\mu$ l
- 3832-2 10  $\mu$ l
- 3832-3 20  $\mu$ l
- 3832-4 25  $\mu$ l
- 3832-5 50  $\mu$ l
- 3832-6 100  $\mu$ l
- 3832-7 200  $\mu$ l
- 3832-8 500  $\mu$ l
- 3832-9 1000  $\mu$ l

## DIGITAL VARIABLE VOLUME MICRO-PIPETETTE

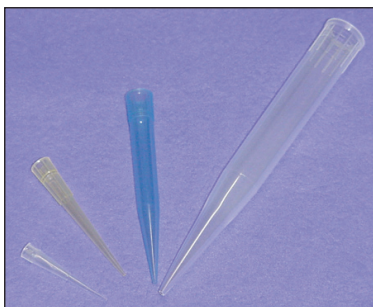


Comfortable hand holding, easy to read, lockable volume, and chemical resistant body. Economically priced to fit any budget. Accurate and repeatable. Many ranges to choose from. Individually packed.

- 3824-1 0.1 – 2  $\mu$ l
- 3824-2 1 – 10  $\mu$ l
- 3824-3 2 – 20  $\mu$ l
- 3824-4 5 – 100  $\mu$ l
- 3824-5 20 – 200  $\mu$ l
- 3824-6 100 – 1000  $\mu$ l
- 3824-7 1000 – 5000  $\mu$ l

## PIPETTE TIPS

To fit Digital Variable Micro-Pipettes # 3824.



- 3823-1 Pipette Tips 0.1 – 10  $\mu$ l, pack 1000
- 3823-2 Pipette Tips 2 – 200  $\mu$ l, pack 500
- 3823-3 Pipette Tips 100 – 1000  $\mu$ l, pack 500
- 3823-4 Pipette Tips 1000 – 5000  $\mu$ l, pack 100
- 3823-5 Pipette Tips 1 – 10 ml, pack 100

**PIPETTE FILLERS** Consists of a rubber bulb with a capacity of 60 ml ( approx. ). With three valves.



3826-1 Black Color



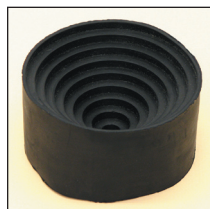
3826-2 Red Color



**PIPETTE PUMP** Easy one hand operation. Rotation of the thumbwheel draws or dispenses the liquid with precision and ease. By depressing the side lever the entire contents can be dispensed rapidly. Accepts glass and plastic pipettes. Color coded for sizes.

- 3825-1 For Pipettes upto 2ml, Blue
- 3825-2 For Pipettes upto 10ml, Green
- 3825-3 For Pipettes upto 25ml, Red

## 3696-1 FLASK REST STAND SMALL



Flask Rest / Stand to keep Round Bottom Flasks sitting upright when full of liquids etc. Strong Soft rubber construction. Concentric rings to accommodate different sizes of flasks. Maximum diameter acceptable 3.4”(86mm), ht 2”(50mm).

## 3696-2 FLASK REST STAND BIG



Flask Rest / Stand to keep Round Bottom Flasks sitting upright when full of liquids etc. Strong Soft rubber construction. Concentric rings to accommodate different sizes of flasks. Maximum diameter acceptable 6.05”(155mm), ht 2”(50mm).

## BEAKER WITH HANDLE, JUG

Graduated, polypropylene. Autoclavable. Molded graduations, will not rub off or fade.



- 5110-1 250 ml
- 5110-2 500 ml
- 5110-3 1000 ml
- 5110-4 2000 ml

**BEAKER** Graduated, polypropylene. Autoclavable. Molded graduations will not rub off or fade.



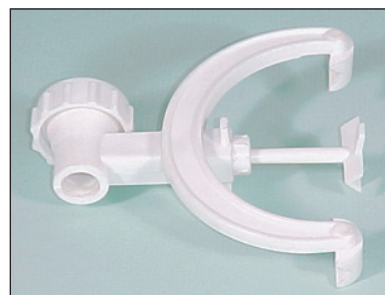
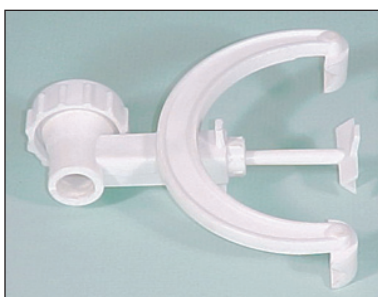
- |                       |                       |
|-----------------------|-----------------------|
| <b>5100-1</b> 50 ml   | <b>5100-2</b> 100 ml  |
| <b>5100-4</b> 250 ml  | <b>5100-5</b> 500 ml  |
| <b>5100-6</b> 1000 ml | <b>5100-7</b> 2000 ml |

**5100-51 BEAKER SET OF 5**

One each of 50 ml, 100 ml, 250 ml, 500 ml and 1000 ml Beakers.

**BURET CLAMPS** Plastic. Strong.

**5120-1**  
For One Buret



**5120-2**  
For Two Burets

**WASH BOTTLES** Polyethylene, leak proof, flow controlled with ease.

- 3750-1** Capacity 125 ml
- 3750-2** Capacity 250 ml
- 3750-3** Capacity 500 ml



**WASH BOTTLE UNITARY**

Break resistant Low Density Polyethylene, translucent. Built-in delivery tube. Graduated in on the outside to show approximate volume of contents.

- 3750-52** 250ml, graduated in 50ml increments
- 3750-53** 500ml, graduated in 100ml increments



**CYLINDERS** Graduated, polypropylene. Autoclavable. Molded graduations will not rub off or fade.



- 5250-1** 10 ml
- 5250-2** 25 ml
- 5250-3** 50 ml
- 5250-4** 100 ml
- 5250-5** 250 ml
- 5250-6** 500 ml
- 5250-7** 1000 ml

**5250-51 CYLINDER SET OF 4**

One each of 10 ml, 25 ml, 50 ml, 100 ml Cylinder.

**5250-53 CYLINDER SET OF 5**

One each of 10 ml, 25 ml, 50 ml, 100 ml and 250 ml Cylinder.

**DROPPING BOTTLE**

TK pattern. LDPE. Good controlled dropping.

- 5350-1** 60 ml Capacity
- 5350-2** 120 ml Capacity



**FUNNEL PLASTIC**

With rib. Polypropylene. Sizing by top diameter.

- 5440-1** 50 mm
- 5440-2** 62 mm
- 5440-3** 75 mm
- 5440-4** 100 mm

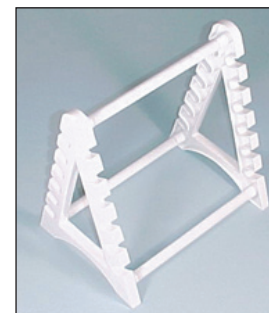


**5448-1 FUNNEL HOLDER** For one funnel.



**6450 PIPETTE SUPPORT**

Horizontal for 12 pipettes. Polypropylene.





### 6470 PIPETTE SUPPORT

Round, for 28 pipettes

### 5500-10 PNEUMATIC TROUGH, PLASTIC



Strong plastic rectangular trough 10" x 7" x 4". For general lab use. Comes complete with a removable plastic insert with two holes for gas collection experiments.

### 5500-12 TROUGH RECTANGULAR



Strong Plastic Rectangular Trough. For general lab use, like collection of gases etc. 11.25"(285mm) x 8.25(210mm) x 3.75"(95mm).

### 5500-50 TROUGH ROUND CIRCULAR



Strong Plastic Round Trough. For general lab use, like collection of gases etc. 10"(250mm) dia. x 4"(100mm) ht.



### 4200 MAGNESIUM METAL RIBBON

99% pure ( approx. ). In packs of 25 gm ( approx. ).

## BIOLOGY

### MICROSCOPES

#### B-26 MICROSCOPE



Standard size, elegant appearance. Rugged construction, stable cast iron horseshoe base. Inclinable through 90 degrees.

- Two eyepieces 10x and 15x.
- Three parfocussed objectives 4x, 10x and 40x.
- Rotatable triple nosepiece with positive click stops.
- Coarse and fine focus, sturdy rack and pinion.

- Safety rack to prevent damage to slides and optics.
- Metal stage 110 mm x 110 mm, with two removable stage clips.
- With iris diaphragm to adjust the intensity of light.
- With sub-stage illuminator and plano-concave mirror in fork mount.

