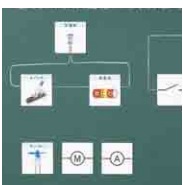
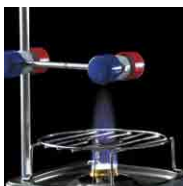




| UCHIDA SCIENCE |
Made by JAPAN Quality

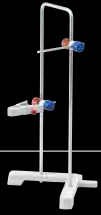
The real instruments have power that changes the future.



UCHIDA SCIENCE

The real instruments have power that changes the future.

Made by JAPAN Quality



DC ammeter



Large display meter.
It is a design enhances everyone in the classroom to share the experiment.



Single meter

Single meter is the traditional meter with one side display.



Double meter

The meter can be read from both sides, so it is ideal for group study. (for double meter model only)



Stackable storage

It is designed to be able to stack the meter for easy storage. It will save space for storage.

Science stand

Fire resistant equipment

Right angle clamp

Will not burn or melt even when performing an experiment using a fire. Right angle clamp, constructed safety first in mind.



One touch clamp

The two step dimple will allow to clamp from thin thermometer to thick flask.



Non-vibrating parts

hexagonal rod ring.

It is a support ring, made by bending hexagonal rod, attached firmly in plain surface. As a result, Because you do not have a wobble during the experiment, it will not have a wobble during the experiment.



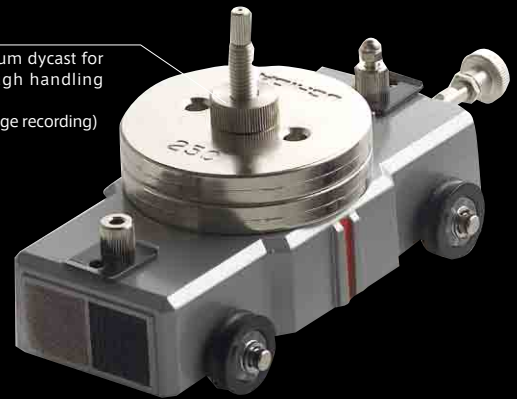
DYNAMIC CART MODEL

Dynamic Cart with many functions based on request and need from various experiments.



Body

Made from aluminum dycast for durability and tough handling from the children.
(Center mark for image recording)

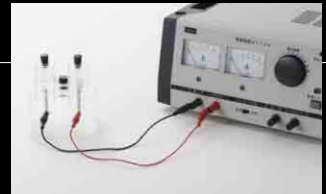


Wheel

Dust-free high quality wheel with bearing for low drag, smooth movement. wheel has grooving for staying in track on the rail during the experiment. There will be little chance of failure in running the cart.

Experimental Apparatus for Electrolysis

This experimental apparatus was made after imaging H tube for easy understanding.



Transparent type for easy observation.

In order to make it easy to pour the solution, spout is made like roth, having gradual tapering. Its wide opening made it easy to wash after the experiment.

There is a cover on the de-pressuring hole, one can conduct the experiment without touching the solution.

Stand for the apparatus is solid and stable.

Using the screw driver, it can change the tip of the terminal.

For easy connection, It uses zig-zag connector.





UCHIDA

100 Years of History

It was established on 1910, selling office equipment importer/exporter. After experiencing tough business environment after World War II, UCHIDA started to introduce educational equipment to the market. The educational related business has been growing since then.

UCHIDA YOKO is the company with more than 100-year history
Bringing always something new to the market.

1 Education related business

Provide educational equipment, contents, ICT system and others to the school education market. School environment design, implementation, including furniture and construction.



2 Office related business

Designing/Engineering office environment. Furniture production and sales. Design/implement network systemn.



3 Information Technology related business

Design/implementation of mission critical software for private and public sector. System integration services. Sale of computer hardware, and providing support services.





Principle of leverage



For group experiment

Experimental Lever

Product No.	2-120-0220
Model No.	SK-M

- The arm is divided into six equal parts, so range of the experiment will expand.

