

SUPER A
SCIENTIFIC

OPTICS — SOUND - WAVE

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Optics

Binoculars



DF1015 Binoculars
8X22, 10X25, 12X25 series roof prism
Rubber armored, fashion design, compact size,
high quality optics.
Ideal for outdoor activities.



GH02-101 Binoculars
7X50, 10X50
Fashion Design, medium sized
Ideal for watching sports game



GH02-112 Binoculars
8X40, 7X35
Wide angle, long eye relief
Ideal for watching sports game
Customized color



GH02-128 Binoculars
7X50, 10X50
Wide angle, long eye relief, in-focus
Strong body design. Customized color



GH02-132
7X50, 10X50, 12X50
Camo color rubber, strong design
Rubber Armored
Long eye relief, wide angle.



GH02-133 Binoculars
7X50, 10X50, 12X50 wide series
Rubber armored, plastic or metal body
Customized color



GH102-105 Binoculars - economic
7x35, 8x40, 7x50, 10x50, 12x50
Camo color, rubber armored



LC0717A Binoculars
Roof prism
Fashion and compact design, pocket size,
High optical quality.
Ideal to be used for promotional purpose



LC0821II Binoculars
8X21 Poro prism
Fashion and compact design, pocket size,
light weight. Ideal for outdoor activities



MH2017 Binoculars
4X30, 5X30
Compact design, low cost



MH2031 Binoculars
 7X50, 10X50, 12X50
 Wide angle, long eye relief, large eyepiece
 Fashion design, strong body, rubber armored.



W20840F Binoculars
 8x40 water proof
 Fashion design, nitrogen filled, strong body,
 water proof. Ideal for water activities.

Bug Viewer



Bug Viewer 1017
 Rugged, clear plastic viewer with 5mm squares on the bottom for easier specimen measurement. The top has a 2.5X glass lens.



Bug viewer YJ7036C
 75mm x 5X glass lens
 Professional grade glass optics allows you to see the finest details. Pre-focused for quick, easy viewing.



Mini bug viewer YJ7105
 19mm x 12X glass lens
 Professional grade glass optics allows you to see the finest details. Pre-focused for quick, easy viewing.



Fancy bug viewer YJ7129A
 Allows students to view an object from two different angles, top and bottom, through magnifying lenses. Small objects such as insects and plants can be placed in the slide tray. Two students can view the object at the same time. Kids love fancy design viewer!



Fancy bug viewer YJ7129B
 Crystal-clear plastic containers include a magnifying lid with air holes and a sizing grid, and fancy designed. This magnifying viewer for examining bugs, etc.

Lens and Prisms



Glass Lenses, Double Convex, w/ground edges

Item #	Diameter	Focal Length
909-1	38mm	50mm
909-2	38mm	100mm
909-3	38mm	150mm
909-4	38mm	200mm
909-5	38mm	300mm
909-23	50mm	50mm
909-24	50mm	100mm
909-25	50mm	150mm
909-26	50mm	200mm
909-35	50mm	250mm
909-6	75mm	175mm
909-7	100mm	200mm
909-17	100mm	500mm
909-18	125mm	350mm

Glass Lenses, Double Concave, w/ground edges



Item #	Diameter	Focal Length
909-15	38mm	50mm
909-8	38mm	100mm
909-9	38mm	150mm
909-10	38mm	200mm
909-16	38mm	300mm
909-19	38mm	500mm
909-27	50mm	50mm
909-21	50mm	100mm
909-22	50mm	150mm
909-11	50mm	200mm
909-12	75mm	200mm



Glass Lenses Set

Item #	Diameter	pcs/set
909-13	38mm	6pcs/set
909-14	50mm	6pcs/set
909-36	38mm (909-1, 909-8)	2pcs/set



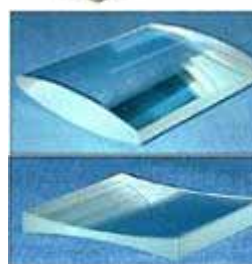
Lens and Prisms Set

- 909-20 Lens & prisms set , Acrylic 4pc/set
- 909-81 Lens & prisms set, Acrylic 7pc/set
- 909-82 Lens & prisms set, Glass 7pc/set