#### L500B INCLINED MONOCULAR MICROSCOPE



Strong, Sturdy Metal Die-cast body, protective baked enamel finish. Full size Large Microscope. Base 6" x 7" with skid proof rubber feet, Height 14". Supplied with Dust Cover. Microscope Head: Monocular, 45 deg inclined, 360 deg rotatable, with set screw. Eyepiece: Widefield with pointer, DIN 10x, Field No. 18. Nosepiece: Triple, ball bearing Movement with positive stops. Objectives: Semi-Plan, Parafocused, Color Coded, DIN, 4x,

10x & 40xR(R-Spring Retractable). Stage: Large, Sturdy, 120 mm x 120 mm. With Spring Loaded Stage Clips. Abbe Condenser: With Iris Diaphragm, N.A. 1.25. Focusing: Coaxial coarse and fine focusing. Illumination: 20W Halogen, with on-off switch and variable intensity. Electric Cord: 3-wire grounded plug.



## **L500BLED INCLINED MONOCULAR MICROSCOPE, CORDLESS**

LED Inclined Monocular Microscope, Cordless, LED. Strong, Sturdy Metal Die-cast body, protective baked enamel finish. Full size Large Microscope. Base 6" x 7" with skid proof rubber feet, Height 14". Supplied with Dustcover. Microscope Head: Monocular, 45 deg inclined, 360 deg rotatable, with set screw. Eyepiece: Widefield with pointer, DIN 10x, Field No. 18. Nosepiece: Triple, ball bearing Movement with positive stops. Objectives: Semi-Plan, Para-foculed, Color Coded, DIN, 4x, 10x & 40xR (R-Spring Retractable). Stage: Large, Sturdy, 120 mm x 120 mm. With Spring Loaded Stage Clips. Abbe Condenser: With Iris Diaphragm, N.A. 1.25. Focusing: Coaxial coarse and fine focusing. Illumination: Cordless, Cool LED, with Light Intensity Control, Rechargeable Batteries.



## **L800BLED INCLINED MONOCULAR MICROSCOPE, CORDLESS**

Inclined Monocular Microscope, Cordless, LED. Strong, Sturdy Metal Die-cast body, protective baked enamel finish. Full size Large Microscope. Base 6" x 7" with skid proof rubber feet, Height 14". Supplied with Dust Cover. Microscope Head: Monocular, 45 deg inclined, 360 deg rotatable, with set screw. Eyepiece: Widefield with pointer, DIN 10x, Field No. 18. Nosepiece: Quadruple, ball bearing Movement with positive stops. Objectives: Semi-Plan, Para-foculed, Color Coded, DIN, 4x, 10x, 40xR, 100xR (R-Spring Retractable). Stage: Large, Sturdy, 120 mm x 120 mm. Mechanical Stage: Graduated, Attached on top of Stage, Knobs on top, Stage Movement 50 mm x 30 mm. Abbe Condenser: With Iris Diaphragm, N.A. 1.25. Focusing: Coaxial coarse and fine focusing. Illumination: Cordless, Cool LED, with Light Intensity Control, Rechargeable Batteries.



## **L800B INCLINED MONOCULAR MICROSCOPE**

Strong, Sturdy Metal Die-cast body, protective baked enamel finish. Full size Large Microscope. Base 6" x 7" with skid proof rubber feet, Height 14". Supplied with Dust Cover. Microscope Head: Monocular, 45 deg inclined, 360 deg rotatable, with set screw. Eyepiece: Widefield with pointer, DIN 10x, Field No. 18. Nosepiece: Quadruple, ball bearing Movement with positive stops. Objectives: Semi-Plan, Para-foculed, Color Coded, DIN, 4x, 10x, 40xR, 100xR (R-Spring Retractable). Stage: Large, Sturdy, 120 mm x 120 mm. Mechanical Stage: Graduated, Attached on top of Stage, Knobs on top, Stage Movement 50 mm x 30 mm. Abbe Condenser: With Iris Diaphragm, N.A. 1.25. Focusing: Coaxial coarse and fine focusing. Illumination: 20W Halogen, with on-off switch and variable intensity. Electric Cord: 3-wire grounded plug.



## **L1000B INCLINED MONOCULAR MICROSCOPE**

Inclined Monocular Microscope. Strong, Sturdy Metal Die-cast body, protective baked enamel finish. Full size Large Microscope. Base 6" x 7" with skid proof rubber feet, Height 14". Supplied with Dust Cover. Microscope Head: Monocular, 45 deg inclined, 360 deg rotatable, with set screw. Eyepiece: Widefield with pointer, DIN 10x, Field No. 18. Nosepiece: Quadruple, ball bearing Movement with positive stops. Objectives: Semi-Plan, Para-foculed, Color Coded, DIN, 4x, 10x, 40xR, 100xR (R-Spring Retractable). Stage: Large, Sturdy, 125 mm x 115 mm. Mechanical Stage: Graduated, Built-in with under stage co-axial movement controls, 40mm Y-axis, 75 mm X-axis. Abbe Condenser: With Iris Diaphragm rack and pinion focusing. N.A. 1.25. Spring Loaded Condenser System. Focusing: Coaxial coarse and fine focusing. Illumination: 20W Halogen, with on-off switch and variable intensity. Electric Cord: 3-wire grounded plug.





### **L1000BLED INCLINED MONOCULAR MICROSCOPE, CORDLESS**

Inclined Monocular Microscope, Cordless, LED. Strong, Sturdy Metal Die-cast body, protective baked enamel finish. Full size Large Microscope. Base 6" x 7" with skid proof rubber feet, Height 14". Supplied with Dust Cover. Microscope Head: Monocular, 45 deg inclined,

360 deg rotatable, with set screw. Eyepiece: Widefield with pointer, DIN 10x, Field No. 18. Nosepiece: Quadruple, ball bearing Movement with positive stops. Objectives: Semi-Plan, Para-foculed, Color Coded, DIN, 4x, 10x, 40xR, 100xR (R-Spring Retractable).

Stage: Large, Sturdy, 125 mm x 115 mm. Mechanical Stage: Graduated, Built-in with under stage co-axial movement controls, 40mm Y-axis, 75 mm X-axis.

Abbe Condenser: With Iris Diaphragm rack and pinion focusing. N.A. 1.25. Spring Loaded Condenser System.

Focusing: Coaxial coarse and fine focusing. Illumination: Cordless, Cool LED, with Light Intensity Control, Rechargeable Batteries.



### **L1050B BINOCULAR MICROSCOPE**

Latest Design, Binocular Brightfield Biological Microscope for School and University, sturdy construction and convenient operation. It is equipped with Superior Flatfield Semi-Plan Optics, Achromatic objectives, Widefield Pointer Eyepieces, gear wheel focusing with tension adjustable stopper.

Large base with rubber feet.

Microscope Head: Binocular, 45 deg inclined, 360 deg rotatable, with diopter and interpupillary adjustments.

Eyepiece: Widefield with pointer, DIN 10x, Field No. 18.

Nosepiece: Quadruple, ball bearing Movement with positive stops. Objectives: Semi-Plan, Para-foculed, Color Coded, DIN, 4x, 10x, 40xR, 100xR (R-Spring Retractable).

Stage: Large, Sturdy, 125 mm x 115 mm.

Mechanical Stage: Graduated, Built-in with under stage co-axial movement controls, 40mm Y-axis, 75 mm X-axis.

Abbe Condenser: With Iris Diaphragm rack and pinion focusing. N.A. 1.25. Spring Loaded Condenser System.

Focusing: Coaxial coarse and fine focusing, Graduated, With Tension Control and Stage Lock to protect gears, objectives and slides. Adjustable tension control. Illumination: 20W Halogen, with on-off switch and variable intensity. Electric Cord: 3-wire grounded plug.



### **L135BLED BINOCULAR MICROSCOPE, CORDLESS, LED**

Binocular Microscope, Cordless, LED. Cool LED Lighting, Cordless Binocular Brightfield Biological Microscope for School and University, sturdy construction and convenient operation. It is equipped with

Superior Flatfield Semi-Plan Optics, Achromatic objectives, Widefield Pointer Eyepieces, gear wheel focusing with tension adjustable stopper. Large base with rubber feet.

Supplied with Dust Cover. Microscope Head: Binocular, 45 deg inclined, 360 deg rotatable, with diopter and interpupillary adjustments.

Eyepiece: Widefield with pointer, DIN 10x, Field No. 18. Nosepiece: Quadruple, ball bearing Movement with positive stops. Objectives: Semi-Plan, Para-foculed, Color Coded, DIN, 4x, 10x, 40xR, 100xR (R-Spring Retractable).

Stage: Large, Sturdy, 125 mm x 115 mm. Mechanical Stage: Graduated, Built-in with under stage co-axial movement controls, 25mm Y-axis, 70 mm X-axis.

Abbe Condenser: With Iris Diaphragm rack and pinion focusing. N.A. 1.25. Spring Loaded Condenser System.

Focusing: Coaxial coarse and fine focusing, Graduated, With Tension Control and Stage Lock to protect gears, objectives and slides. Adjustable tension control. Illumination: Cordless, Cool LED, with Light Intensity Control, Rechargeable Batteries.

Base: 8" x 6". Height: 15".