SPEC
 ● Arm/Dimension: 25×400(L)mm, Material: Light Metal with scale
 ● Pillar base/Dimension: 75(H)mm, Material: Iron, weight: 380g
 ● Weight/Material: Plastic, Weight: 10g×10pcs, Tolerance: ±1%



★★★
Recommend Goods

For demonstration

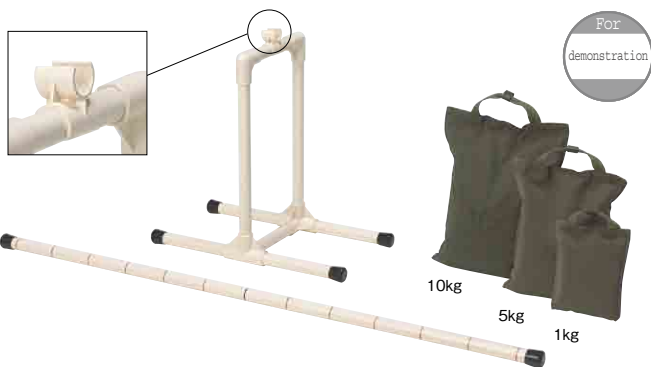
changeable fulcrum

Experimental Lever

Product No.	2-120-0222
Model No.	SK-150

- Large experimental apparatus with safety in mind. Arm length 1600mm, Pillar height 1100mm, weight 500g.

SPEC
 ● Arm/Material: Metal, 1600(L)mm, with balance adjustment screw, 3point balance point indicator. Assemble type. ● Pillar/Dimension: 500×500×1098(H)mm, Material: Metal, Assemble type ● weight/Dimension: 90(diameter)mm, Material: rubber, Weight: 500g×7
 ● Dish/Dimension: 220(diameter)mm×2pcs



For demonstration

Large experiment kit for the principle of leverage

Product No.	2-120-0226
Model No.	YL-100

- It is possible to feel the principle of leverage, using full body.
- Weight with safety in mind (sand bag), 10, 5, and 1kg.

SPEC
 ● Pole holder/Dimension: 270×500×480mm, Material: Steel pipe with enhanced plastic coating. ● Pole/100mm apart scale, Outer size: 28×1300mm, Material: Steel pipe with enhanced plastic coating, (maximum weight allowed: 80kg) ● Weight: sand bag made from canvas, 10, 5, 1kg×1pc, Cleat



For group experiment

EXPERIMENTAL PULLEY

Product No.	2-120-0332
Model No.	PK-5

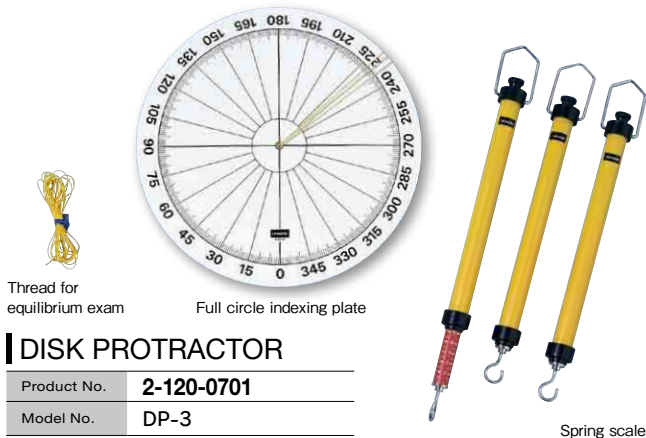
- Balance of power 2-3 power, synthesis and degradation of power, the balance of the truck, due to falling of the weight? It can be used for multiple purposes, such as linear motion with constant acceleration.
- Set up operation is easy by wheel's single side thread reception.

SPEC
 ● Wheel/Dimension: 50(diameter)mm, Material: Plastic, pivot type ● Support plate/Dimension: 50×50×50(H)mm, Material: Metal, Maximum allowed weight: 500g ● for group



Examine the movement of running down the slope by dynamic cart

It examines the equilibrium conditions of 2 power and 3 power



Thread for equilibrium exam

Full circle indexing plate

Spring scale

DISK PROTRACTOR

Product No.	2-120-0701
Model No.	DP-3

- SPEC**
- Spring scale(3pcs)/Dimension: 15(dia.)×245mm, Weighing around 10N(1kg), scale on moving part, with 0point adjustment
 - Full circle indexing plate/Material: Plastic, 200(dia.)mm, 360degree scale
 - Accessory: Thread for equilibrium exam

See through transparent body



RECORDER MODEL PD-101

Product No.	2-120-2062
Model No.	PD-101(60Hz)

- SPEC**
- Recording sequence/20/16.67ms(50/60Hz) depending on the electricity cycle.
 - Recording method/non-adjustment dot type, multi-row recording possible(hamer part slide)
 - Power/AC 100V 50/60Hz with swith
 - comes with recording tape 15mm×50m

This is an apparatus to conduct quantitative verification experiment on Full motion 2nd Law