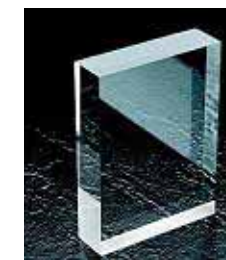
Acrylic Lens & Prisms

- 909-61 Prism, Trapezoid, 52x75x2mm Thick
- 909-62 Lens, Bi-Convex, ,89x25x15mm Thick
- 909-63 Lens, Bi-Concave, 87x18x15mm Thick
- 909-64 Equilateral Prism, 75mm x 25mmL
- 909-68A Equilateral Prism, 25mm x 25mmL
- 909-74 Equilateral Prism, 25mm x 50mmL
- 909-75 Equilateral Prism, 25mm x 75mmL
- 909-80 Equilateral Prism, 50mm x 20mmL
- 909-69 Prism, Right Angle, 1-3/4"
- 909-76 Prism, Right Angle, 25mm x 50mmL
- 909-83 Rectangular Refraction Block



Glass Prisms

- 909-70 Equilateral Prism, 25mm x 50mm L
- 909-71 Equilateral Prism, 25mm x 75mm L
- 909-72 Equilateral Prism, 25mm x 100mm L
- 909-73 Prism, Right Angle, 32mm x 50mm
- 909-73-2 Prism, Right Angle, 100mm x 20mm
- 909-77 Equilateral Prism, 25mm x 150mm L
- 909-78 Refraction Block, Square, Glass, 75x75x9mm
- 909-79 Prism, Equilateral, Refraction, 75x9mm
- 909-84 Prism Equilateral, 25mm x 1"
- 909-85 Prism, Right Angle, 100mm x 100mm
- 909-86 Semi-Circular, Glass Block, 9mm Thick
- 909-87 Semi-Circular, White Glass Block, 15mm Thick
- 909-88 Glass Block, 75mm x 50mm x 20mm Thick
- 909-89 Glass Block, 114 x 63 x 19mm Thick
- 909-90 Glass block, 1 end frosted, 114x63x19mmT
- 909-91 Glass Prism, Right Angle, 100mm x 10mm Thick
- 909-92 Glass Prism, Equilateral, 42x32mm Length



Light



Diffraction Grating

325

Compare diffraction patterns of different gratings! Depicts the properties of light waves, perfect for experiments. Three 9x16mm gratings mounted

between glass plates in a card. Gratings are 100, 300, and 600 lines per millimeter. (3-1.2" x 1-1/4" x 1/8"; .01lb)

Newton Ring Apparatus

1475

This high quality Newton 拵 Ring Apparatus was designed for college and high school students to study interference and phase change of light upon reflection. Can be used with different light sources. Consists of

two optical glass plates with a diameter of 35mm, mounted in a metal frame. The distance of the plates can be easily adjusted with three thumb screws. The curvature of the plate is 855cm. 2.5x2.5x1.25" 7.2 oz.



Reflection & Refraction Tank

1804

This unit is used to demonstrate the reflection and refraction of light. Includes: 1-Black Acrylic Tank, 1-12V lamp, 1-360 scale. A 12 volt power source is required but not included.



Basic Spectroscope

1865-1

Durable construction with compound prisms and converging lenses made of high quality optical glass.



Intermediate Spectrometer

1925

Advanced Spectrometer Designed for easy set-up and use. This spectrometer's sturdy iron base incorporates

a 20cm-diameter divided table with highly visible etched graduations and a vernier scale that can be read to a resolution of 1 minute of arc. The revolving 7cm-diameter prism support rotates 360 degrees and has a height adjustment of 2cm, thereby accommodating a wide range of test conditions. A built-in illuminated auto collimator eliminates the difficulty of telescope-collimator alignment. Accessories include an illuminated magnifier, glass diffraction grating and holder, auto collimation mirror, power adapter, brush, screwdrivers, extra bulbs, and instruction manual.

Basic Spectrometer

1928

Basic Spectrometer Great for high school laboratories - a perfect device for any intermediate-level classroom! Built from sturdy metal, this unit includes an adjustable collimator tube, telescope, and prism stand. It provides a high quality optical system and an easy to read etched scale, which allows the student to measure spectrum lines with a resolution of 50A. Light is directed in the collimator tube and focused to the adjustable telescope, which has a scale inside to allow special lines to be reliably measured. Includes a 600-line millimeter diffraction grating, grating holder, 3x2.5cm equilateral glass prism, prism hood, which helps block stray light from entering the spectrometer.