### **XTL-101 RESEARCH STEREO ZOOM MICROSCOPE**

Sturdy Large design, designed for Scientific and Medical Research and Educational Laboratories. Clear precise 3-D image throughout the entire zoom range. Pole mounting provides easy flexibility in

viewing larger objects. Anti-mildew coated Optics. Supplied with Dust Cover.

Head: 45 deg. Inclined Binocular, 360 deg. Rotatable, with Diopter and Interpupillary adjustments. Eyepieces: 10x Widefield Eyepieces with field number 22 mm.

Zoom: Easy Zoom Adjustment with two large side knobs, Bilateral Zoom Control Knobs for flexibility, Zoom Range 0.7x to 4.2x. Magnification: 7x to 42x.

Focusing: Tension Control Rack and Pinion prevents drifting. Working Distance: 90 mm.

Illumination: Halogen, Top and Bottom, Top Only, Bottom Only, with separate intensity control knob for both top and bottom. With on/off switch.

Base Size: 10 1/4" x 11 1/2". Height: 15.7".

**XTC-3A STEREO MICROSCOPE,**

**10X - 30X** Large Full Size Professional Stereo Microscope, with a wide field of view. All Prismatic Optics, with anti-reflection coating. Supplied with Dust Cover. Body: All metal construction. Head: 45 deg Inclined Binocular Head, 360 deg Rotatable, with thumb screw. Interpupillary and Diopter Adjustment. Eyepieces: Super 10x Widefield. Magnification: 10x – 30x Magnification. Focusing: Rack and pinion, with slip clutch to prevent drifting. Illumination: Halogen, Top and Bottom, Top Only, Bottom Only, with separate intensity control knob for both top and bottom. Perfect for observing 3 dimensional items. Base: Large Base 7.5" x 6.5". Height: 15".



**XTC-3B STEREO MICROSCOPE,**

**10X - 40X** Stereo Microscope. Large Full Size Professional Stereo Microscope, with a wide field of view. All Prismatic Optics, with anti-reflection coating. Supplied with Dust Cover. Body: All metal construction. Head: 45 deg Inclined Binocular Head, 360 deg Rotatable, with thumb screw. Interpupillary and Diopter Adjustment. Eyepieces: Super 10x Widefield. Magnification: 10x – 40x Magnification. Focusing: Rack and pinion, with slip clutch to prevent drifting. Illumination: Halogen, Top and Bottom, Top Only, Bottom Only, with separate intensity control knob for both top and bottom. Perfect for observing 3 dimensional items. Base: Large Base 7.5" x 6.5". Height: 15".



**B10-1 MINI ZOOM MICROSCOPE ILLUMINATED**

Built in illumination. Small enough to fit into the pocket. Zoom magnification 60x -100x. Easy operation, one wheel for focus, other for zoom. 3" Height x 1 3/4" Width x 3/4" Diameter. With instructions. Requires two AAA batteries, not supplied.

**B10-3 POCKET MICROSCOPE ILLUMINATED** Illuminated pocket microscope 6" L x 1 3/4" W, ideal for viewing any where especially in the field. Magnification 30x. Focusing by turning the wheel. Requires two AA batteries, not supplied



**B10-5 POCKET ZOOM MICROSCOPE ILLUMINATED** Illuminated pocket microscope 5 5/8" L x 1 3/4" W, ideal for viewing any where especially in the field. Zoom 60x to 100x. Focusing by turning the wheel. Requires two AA batteries, not supplied. Comes complete with stand, which accepts slides.

**B10-6 POCKET ZOOM MICROSCOPE ILLUMINATED** Illuminated pocket microscope 5 5/8" L x 1 3/4" W, ideal for viewing any where especially in the field. Zoom 160x to 200x. Focusing by turning the wheel. Requires two AA batteries, not supplied. Comes complete with stand, which accepts slides.



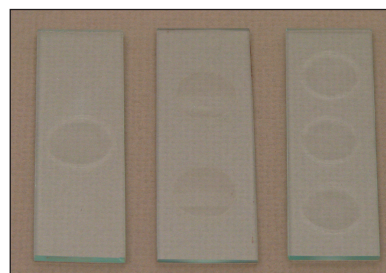
**B145-2 MICROSCOPE SLIDES PLAIN 72 PACK 1 Pack (72 per Pack)**

Brand new, clean, clear glass slides with ground edges. Packed in original vacuum sealed box. 25 mm x 75 mm (Length x Width), 0.8 mm to 1 mm thick.



**CAVITY SLIDES**

Quality Glass. 15 mm wide depression. Size 25mm x 75 mm, Length x Width.



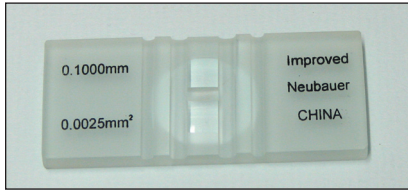
**B148-1** 1 Cavity **B148-2** 2 Cavity **B148-3** 3 Cavity



**COVER SLIPS** Good quality glass cover slips, pre-cleaned. 100 per box.

- B150-4** 22 mm x 22 mm
- B150-5** 24 mm x 40 mm

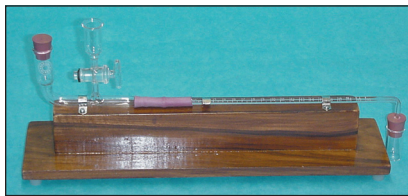
**B4005 HEMOCYTOMETER BLOOD CELL COUNT CHAMBER.**



Reusable hemocytometer cell counting chamber for counting cell densities. Cell depth: 0.100 mm. Volume: 0.1

microliter. Ruling Pattern: Improved Neubauer. Includes 1 Cover Slip.

**B2753-2 GANONGS POTOMETER**



Used to measure the transpiration rate of water by a plant shoot. By changing the surrounding atmospheric conditions, the effect on transpiration of wind, heat, and humidity can be measured.

effect on transpiration of wind, heat, and humidity can be measured.

**SLIDE BOXES**



**B161 SLIDE BOX** Wooden, nicely polished, for 100 slides, 75 mm x 25 mm. Hinged lid, nicely cut grooves, numbered, with two catches to securely close the box.

**SLIDE BOX PLASTIC** Lid separates from bottom, nicely cut grooves, numbered.



- B173-1** For 25 Slides
- B173-2** For 50 Slides



**SLIDE BOXES PLASTIC** Strong Plastic Construction. Hinged, Cork lined base, numbered. The inner of the lid has numbered paper to write description of slides. Orange or Grey color will be supplied, depending upon stock position.

- B173-20** For 25 Slides
- B173-30** For 50 Slides
- B173-40** For 100 Slides

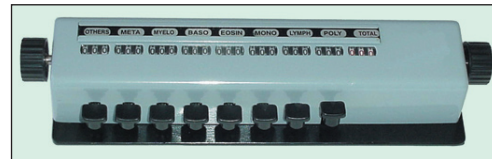
**B4000 BLOOD CELL COUNTER 5 KEY**

Heavy duty, five cell counter records up to 999 for each cell, and one totalizer. Supplied with a protective case.



**B4001 BLOOD CELL COUNTER 8 KEY**

Heavy duty, eight cell counter records upto 999 for each cell, and one totalizer. Supplied with a protective case.



**B4001/1 HAND TALLY COUNTER**

Records to 9999 with four digits. Button has audible click when depressed. White numbers on black background.

**B4002 SPHYGMOMANOMETER WITH STETHOSCOPE**

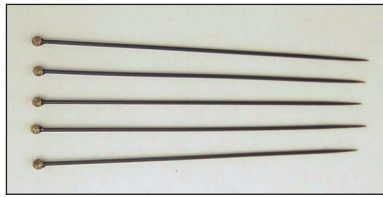


Economically priced Blood Pressure Kit to measure Blood Pressure and Pulse. Consists of easy to read Aneroid Sphygmomanometer, Stethoscope, standard size D ring cuff with Velcro closure. Comes complete with storage,

carrying case. For hospital, personal, training and travel use.

## INSECT PINS

Insect Entomology Pins Coated black enameled spring steel insect pins with very fine points. These pins have well formed large golden heads for better grip and hold better to the shaft. Pack of 100.



- B311-000** # 000, length 38 mm, diameter 0.25 mm.
- B311-00** # 00, length 38 mm, diameter 0.30 mm.
- B311-0** # 0, length 38 mm, diameter 0.35 mm.
- B311-1** # 1, length 38 mm, diameter 0.40 mm.
- B311-2** # 2, length 38 mm, diameter 0.45 mm.
- B311-3** # 3, length 38 mm, diameter 0.50 mm.
- B311-4** # 4, length 38 mm, diameter 0.55 mm.
- B311-5** # 5, length 38 mm, diameter 0.60 mm.
- B311-6** # 6, length 38 mm, diameter 0.65 mm.
- B311-7** # 7, length 52 mm, diameter 0.70 mm.