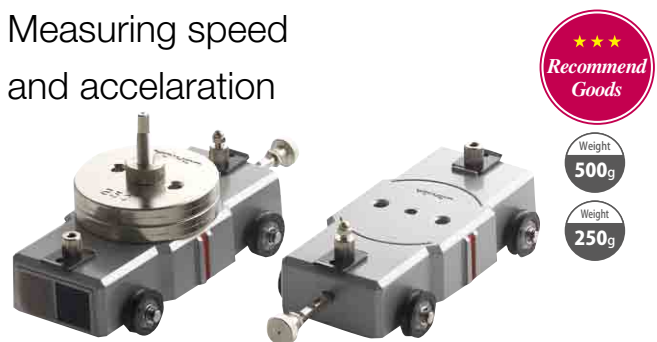


CART ACCELERATION APP.

Product No.	2-120-2520
Model No.	DK-4

- SPEC**
- Pulley/Material: Plastic, Movable pulley×1, fixed pulley with up/down adjustment×3
 - Pillar/Material: aluminum with alumite process, Dimension: 490mm, 0-200mm/1mm scale, assembl type, with cart protector
 - Spring×1/Spring constant 32g/cm, with attachment.
 - Thread/Dimension 1500mm, with hook
 - Weight/50g×4, for dropping 5g×5, 1g×5(for adjustment)

Measuring speed and acceleration



★★★
Recommend Goods

Weight 500g

Weight 250g

DYNAMIC CART MODEL

Product No.	2-120-2550
Model No.	DK-5(2Set)

- SPEC**
- Cart Dimension: 70(W)×150(D)×36(H)mm
 - Material/Metal
 - Weight/500g within±1%/cart
 - Wheel/Four wheel, outer dia. 23mm, small metal wearing, sealed for preventing dust
 - Start spring/3stage adjustment for strength
 - Docking/cart can be docked together by fastner
 - Recording tape keeper/Front and back
 - Weight/weight within 250g±1%, size: 73 (dia)×9.4mm, 4sheet
 - Others/Starting hammer×1, center marker for image recording, thread 2m, rubber thread 2m



Law of the pendulum

Light and Strong,
made from aluminum



EXPERIMENTAL APP.FOR DYNAMICS

Product No.	2-120-2571
Model No.	DA-S

- Equipped with one side rail, and flat surface on the other for multiple usage.

SPEC

- Panel/One side rail(for cart, metal ball), flat surface panel, length scale
- Tilting angle/Adjustable for 0 to 10degree, at any point.
- Material/Aluminum
- Dimension:140(W) × 1200(D) × 30(H)mm
- Weight/2.5kg
- Accessory/Recording timer stand, shock absorbing rubber, apparatus fixing panel

With precision machining,
it enable the ring to move up/
down / tilting



GYROSCOPE

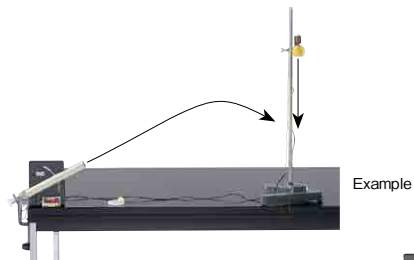
Product No.	2-120-5401
Model No.	DK-M

- It keeps moving for more than 4 minuts, so there will be enough time to experiment right/left rotation, and still movement.

SPEC

- Main unit/Precession cone×2, Thread for rotation, Overall height:380mm, Weight:4kg
- Gyro/Material:Brass,69(dia)mm
- Ring/Material:Brass

The ball launching mechanism
for hitting the object is highly accurate



MONKEY AND HUNTER APP.

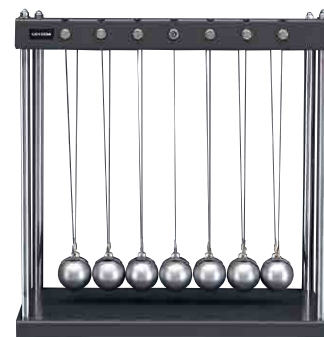
Product No.	2-120-4201
Model No.	DK-200



SPEC

- Launcher/Dimension:inner diameter 26×253(L)mm,Material:Metal, Launching angle (0-50 degree)variable
- Launching device(L shape)/Dimension:300(W)×140(D)×180(H)mm, A battery holder×1
- Target holding electro magnet/Dimension:2m, iron core electro magnet, with iron stand support panel(10(dia)×110(H)mm), cord(with plug)
- Target ball/Dimension:50(dia)mm, Material:plastic, yellow, with thread
- Launching ball×2/Material:Plastic,white
- Accessory/box for the balls, prism

Can be placed on blackboard
as well!