**Light Source
6606**



**Light source with battery holder
6607**



**Hartl Optical Disk
66202**

Designed to demonstrate laws of reflection and refraction in optics. Consists of an 11° rotatable disk with a 360° graduated scale, a light shield and a heavy tripod stand. Complete with an accessory kit including a plane mirror, a convex lens, a concave lens, a triangle, a trapezoid and a semi-circle, all made of optical glass. 50X31X25 cm. 12 lb.



**Pocket Laser Pointer
95008**

This handy Class II laser pointer is the size of a regular pen and emits a 630-680nm red laser with a maximum output of <math><1\text{mW}</math>. It uses 4 LR44 batteries (included). Comes w/ 4 different style tips to project different images.



**Newton's Color Disc
MS504.7**

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



MS505



**Student Optical Bench Set
MS506-1**

Designed for basic geometric optics experiments, including imaging by lenses and mirrors. The optical elements are mounted in protective frames with mounting rods for easy alignment, and the four captive riders have an index mark and set screws to secure the rider and optical elements without disturbing their alignment.



**Simple Optical Bench Set
MS506-2**

Suitable for basic experimentation on the properties of lenses and mirrors. Set includes two metal supports for meter stick, a lens support for 3.75 cm lenses, a screen and a screen support, and an object and marker. Meter stick and other accessories sold separately.

Foldable Magnifier



MS508



MS508B



MS509



MS509B



MS510



YT1038 - 1039



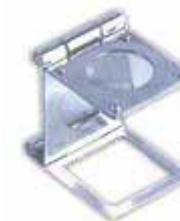
YT80504
3x75, 6X20mm



YT80508
with light, 3x90mm



YT80512 5x50mm,



YT80521
8x33mm



YT80522
8x30mm



YT80533 4X,10X, 15X



YT80534 8x27mm



YT80538 6x50mm



YT80539 5x65mm



YT80540 6x60mm



YT80541 10x50mm



YT80801 8x25mm



YT80805 8x25mm



YT80907
10x25mm



YT80911
60x, 100X



YT80915
40X

Illuminated Magnifier



YT1030 5x75mm



YT90405 6x50mm



YT80414
8X35mm



YT80418
2X110mm



YT80440
3X90mm



YT80444
2x110, 6x20mm

Pocket Loupe



YT81002 20x20mm



YT81010
10x20.5mm



YT81013
10x18mm



YT81015 10x12mm



YT81020 20x18mm



YT81021 15x18mm



YT81022
20x18, 10x18mm



YT81025 with LED
20x18mm



YT81026 with LED
20x18mm

Straight Handle Magnifier



YT1008 5x80mm



YT1020 3x90mm



YT1028 3x100mm



YT80639
3x50x100mm



YT80716 5x50mm



YT80724 3x90mm



YT80601 2x110mm



YT80606
3x75, 5x19mm



YT80620
5x75



YT80727 3x90mm



YT70739 2x130mm



YT81314
3x90, 6x20mm



YT80611 3x65mm



YT80624 3x63mm



YT80625 5x75mm



YT81316 5x40mm



YT81329 8x25mm



YT81330
5x45, 10x18mm



YT80626 5x50mm



YT80628
3x75, 6x25mm



YT80636 2x130mm

Table Magnifier



YT80105
2.25x107, 5x22mm



YT80133 3x100mm



YT80201 5x65mm



YT81705 3x90mm



YT80202 10x30mm



YT80203 5x65mm



YT80204 3x90mm



Glass Plate, Silver Backed, Ground Edge

Item #	Size
1301-5	1" x 3"
1301-6	2" x 3"
1301-D	2" x 3"
1301-E	4" x 4"
1301-F	4" x 6"
1301-G	4" x 3" x 3mm thick
1301-H	4" x 3" x 3mm thick

Glass Spherical, Concave Mirror; Silver Backed, Ground Edge

1301-I	50mm diameter x 50mm focal length
1301-J	75mm diameter x 70mm focal length
1301-P	37mm diameter x 25mm focal length
1301-R	37mm diameter x 50mm focal length