## DISSECTING SETS

### B214-1 INTRODUCTORY BASIC DISSECTING KIT

Suitable for routine dissection at the elementary and junior high school level. Set consists of the below items, packaged in a Single Fold Lined Vinyl Case:



1-1/2" Stainless Steel single blade scalpel, 4-1/2" Stainless Steel dissecting scissors, 4-1/2" Stainless Steel forceps, Pipette / Dropper Straight dissecting needle, Bent dissecting needle, 6" ruler.

### B214-2 INTRODUCTORY ELEMENTARY DISSECTING KIT

Suitable for elementary, junior, and senior high school students. Set consists of the below items, packaged in a Single Fold Lined Vinyl Case: 6" Stainless Steel replacement blade screw lock scalpel, 4-1/2" Stainless Steel dissecting scissors, 4-1/2" Stainless Steel forceps, Straight dissecting needle, Bent dissecting needle, Pipette / Dropper 6" ruler.



### B214-3 INTRODUCTORY GENERAL BIOLOGY DISSECTING KIT

Suitable for life science and biology students at junior and senior high level. Set consists of the below items, packaged in a Single Fold Lined Vinyl Case: No. 4 Stainless Steel surgical handle, No. 21 replaceable blade, 5-1/2" Stainless Steel sharp/blunt scissors, 5" Stainless Steel thumb forceps Stainless Steel mall-probe and seeker, Straight dissecting needle, Pipette / Dropper, 6" ruler.



### B218-2 DISSECTING KIT STUDENT BIOLOGY

A student Biology Dissecting Kit. Instruments are stored in a hard, opaque, plastic case with a hinged snap cover, separators keep the tools organized. Kit includes the below items: 4 1/2" Stainless Steel dissecting scissors, 5 1/2" Stainless Steel cartilage forceps, #4 Stainless Steel scalpel handle, #22 blade, Stainless Steel probe and seeker, Pipette / Dropper, Straight dissecting needle, Bent dissecting needle, 6" ruler, 10 'T' dissecting pins.



### B210-1 ELEMENTARY ZIPPY DISSECTING KIT

The kit comes in a Zippy Case. Each Kit contains the below items: #4 Stainless Steel Scalpel Handle, #22 Blade, Pipette / glass dropper with rubber bulb, 4-1/2"



Stainless Steel student dissecting scissors, 4-1/2" Stainless Steel student forceps straight, Straight teasing needle, Angular teasing needle, 6" plastic ruler.

### B210-2 BASIC ZIPPY DISSECTING KIT

Contains basic dissection tools needed in elementary and middle schools, in a vinyl storage case with red cloth lining and zippered closure keeps instruments clean and organized. Each Kit contains the below items: 4 1/2" fine point Stainless Steel scissors, 4 1/2" Stainless Steel forceps, 6" Stainless Steel student scalpel, Pipette / Dropper, Straight dissecting needle, Bent dissecting needle, 6" ruler.





**B210-3  
STUDENT  
ZIPPY  
DISSECTING  
KIT**

Contains the ideal dissection tools needed in

elementary and middle schools, in a vinyl storage case with red cloth lining and zippered closure keeps instruments clean and organized. Each Kit contains the below items: 4½” Stainless Steel fine point scissors, 4½” Stainless Steel forceps straight, Student Stainless Steel scalpel with screw lock and replacement blade #22, Pipette / Dropper, Straight dissecting needle, Bent dissecting needle, 6” ruler, 'T' Dissecting Pins 10.



**B218-3  
BIOLOGY  
DISSECTING  
KIT IN HARD  
CASE**

Suitable for senior high biology, advanced biology, and

comparative anatomy students. Kit comes in a high-quality, opaque, hinged case with snap cover and compartments keep the tools organized. Kit contains the below items: No. 4 Stainless Steel scalpel handle, 6 # 22 Scalpel Blade, 1-1/2” Stainless Steel blade scalpel, 5-1/2” Stainless Steel sharp/sharp scissors, 4-1/2” Stainless Steel straight iris scissors, 5-1/2” Stainless Steel thumb forceps, 4-1/2” Stainless Steel curved medium-point forceps, 6” Stainless Steel probe and seeker, Pipette / Dropper, Straight dissecting needle, Bent dissecting needle 6” ruler.



**B215-1  
BIOLOGY  
DISSECTING  
KIT**

Suitable for biology, advanced biology, and comparative

anatomy students. Packed Double fold vinyl case with lining. Kit contains the below items: 4 Stainless Steel scalpel handle, 22 Scalpel blade, 1-1/2” Stainless Steel blade scalpel, 5-1/2” Stainless Steel sharp/blunt scissors # 4-1/2” Stainless Steel iris scissors, 4-1/2” Stainless Steel straight, fine-point forceps, 4-1/2” Stainless Steel curved, fine-point forceps, stainless Steel straight, blunt-point forceps, Straight dissecting needle, Bent dissecting needle Stainless Steel probe and seeker, 6” ruler.

**B210-5 INSTRUCTOR'S DISSECTING  
KIT IN ZIPPY CASE**

Suitable for personal use of the instructor for conducting demonstrations or for the preparation of specimens prior to class activities. Packed in Zipper Case with red velvet-like lining. The Kit contains the below items: No. 3 Stainless Steel surgical handle. 3 # 10 Scalpel blades, 1-1/2” Stainless Steel blade scalpel, 5-1/2” Stainless Steel sharp/blunt operating scissors, 4-1/2” Stainless Steel straight iris scissors, 5-1/2” Stainless Steel thumb forceps, 4-1/2” Stainless Steel fine-point forceps Stainless Steel mall-probe and seeker, Straight dissecting needle, Bent dissecting needle.



**B210-6 INSTRUCTORS DISSECTING KIT  
IN ZIPPY CASE**

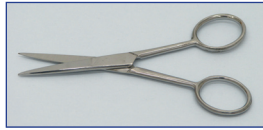
Deluxe Instructors dissecting kit is housed in a lined, vinyl, zippered case with elastic loops to hold instruments. Kit contains the below items: 4 ½” Stainless Steel Fine point scissors, 5 ½” Stainless Steel Operating scissors, 4 ½” Stainless Steel Fine point curved forceps, 5” Stainless Steel Cartilage forceps, # 4 Stainless Steel Scalpel handle, # 22 Scalpel blade, Pipette / Dropper Straight dissecting needle, Bent dissecting needle Stainless Steel Mall Probe and seeker, 6” Ruler, 2 sets Chain and hooks, 'T' Dissecting pins – 10.



# DISSECTING INSTRUMENTS

## B248-2 DISSECTING SCISSORS 4.5"

Dissecting Scissors 4.5" long, Stainless Steel. Superior quality.



## B251-50 IRIS SCISSORS FINE POINT STRAIGHT 4.5"

Iris Scissors Fine Point Straight 4.5" long, Stainless Steel. Superior quality.



## B254-50 IRIS SCISSORS FINE POINT CURVED 4.5"

Iris Scissors Fine Point Curved 4.5" long, Stainless Steel. Superior quality.



## OPERATING SURGICAL SCISSORS

Both Points Sharp. Stainless Steel. Superior quality.

- B250-1 4.5"L
- B250-2 5.5"L



## OPERATING SURGICAL SCISSORS

One end Sharp other end Blunt. Stainless Steel. Superior quality.

- B255-1 4.5"L
- B255-2 5.5"L



## B256-8 LISTER BANDAGE SCISSORS 7.5" LONG

Lister Bandage Scissors 7.5" Long, Stainless Steel. Superior Heavy Quality.



## UTILITY SHEARS SCISSORS

Stainless Steel, Plastic Handle, Autoclavable. Excellent for General Use, by EMS and Paramedics.

- B257-4 5.5"L
- B257-8 7.5"L



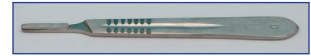
## SURGEON'S SCALPEL HANDLE

Stainless Steel.

- B252-2 # 3 for Blade # 10, 11, 12 & 15.



- B252-1 # 4 for Blade # 20, 21, 22, 23 and 24.



## B241-2 STUDENT SCALPEL COMPLETE

Student Scalpel, Stainless Steel, Blade length 45mm.



## B252-50 SCALPEL SAFETY LOCK REPLACEABLE BLADE

Scalpel Safety Lock with replaceable blade. Comes complete with one # 22 blade.



## B227-1 FORCEPS DISSECTING STRAIGHT FINE POINTS 4.5"

Dissecting fine point straight forceps 4.5" long with guide pin, serrated points, serrated grip. Superior grade Stainless Steel.



## B230-2 FORCEPS DISSECTING CURVED FINE POINTS 4.5"

Dissecting fine point curved forceps 4.5" long with guide pin, serrated points, serrated grip. Superior grade Stainless Steel.