Large experiment kit for the principle of leverage

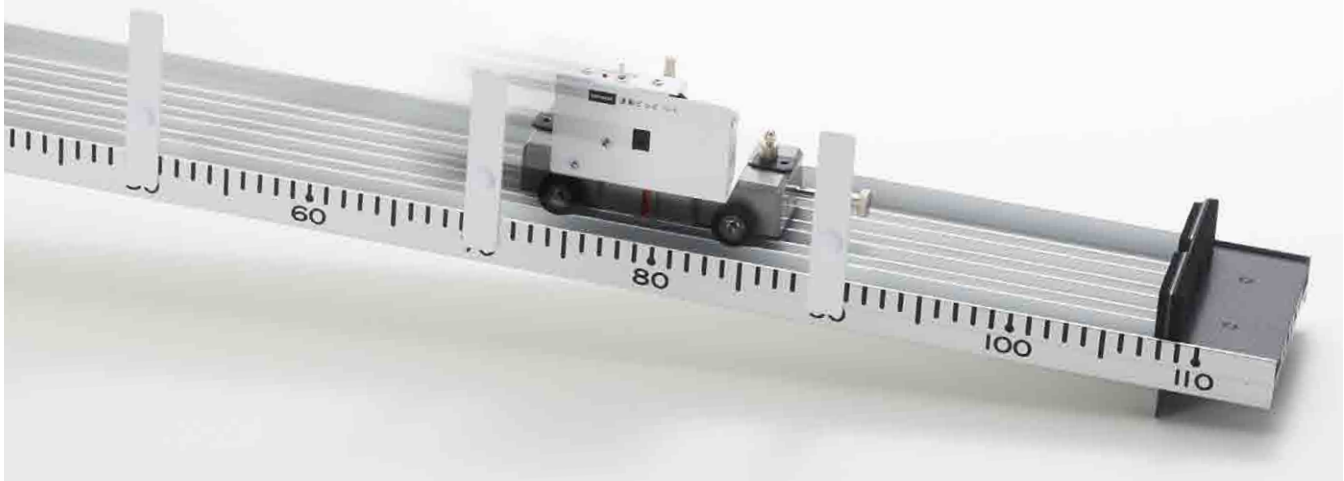
Product No.	2-120-6502
Model No.	SC-7

- Easy to place on the blackboard by magnet.

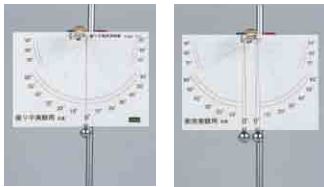
SPEC

- Ball: Metal ball diameter:33.3mm×7pcs,weight:151g
- Frame and stand/Dimension:296×155×304(H)mm, Material: Metal, with detachable magnet

Feel the sound of dynamic cart movement



Both the "pendulum" and "collision" experiment can be done



pendulum experiment collision experiment



Pendulum impact experiments (Equation 2 spheres)

Product No.	8-111-0001
Model No.	DK-2

SPEC

- Scale plate/front: for pendulum experiment, back: for collision experiment
- Weight/1 or 2 pcs with length adjustment for pendulum experiment, 2 pcs for collision experiment, changeable weight

It can conduct both, horizontal and slope experiments



Experimental Apparatus for Dynamics

Product No.	8-111-0020
Model No.	DK-2M

SPEC

- Slope angle/0 to (max) 15 degree
- Aluminum rail (alumite processed)
- Dimension/80 (W) × 2000 (D) × 20 (H) mm
- Weight/1 kg

It can conduct accurate experiment, by using spring scale



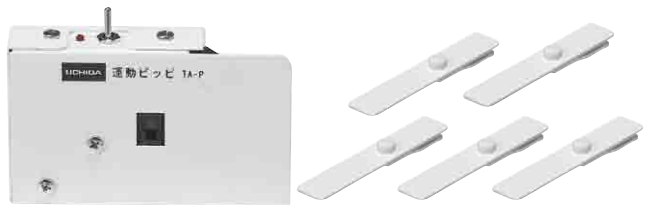
Experimental Apparatus of Slope

Product No.	8-111-0021
Model No.	DK-60

SPEC

- Slope/Aluminum, Dimension: 590 × 60 × 15 mm
- Cart/Wooden, wheel with bearing
- Traction wood piece/teflon sheet on 2 sides
- Weight/50g × 4
- Stand/T shape, iron made, length 350 mm, selfstanding stand
- Angle scale (magnet detachable) ● Pulley ● Spring scale holder