Glass Spherical, Convex; Silver Backed, Ground Edge

1301-K	50mm diameter x 50mm focal length
1301-L	75mm diameter x 75mm focal length
1301-Q	37mm diameter x 25mm focal length
1301-S	37mm diameter x 50mm focal length

Glass, Concave/Convex; Silver Backed, Ground Edge

1301-N	75mm diameter x 25mm focal length
1301-T	75mm diameter x 50mm focal length



YT80205 3x90mm



YT81603 2x130mm



YT81703 3x110mm

Sound



Aluminum Tuning Forks

20-01

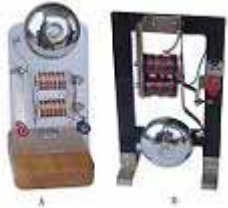
These satin finish non-tarnishing tuning forks are of one piece construction milled from heavy 3/8"x 1"tempered aluminum alloy with a 5/16"round stem turned to a 1-3/4"length. The tuning accuracy is within +1/20%. Aluminum Tuning Forks in both physical and concert pitch can be supplied mounted on a tuned resonator box. Set consists of resonator box, threaded stem fork, mounting hardware and 1"rubber mallet.



Rubber Hammer

20-28

Used for striking a tuning fork, with a hard rubber head of 1-1/2"dia. and a varnished hardwood handle of 8"long.



Electric Bell

MS406

The apparatus consists of a magnet, a shaded pole, and a bell, all mounted on a board. It is designed to show how electrical energy converted to sound energy (bell).



Electric Bell in Vacuum Jar

MS406-C

Nature, of course, abhors a vacuum - and sound waves won't travel through one. Prove it with a ringing bell inside a sealed glass jar. As air is gradually pumped out of the jar, the bell becomes faint, then dies. Includes jar, vacuum plate with valve, rubber seal, bell system, and instructions. You need a vacuum pump and two

Wave



Harmonic Motion Air Track

796

Used to study harmonic motion and relationship between vibration and mass. It can also be used to demonstrate the conversion between kinetic and potential energy and the effects of air friction or oscillation. A fish tank pump can be used as an air source. A bright and clear precision meter scale is added to each unit.



Longitudinal Wave Demonstration

1811

This Longitudinal Wave Demonstration is for demonstrating resonant waves such as propagation, reflection, and interference.



Forced Oscillation & Resonance Demonstrator

1812

and Resonance Demonstration The apparatus demonstrates the resonance point of two weights with different natural frequencies. Included are 2 weights, 2 cams driven by a 6-volt DC motor with speed control and 4 springs. (11-1/4" x 6-3/4" x 7"; 3lbs)

AA batteries (not included). Bell may be removed for other vacuum experiments. The inside height is 8", and the diameter is 8". Includes bell jar, electric bell, base plate with seal, and instructions. Grades 6-12.



Slink, Wave Demo 1813

Wave Demonstration Spring
Studying waves in physics class can sometimes be difficult for students to conceptualize. This 3" diameter flat spring steel apparatus can make visualizing wave propagation much easier. The plated spring can be stretched across the room allowing the entire class to witness the wave traveling back and forth.
(3" x 3" x3"; 1lb).



Motion Combination & Resolution Demonstrator J2170

This unit demonstrate synthesis of uniform linear motion with angle to each other, it includes two functions, one is as motion synthesis demonstrator and other is as motion resolution demonstrator.



Ripple Tank J2208

This device demonstrates the generation, propagation, reflection, interference and diffraction of waves. Comes with all accessories necessary for these experiments. Requires 6V DC power and an overhead projector (not included).



Wave Motion Image Demonstrator J2219

This unit is designed to demonstration the mechanical wave propagation, for the students to understand mechanical wave performance more clearly. This instrument adopts imported extensive CMOS digital integrated circuit with high stability and reliability.



Wave Combination Demonstrator J2223

This unit is designed for the students to observe the wave combination that are in same phase and same frequency but in different amplitude, it can also demonstrate combination of standing wave (two reverse waves) at same time. This unit is good for students to be used in classroom.



Wave Demo MS106.4

Wave Demonstration Spring
Studying waves in physics class can sometimes be difficult for students to conceptualize. This two spring steel apparatus can make visualizing wave propagation much easier. The spring can be stretched across the room allowing the entire class to witness the wave traveling back and forth.