## B227-51 FORCEPS DISSECTING STRAIGHT MEDIUM POINTS 4.5"

Dissecting medium point straight forceps 4.5" long, serrated points, serrated grip. Superior grade Stainless Steel.



## B230-51 FORCEPS DISSECTING CURVED MEDIUM POINTS 4.5"

Dissecting medium point curved forceps 4.5" long, serrated points, serrated grip. Superior grade Stainless Steel.



### B226-7 FORCEPS CARTILAGE THUMB

5.5" Forceps Cartilage Thumb 5.5" long, heavy, Superior Grade Stainless Steel. Very popular. Serrated round ends and serrated grips.



### B233-2 TISSUE FORCEPS 1 X 2 TEETH 5.5"

Tissue Forceps with 1 x 2 teeth, 5.5" long. For use to securely grip tissue and membranes. Serrated finger grips. Heavy superior grade Stainless Steel.



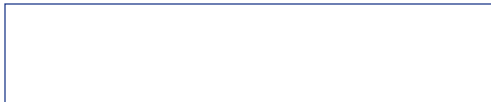
### B232-13 SPECIMEN FORCEPS 10"

Specimen Forceps 10" long. Superior grade heavy Stainless Steel. Blunt serrated straight ends, serrated grips.



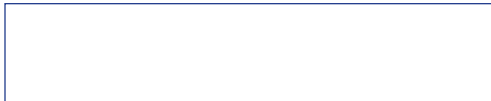
### B224-2 FORCEPS STUDENT FINE POINT

Forcep, Economy, Pointed. Stainless steel, 115 mm / 4 - 1/2" long.



### B224-1 FORCEP STUDENT BLUNT

Forcep, Economy, Blunt. Stainless steel, 115 mm / 4 - 1/2" long.



### B227-80 FORCEPS PLASTIC 5"

Plastic Forceps 5" long. Semi Pointed Serrated ends, with serrated finger grips. Strong construction, Economical yet Strong.



### B227-4 INSECT PINNING FORCEPS 4.5"

Insect Pinning Forceps 4.5" long with guide pin, rounded and serrated ends, gooseneck shanks. Heavy Superior Grade Stainless Steel.



### INSECT PINNING HANDLING

#### FORCEPS SOFTER

You risk damaging specimens whenever you handle insects by hand. These Softer, Light Weight Forceps minimize the damage. These Forceps are specifically designed and manufactured from thin Stainless Steel to handle insects and their wings.



B227-11 4" long.



B227-10 4.75" long.

### INSECT PINNING HANDLING

#### FORCEPS SOFT

You risk damaging specimens whenever you handle insects by hand. These Soft, Light Weight Forceps minimize the damage. These Forceps are specifically designed and manufactured from thin Stainless Steel to handle insects and their wings.



B227-15 4" long



B227-16 4.75" long

### B227-6 COVER SLIP FORCEPS 4.5"

Cover Slip Forceps 4.5" long, with flat paddle shape ends to lift and hold cover slips without touching them, so as to avoid smudging or finger print marks. Superior grade Stainless Steel.



**SCALPELS DISPOSABLE** Scalpel with Plastic Handle shaped for comfortable grip and easy manipulation. Blades made from high quality Surgical Stainless Steel. Fitted with the blade number as mentioned.

- B253-52 #10
- B253-53 #11
- B253-55 #15
- B253-56 #20
- B253-51 #22



**SCALPEL BLADES** Sterile, Feathered, High Carbon Stainless Steel. Individually wrapped, Sterilized. Pk of 100.



- B253-2-100 #10
- B253-3-100 #11
- B253-4-100 #12
- B253-5-100 #15
- B253-6-100 #20
- B253-7-100 #21
- B253-1-100 #22
- B253-8-100 #23
- B253-9-100 #24



### B222-2 BONE CUTTER 4.5"

Bone Cutters / Shears 4.5" long, spring loaded. For cutting small bones and for skull dissections. Superior Grade Stainless Steel.



### B260-1 TRIPLE HOOK AND CHAIN SET

Set of Three Chained Hook set, joined by a central loop at one end. This is used to hold large specimens in place during dissection. Each Leg 2.5" long. Stainless Steel.



### B235-1 TEASING NEEDLE STRAIGHT

Teasing Needle Straight Plastic Handle 4.75" long.



### B235-2 TEASING NEEDLE BENT

Teasing Needle Bent Plastic Handle 4.75" long.



### B240-1 PROBE AND SEEKER MALL

Hexagonal Mall probe and seeker 6" long. Solid Steel, Chrome Plated, angular blunt tip.



### B240-2 PROBE AND HOOK 6"

Hooked Knife one end, Sharp Point other end. Solid Steel, Chrome Plated.



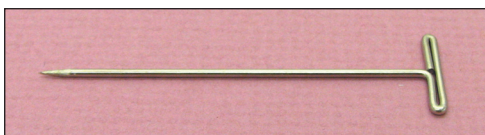
### B235-20 DISSECTING PINS STRAIGHT 2"

Straight Steel Dissecting Pins 2" long, smooth sharp points with well formed heads.



### B235-21 DISSECTING T - PINS 2"

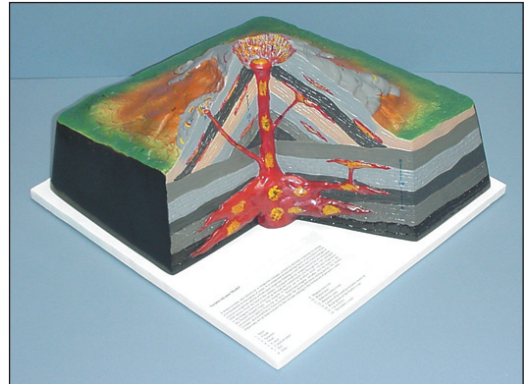
T - Steel Dissecting Pins 2" long, smooth sharp points with well formed heads.



## MODELS

### G1003 VOLCANO MODEL

Big size model, mounted on wooden base, 16.5" x 16.5", model 8" high. Beautiful colors. Detailed Stratovolcano / Composite Volcano model. Illustrates the various crusts, lava tube, volcano formation, step sided formation of cone shape.



### G1041 MOLECULAR / ATOMIC MODEL SET DELUXE

8 color 174 Balls and 4 color 235 Connectors. Balls ranging from 30 mm dia to 23 mm. Instruction Booklet included. Comes packed in a 3 tier strong plastic box, 13" x 7.5" x 6", with carry handle. Comes with Instruction Booklet.



### B3580-10 DNA MODEL

Excellent model to teach and demonstrate the structure of DNA. Consists of 5 fused Cytosine (red) and Guanine (blue), 5 fused Adenine (green) and Thymine (yellow), 20 Deoxyribose Sugar (blue balls), 22 Phosphate (white balls), 22 Thick White Bonds, 42 Thin White Bonds, total set of 116 pieces. When assembled it is about 17" long and 3.5" wide. Supplied complete with study guide and Plastic Storage Box.





**B3575-1 ANIMAL CELL MODEL**  
 9" x 5 1/2" x 13". Length x Width x Height. Detailed three-dimensional model illustrates the functions of animal cell bodies. Model is clearly marked and comes complete with Key. Rotatable on base.

**B3586-10 ANIMAL MEIOSIS SET, BIG**  
 Set of 10 removable cells depicting meiosis. Key card included. Removable cell size : 6-1/4" / 158 mm x 4-1/2" / 115 mm x 2-1/4" / 56 mm. Plastic base dimensions : 22-3/4" / 58 cm x 15" / 38 cm x 1-1/4" / 30 mm.



**B3575-12 ANIMAL CELL MODEL, BIG**  
 Detailed model with removable nucleus. Key card included. Model size : 15" / 380 mm x 11" / 280 mm x 4" / 100mm. Total height on base : 18" / 460 mm.



**B3587-10 ANIMAL CELL MITOSIS**  
 Depicting prophase, metaphase, anaphase, and telophase. Key card included. Model size : 11" / 280 mm x 6-1/2" / 135 mm x 1-3/4" / 45 mm.

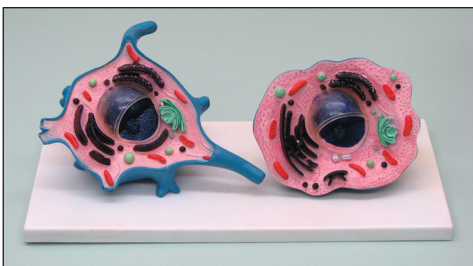


**B3575-14 HUMAN / ANIMAL CELL MODEL**  
 Shows both microscopic and ultramicroscopic structures commonly found in the cell. Key card included. Model height : 6-1/2" / 165 mm x 5-1/4" / 135mm x 3" / 75 mm. Base diameter : 6-1/4" / 160 mm. Total height with base : 10" / 250 mm.