By attaching to dynamic cart DK-5, it will be able to feel the acceleration as sound



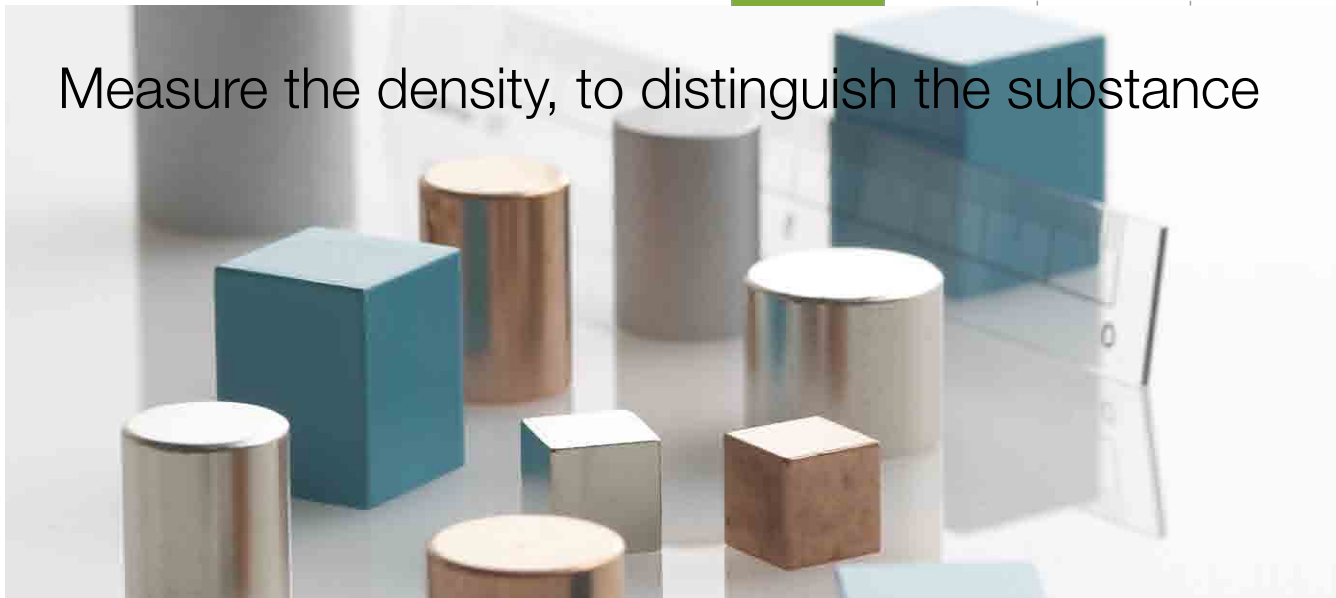
Locomotion with PiPi

Product No.	8-111-0024
Model No.	TA-P

SPEC

- Dimension/99 (W) × 98 (D) × 61 (H) mm
- Material/metal
- Power/006P 9V battery
- Accessory/Mirror plate × 5

Measure the density, to distinguish the substance



EXPERIMENTAL APP

Product No.	2-120-6510
Model No.	DR-160

- Create a slope on the horizontal surface, then drop two balls with different mass from various height and collide with wood piece to observe the movement.
- With simple stand, angle can be adjusted from 0 to 35 degree.

SPEC

● Main unit/Dimension: overall length 1270mm, Material: metal, Rail with groove, foldable, scale on the side (2mm interval), simple stand ● Accessory/Metal ball: 30mm (dia), 110g × 1, 25mm (dia) 64g × 1, Wood piece: 60 × 145 × 16 (thickness) × 1, plastic storage case

Apparatus for group experiment by using a clamp of the stand



※Stand and right angle clamp are sold separately



Pendulum experiment instrument

Product No.	2-121-3111
Model No.	YP-2

- It is a spool system that can be adjusted at the touch of a button for the length of the pendulum's thread.
- On the tip of the thread is threaded, so the change of the ball is a snap.