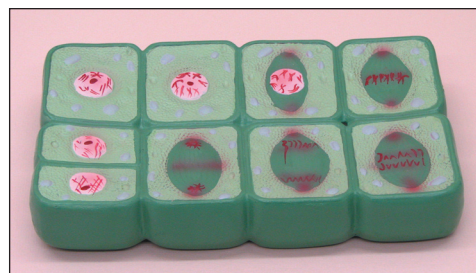


**B3590-1 PLANT CELL MODEL**  
 7 1/2" x 5 1/2" x 13". Length x Width x Height. Detailed three-dimensional model illustrates the functions of plant cell bodies. Model is clearly marked and comes complete with Key. Rotatable on base.

**B3575-10 ANIMAL CELL / NEURON COMPOSITION**  
 One each Animal Cell and Neuron model. Beautiful detailed models. Key card included. Neuron size : 9" x 7" x 3-1/2". Animal cell size : 6-1/2" x 6" x 3". Base size : 16-1/2" x 7-3/4" x 3/4".



**B3590-10 PLANT MITOSIS SET**  
 Depicting prophase, metaphase, anaphase, and telophase. Key card included. Model size : 10-3/4" x 6-3/4" x 1-3/4".



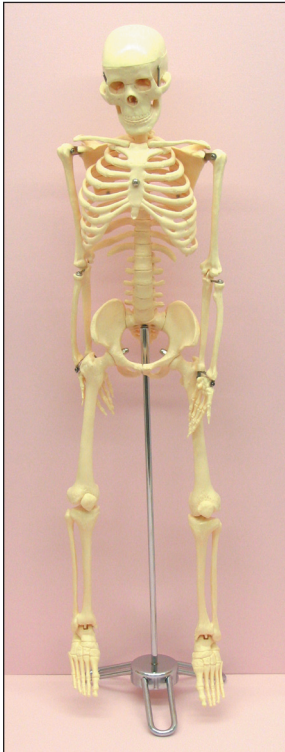
**B3350-25  
HUMAN SKELETON,  
FULL SIZE**

Life-sized, Articulated Adult plastic Skeleton. Articulated joints allow movement. Arms and Legs Removable. Skull features moveable jaw, suture lines, and removable lower tooth. Mounted on a metal rod that extends from the sacrum. Includes rolling stand, dust cover. Key card included. Size: 5'5"



**B3350-20  
HUMAN SKELETON,  
85 CM, ON STAND**

This 34" miniature human skeleton features : Removable top portion of skull. The lower jaw moves. Hinged feet. Key card included. Complete with heavy metal stand. Model height on stand : 30-1/2" / 78 cm.



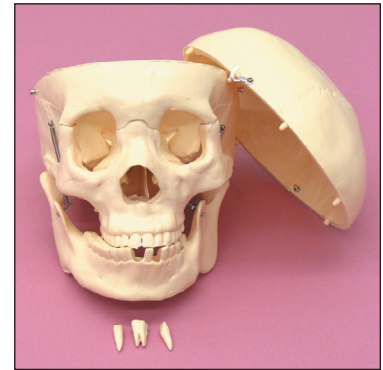
**B3350-10 HUMAN  
SKELETON, 35 CM,  
DESKTOP**

An anatomically accurate miniature skeleton. Correctly articulated to show normal posture. Skeleton is mounted by means of a metal rod extending from the sacrum to a plastic stand. Key card included. Model height : 14" / 35 cm.



**B3350-13  
HUMAN SKULL**

Human Skull. Strong plastic construction of a life-size adult human skull. Fissures, foramina, processes and sutures depicted. Moveable lower jaw and removable 3 teeth. Calvarium is removable to see cranium features. 8"(200mm) L x 5"(125mm)W x 6"(150mm)H..



**B3350-12 HUMAN  
VERTEBRAE ON STAND**

Representing the complete Vertebrae Column. Key card included. Complete with heavy triangular stand, 4" / 100mm. Model height : 25" / 635 mm x 5" / 125 mm x 3-1/4" / 80 mm. Total height with stand : 31" / 810 mm.



**B3350-18 Human  
Vertebral Column with  
Hip and Neck of Femur**

Human Vertebral Column with Hip and Neck of Femur. Model 30"(760mm) long, with stand 35"(890mm) tall. Shows the vertebral column along with complete hip bone and head of femur in the joint. The model also has vertebral discs, spinal and transverse processes. All the nerve branches are shown as well as herniated disc.



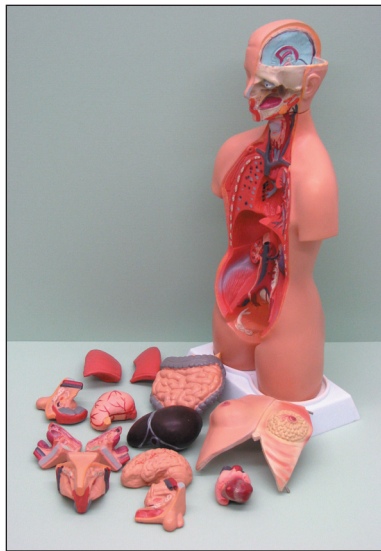


**B3366-12  
HUMAN  
MALE TORSO,  
DESKTOP,  
28 CM**

Dissectible into 12 parts. Open dissections of abdomen and chest reveal significant anatomical features. Key card included. Model height : 11 " / 28 cm.

**B3366-10  
HUMAN TORSO,  
45 CM**

Dissectible into 15 parts. Open dissections of neck, abdomen and chest reveal significant anatomical features. Key card included. Model height : 17-1/2 " / 45 cm.



**B3366-15  
HUMAN  
TORSO, 85 CM**

Dissectible into 34 Parts. Removable head with 8 part brain. Two sex torso with reproductive organs of male and female, Four part lungs, 2 part stomach, 2 part detailed heart and 2 part kidney. Detailed liver, spleen. Removable chest. Separate large and small intestines.



Removable trachea and back dissected to show vertebrae. Excellent teaching model. Comes complete with one vertebrae to show structure. Key card included. Model height : 34" / 85 cm.

**B3312-12 HUMAN EYE, 3X**



3 X life size. Dissectible into vitreous humor, retina (anterior and posterior portions), and outer eye (2 parts). Key card included. Model diameter : 3-3/8" / 84 mm. Base diameter : 3-1/2" / 90 mm. Model height on base : 6" / 150 mm.

**B3312-12 HUMAN EYE, 6X**

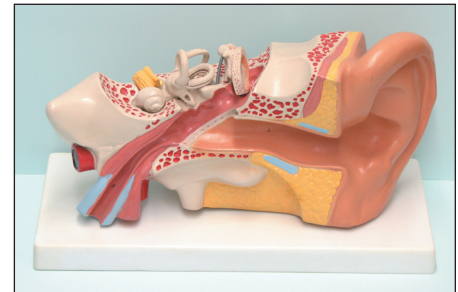
6 X life size. Vitreous humor, lens, and iris are removable. A section of the surface is dissected to show vascular



distribution to choroid and retina. Eye muscles are well represented. The interior view features fovea centralis, optic nerve, and ciliary muscles. Key card included. Model diameter : 6" / 150 mm. Model height with stand : 10" / 250 mm.

**B3306-12 HUMAN EAR, BIG**

Dissectible into 4 parts. Shows external ear canal with removable tympanum, middle ear with auditory ossicles, and dissectible cochlea. Model Size 12.5" x 3.5" x 6.5", On base Size 13" x 6" x 7.5". Key card included.



**B3306-10 HUMAN  
EAR, DESKTOP**

This Ear model shows external ear, ear canal with tympanic membrane and Eustachian tube, ossicles, cochlea, and auditory nerve. Mounted on a base. Key card included. Model size : 3-1/2" / 90 mm x 2-3/4" / 70 mm.



Base size : 6-3/4 / 168 mm x 5-1/4" / 131 mm x 1" / 25 mm. Model height with stand: 3-3/4" / 95 mm.

**B3301-10 HUMAN BRAIN , 8 PART**

This model is dissectible into 8 parts and includes basilar and vertebral arterial complex. It sits on a contoured polymer base. Includes key card. Size : 5-1/2" / 140 mm x 5" / 125 mm x 4-1/2" / 115 mm.



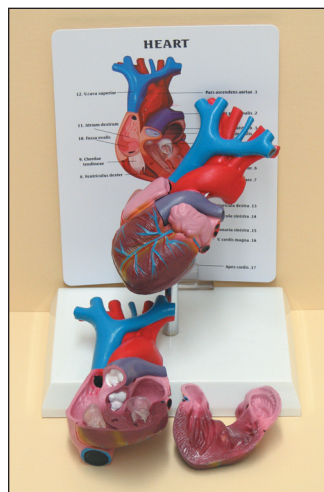
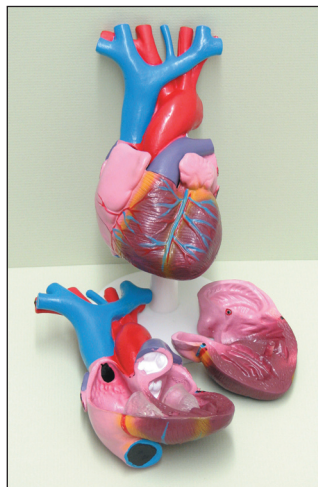
**B3301-12 HUMAN BRAIN , 4 PART, PINK**



This model is dissectible into 4 parts and includes basilar and vertebral arterial complex. Includes key card. Size : 5-1/2" / 140 mm x 5" / 125 mm x 4-1/2" / 115 mm.

**B3321-12 HUMAN HEART, LIFE SIZE, 2 PART ON STAND**

Life size. Dissectible into 2 parts. Clearly shows internal and external anatomy including valves, cardiac chambers, and pulmonary and systemic vascular structures. Key card included. Model Size : 6" / 150 mm x 3" / 75 mm x 2" / 50 mm. Base diameter : 4" / 100 mm.



**B3321-14 HUMAN HEART, LIFE SIZE, DESKTOP**

Life size. 2-piece model shows external and internal anatomy of the heart with origins of pulmonary artery, pulmonary vein, and aorta. Heart valves and chambers are well represented. Key card included. Model Size : 6" / 150 mm x 3" / 75 mm. Model with stand : 10" / 250 mm x 7" / 175 mm.

**B3321-10 HUMAN HEART, JUMBO**

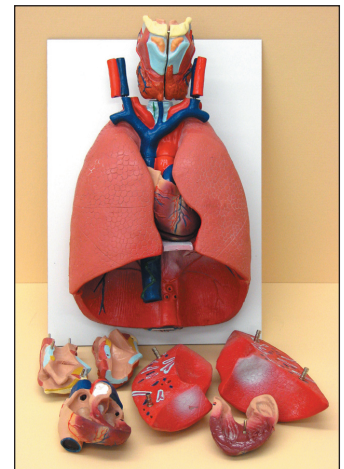
Dissectible into 7 parts. Clearly shows internal and external anatomy including valves, cardiac chambers, and pulmonary and systemic vascular structures. Complete with molded base.

Key card included. Model size : 9" / 230 mm x 9" / 230 mm x 8" / 200 mm.

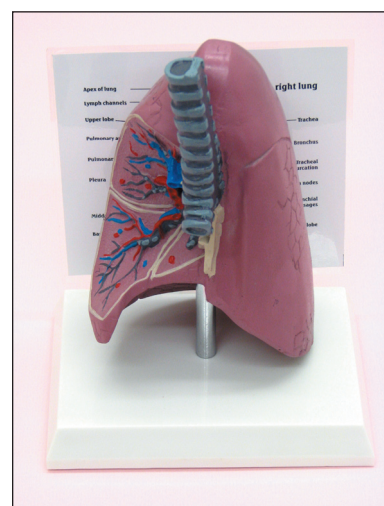


**B3321-30 HUMAN LUNG HEART MODEL**

Human Lung and Heart Model. A 7 part model. The lungs are detachable showing the interior structure of lungs, diaphragm, removable two part heart, two part larynx is removable. Mounted on wooden board. Model size 15"(380mm) L x 8"(200mm)W x 4.5"(120mm)H.



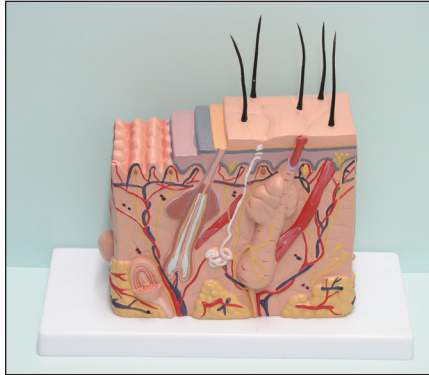
**B3327-10 HUMAN LUNG, DESKTOP**



Realistic depiction of human lung. Open dissection shows internal routing of pulmonary arteries, veins, and airways. Pleura and lymph nodes are well represented. Key card included. Base size : 6-3/4" x 5-1/4" x 1". Model Size : 8" / 200 mm x 4-1/4" / 110 mm x 3" / 75 mm.

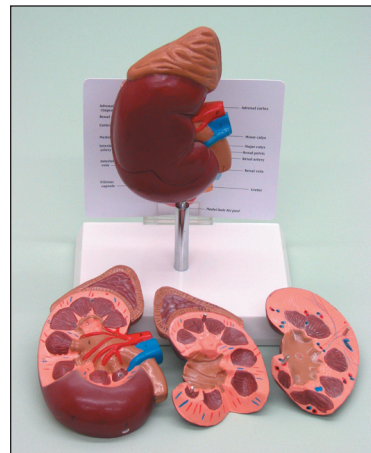
### B3352-12 HUMAN SKIN, BIG

Enlarged model. Block model shows features of epidermal, dermal, and subcutaneous tissues in detail. Sensory



and vascular structures, sweat and sebaceous glands, and hair follicles are well represented. Key card included. Model 9" x 10" x 4". Mounted Size 13" x 6" x 12".

### B3325-10 HUMAN KIDNEY, DESK TOP, 3 PART



Life size. Sagittal section is dissectible into 3 parts. Key card included. Base size : 6-3/4" x 5-1/4" x 1". Model size : 8" / 200 mm x 4-1/4" / 110 mm x 3" / 75 mm. Total height with base : 9-3/4" / 240 mm.

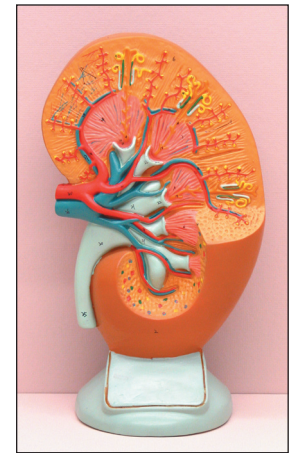
### B3352-10 HUMAN SKIN AND HAIR, DESKTOP

Detailed enlargement shows layers, follicles, sweat gland, nerve endings, nail root, and other key features. Key card included. Base size : 6-3/4" x 5-1/4" x 1". Model size : 3-3/4" / 85 mm x 3-1/2" / 90 mm. Total Height : 4-1/2" / 115 mm.



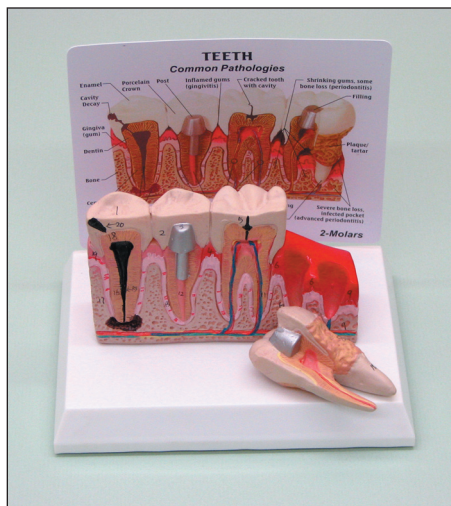
### B3325-12 HUMAN KIDNEY, LARGE

A median section provides a detailed internal view of the human kidney and adrenal gland, including vascular, filtration, and urinary collection structures. Key card included. Model size : 10-1/4" / 250mm x 7" / 180mm x 3" / 75 mm. Total height : 12-12" / 320 mm.



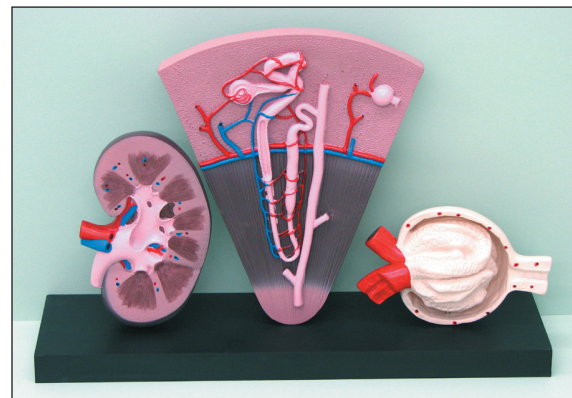
### B3360-10 HUMAN TEETH WITH COMMON PATHOLOGIES

One removable Molar. Shows Tooth Decay, Filling, Plaque, Etc. Key card included. Mounted on base. Model size : 5-3/4" / 144 mm x 3-1/2" / 88 mm x 1-1/2" / 38 mm. Base size : 6-3/4" / 168mm x 5-1/4" / 138 mm x 1" / 25 mm.