SPEC

● Pillar rod/Dimension: 8 (dia) × 245mm, Material: Metal, Bobbin × 2
 ● Weight/Metal ball × 2, Plastic ball × 1, suspending thread 1.2m for each



RIPPLE TANK & PROJECTOR

Product No.	2-121-0122
Model No.	PR-22S

- Due to non-contact design, operation is quiet and chance of failure is small.
- Drive unit can be fixed by height adjustable clamp.

SPEC

● Wave generator/DC micromotor, Solid state drive with ferrite magnet, Power: DC1.5V (A battery), Frequency adjustment knob ● Water tank/Dimension: 258 × 258mm, OHP effective size: 200 × 200mm, Material: Acrylic, Horizontal adjustment screw, wave block plate ● Stand/Material: Metal, Pillar size: 12 (dia) × 480mm, with clamp for small adjustment ● Accessory/Point wave source × 3, parallel wave × 1, reflecting plate × 1, formula diffraction plate, parabolic surface × 1, refractive surface × 1, refracted wave × 1

Measure the specific gravity, and check the number of metallic variation

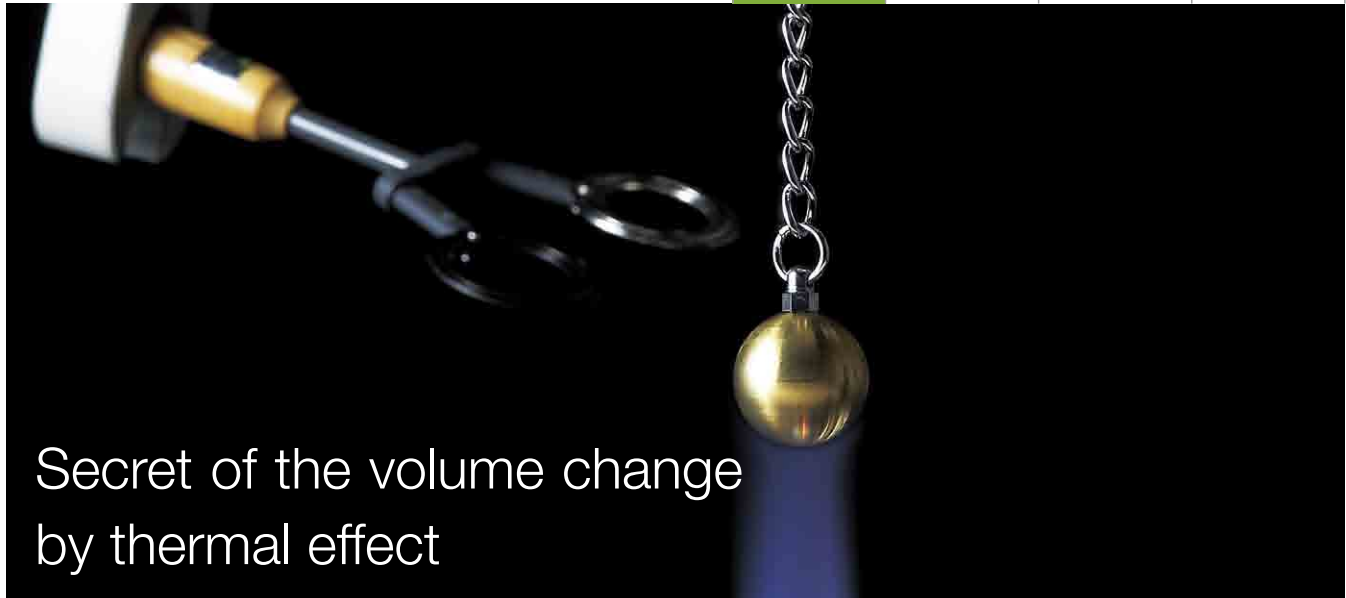


Metal color surface

DENSIMETRY APP.

Product No.	2-122-1103
Model No.	DK-12A

- Total 12 kinds of metal ball, based on aluminum, copper, and iron. Each set of ball has same volume, weight, different volume, and painted ball.
- The appearance of the painted ball is the same.



Secret of the volume change by thermal effect



PRESSUVE GAUGE

Product No. **2-124-0720**

Model No. **DP-3**

It is the apparatus to experiment to examine semi-quantitatively the Boyle's law, the law of Charles. It is also possible to experiment insulation pressure, contraction and compression of the gas.

SPEC

- Cylinder/Dimension: 34 (dia) × 140mm, Material: Acrylic, effective volume: around 100mL, with volume scale
- Piston/Pressure controllable by extension screw
- Pressure meter/Center meter 50kpa, with rubber tube
- Cylinder adapter/for thermo meter (for 2.3 (dia) mm sensor) × 1, for sealed × 1, for pressure gauge × 1
- Spare rubber ring/2pcs
- Fixing bracket for the cylinder/1pc



Brass



Copper



Iron



Aluminum

SPECIMENS FOR SPECIFIC HEAT

Product No. **2-124-1110**

Model No. **DK-4**

● Brass, Copper, Iron, Aluminum ● Weight/each weigh 100g ● Wooden case

Support grip
Thick grip made is easy to grip



Metal ring
Different color: small one is painted black, and larger one is metallic

Expansion of metal sphere experiment instrument

Product No. **2-124-2511**

Model No. **DC-3**

SPEC

- Metal ball/30(dia)mm(at 20°C),made by brass ball
- Metal ring/Small:inner diameter 29.9mm(at 20°C),made by brass,black color, Large:inner diameter 30.1mm(at 20°C),made by brass,metallic color

Experimental apparatus for children in mind



Expansion of metal sphere experiment instrument

Product No. **8-113-0006**

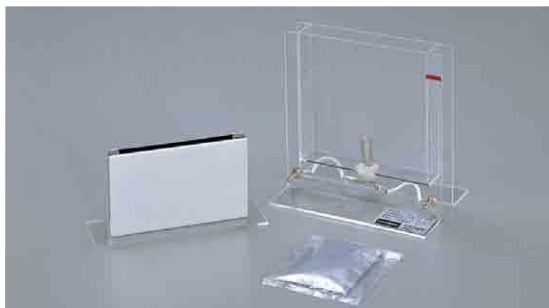
Model No. **TC-2K**

SPEC

- Metal ball/23.9(dia)mm(at 20°C),made by brass
- Metal ring/Small:inner diameter 23.9mm(at 20°C),made by brass,metallic color, Large:inner diameter 24.1mm(at 20°C),made by brass,metallic color



Change of water and air temperature



Circulatory Equipment for Aquarium

Product No.	2-124-2611
Model No.	DP-12

● Convection experiment apparatus, using thermo sheet. It will show the change of water and air temperature in the color of liquid crystal (35-45°C), so it is easily identifiable.

SPEC

● Water tank/Dimension:83×124×125mm ● Material/Acrylic ● Thermo sheet/35~45°C (color change reverse type) ● Heater/Nichrome wire around 2Ω (please use the voltage within 5V) ● Convection observation marker/Specialized particle around 5g ● LCD display type



LIGHT SOURCE MODEL

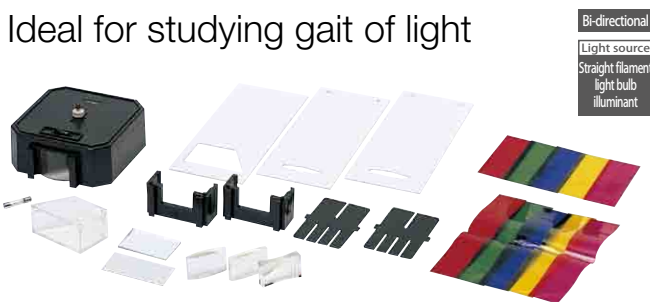
Product No.	2-125-0110
Model No.	DP-J

● With attached slit and cylinder lens, diffusion parallel light source can be obtained.

SPEC

● Light source box/Plastic cover, Dimension:70×70×63mm Black, with battery holder
 ● Light source/straight filament light bulb ● Cylinder lens/Dimension:40 (W) × 40 (H) mm · f=60mm, Material:plastic ● Trapezoid water tank/Dimension: 64×40×30mm, Material:Plastic
 ● Tube light/2.5V-0.4A, 2pcs ● Accessory/colored cellophane×5color 1sheet ea., white plate×1, Solar light experiment plate×1, plastic mirror×2, battery holder(for A battery×2)
 ● Slit×2, Semicircle lens(f=140mm)×1 ● for student

Ideal for studying gait of light



LIGHT SOURCE MODEL

Product No.	2-125-0122
Model No.	DP-2H

SPEC

● Light source main unit/Dimension:125×115×50mm, Material:Plastic, Bi-directional parallel ray, cylinder lens×2, Tube light bulb:2.5V-0.4A, straight filament light bulb, 2×A battery sold separately ● Slit/Material:plastic, 2pcs ● Mirror holder/Material:Plastic, consist from 2 pc ● Curved mirror/Dimension:34×62×0.5(thickness)mm ● Flat mirror/Dimension:34×50×2(thickness)mm ● Trapezoid water tank/Dimension:80×200×2 (thickness)mm ● Color cellophane/5 pcs (1pc ea. color) ● Experiment plate/Dimension:80×200×2(thickness)mm ● Cylinder lens/Dimension:40×25mm·f=65mm, 40×25mm·f=130mm ● Tube light bulb/2.5V-0.4A ● for student



LIGHT SOURCE WITH HALOGEN LAMP

Product No.	2-125-0126
Model No.	DP-2U

● Parallel light ray from both right and left side.