### B3325-14 HUMAN KIDNEY NEPHRON & RENAL CORPUSCLE

Human Kidney Nephron & Renal Corpuscle. Three models in one. Mounted on a plastic base 19.5(495mm)L x 5"(130mm)W x 1.25"(30mm)H. Kidney 8.25"(205mm) tall, Nephron 12"(300mm) tall and Renal Corpuscle 7"(180mm) wide.



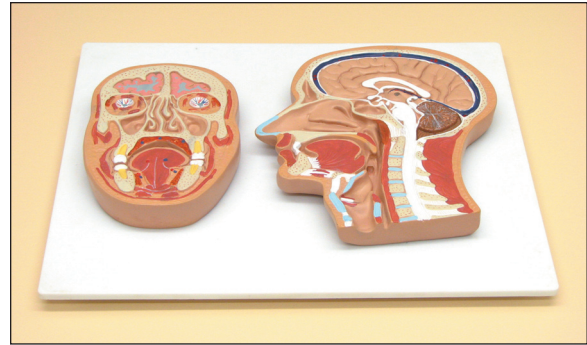
### B3305-10 HUMAN DIGESTIVE SYSTEM

Shows entire digestive tract from mouth to rectum including the liver and pancreas. Features include open dissection of stomach and interior views of small and large intestines. Key card included. Model size : 30" / 760 mm x 11" / 280 mm. Size (with base), 34-1/2" / 865 mm x 15-3/4 / 400 mm.



### B3320-12 HUMAN HEAD, MEDIAN AND FRONTAL SECTION

Human head in median section shows all relevant structures of the oronasal and buccal cavities, cervical spine, and brain. The frontal section of the head shows a finely detailed internal anatomy of the skull and brain. Key card included. Frontal model section size : 10" / 250 mm x 8" / 200 mm x 1" / 25mm. Median model section size : 8-1/4" / 210 mm x 5" / 125 mm x 1" / 25 mm. Base size : 15-3/4 / 400 mm x 14" / 355 mm x 1/4" / 6mm.



### B3305-24 HUMAN STOMACH, DESKTOP



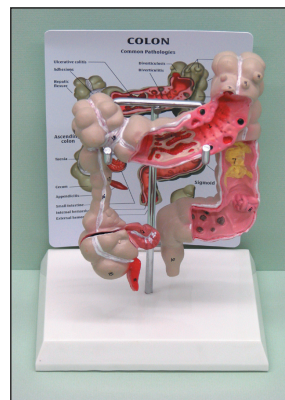
Two-part model is sectioned to show details of internal anatomy. Muscle layers, nerves, and arteries are well represented. Rod-mounted on base. Model can be removed for close examination. Key card included. Model size : 3-1/2" / 90 mm x 5-1/2" / 140 mm x 1" / 25 mm. Base size : 6-3/4" / 168 mm x 5-1/4" / 131 mm x 1" / 25 mm.

### B3320-10 HUMAN HEAD SECTION, WITH NECK, DESKTOP

Dissection of right side exposes the head's major osseous, vascular, muscular, and glandular structures. Right cerebral hemisphere is removable. Key card included. Model base size : 6-3/4" x 5-1/4" x 1". Cerebral hemisphere size : 4-3/4" x 5" x 2".

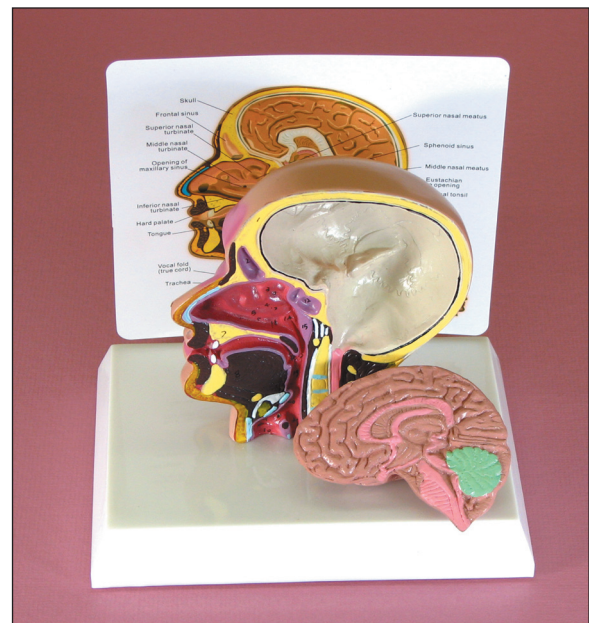
### B3305-22 HUMAN COLON COMMON PATHOLOGY, DESKTOP

Key card included. Model size : 7-1/2" / 190 mm x 5-1/2" / 140 mm x 1-1/2" / 37 mm. Base size : 6-3/4" / 168 mm x 5-1/4" / 131 mm x 1" / 25 mm. Model height with base : 10" / 250 mm.



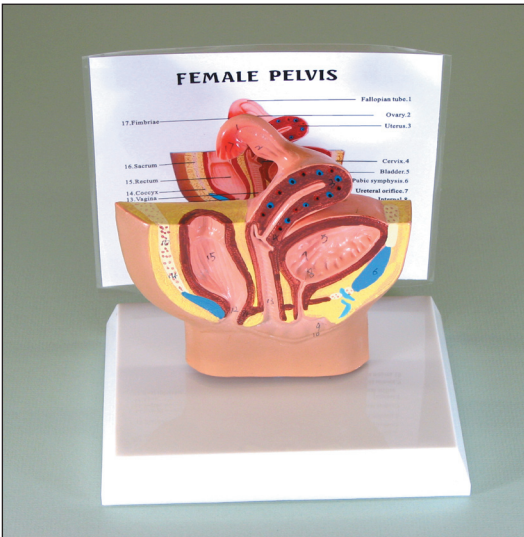
### B3305-30 HUMAN LIVER

Human Liver model. Showing Post-Cava and Spleen. Model only 6.25"(155mm) L x 3.75"(95mm)W. Base 4.75"(120mm) square. Total height with base 6.5"(165mm).



### B3340-10 HUMAN FEMALE PELVIS, DESKTOP

Right half of pelvis showing female reproductive organs. Key card included. Base size : 6-3/4" x 5-1/4" x 1". Model size : 5-3/4" / 130 mm x 6" / 150 mm x 3/4" / 20 mm.



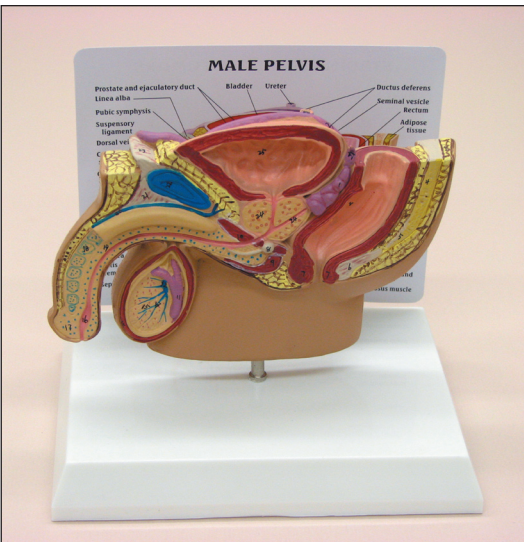
### B3645-10 STEM DICOT

Stem Dicot. Dicot stem cross-section model on a plastic base. Showing epidermis, hypodermis, phloem, metaxylem etc. 13"(330mm) dia. X 7.5"(190mm) high.



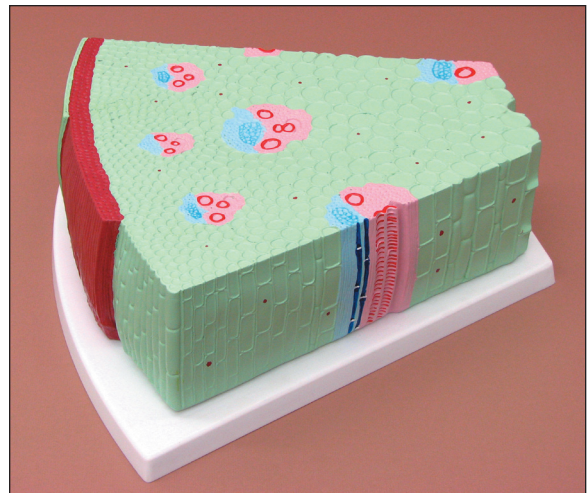
### B3342-10 HUMAN MALE PELVIS, DESKTOP

Right half of pelvis shows rectum and urinary bladder as well as male reproductive organs. Key card included. Base size : 6-3/4" x 5-1/4" x 1". Model size : 6-1/2" / 162 mm x 4-1/2" / 112 mm x 11/16" / 15 mm.



### B3648-10 STEM MONOCOT

Stem Monocot. Monocot stem cross-section model on plastic base. Showing epidermis, hypodermis, vascular bundles etc. Wedge shape model 16"(410mm)L x 15"(380mm)S x 6.5"(135mm)S.





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