SPEC

● Light source main unit/Dimension:125×115×50mm, Material:plastic, Bi-directional light beam(using cylinder lens×2) ● Halogen lamp(12V-10W Built-in) ● Power consumption/100V 50/60Hz-change to 12V by adaptor ● Accessory/Slit(used for 1 and 3slits)×2, Experiment panel×2, with flat mirror×1, with curved mirror×1 ● Semicircle lens×1, lens×1



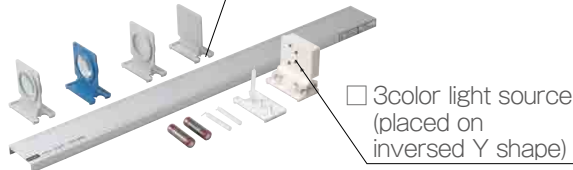
Comes with High brightness 3-color LED light source!



On Each part's base, there is an arrow to read the location.

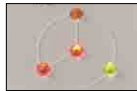


□ Arrow to lead the position



□ 3color light source (placed on inverted Y shape)

OPTICAL BENCH & EXPERIMENTAL



Product No.	2-125-2540
Model No.	DO-600

- SPEC**
- Optical Bench/Dimension: about 60 (W) × 600 (L) mm, Material: Aluminum, 2mm interval scale
 - Optical Parts/Convex lens: 2 kinds, f=65mm·100mm, Frosted screen: Effective dia. 62 × 62mm, Material: Plastic, with holder
 - light source/LED (high brightness, 3color), AA battery × 2, with plastic stand
 - Screen/Dimension: 62 (W) × 77 (H) mm, Material: Plastic
 - Candle stand/Dimension: 40 (W) × 71 (L) mm, Material: Plastic, for 3pcs × 1, candle × 3
 - For group study

Examine the critical angle

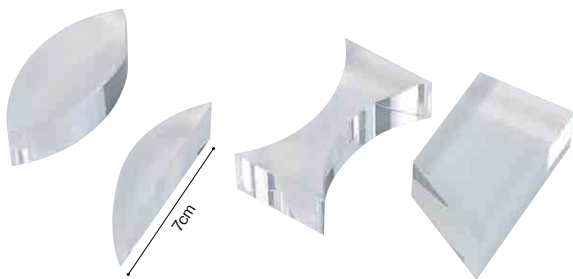


LISTEN FOR OPTICAL

Product No.	2-125-3502
Model No.	DF-M

- SPEC**
- Water tank/Dimension: 262 (W) × 62 (D) × 195 (H) mm, Material: Front, Side, bottom transparent plastic, back side detachable white plastic with dent for lamp
 - Degree scale panel/Dimension: 260 × 19mm, Material: Transparent plastic, scale: 180 degree (15 degree interval) × 1
 - Slit Panel/Dimension: 60 × 200mm, Material: black plastic, upper and lower slit, detachable × 1
 - Light source equipment/AC/DC 6 to 8V, 1.4 to 1.7A, slit: 2type - 1 line and 8line, set of fixing magnets, with cord
 - Accessory/Lid for water tank, reflecting mirror × 1
 - with light source equipment

It can overlay □ and ▽



LENS AND PRISM SET MODEL

Product No.	2-125-5523
Model No.	DP-4

- Special plastic material enabling to see the path of the light
- SPEC**
- Material/Special plastic
 - Double Convex Lens/Dimension: 70 (W) × 20 (H) mm, Max thickness 30mm, f=50mm
 - Single Convex Lens/Dimension: 70 (W) × 20 (H) mm, Max thickness 15mm, f=100mm
 - Double Concave Lens/Dimension: 70 (W) × 20 (H) mm, Max thickness 12mm, f=50mm
 - Trapezoid lens/Dimension: 50 (upper bottom) × 75 (lower bottom) × 40 (H) mm, 20 (Thickness) mm, Angle: 60°, 120°, 90°, 90°

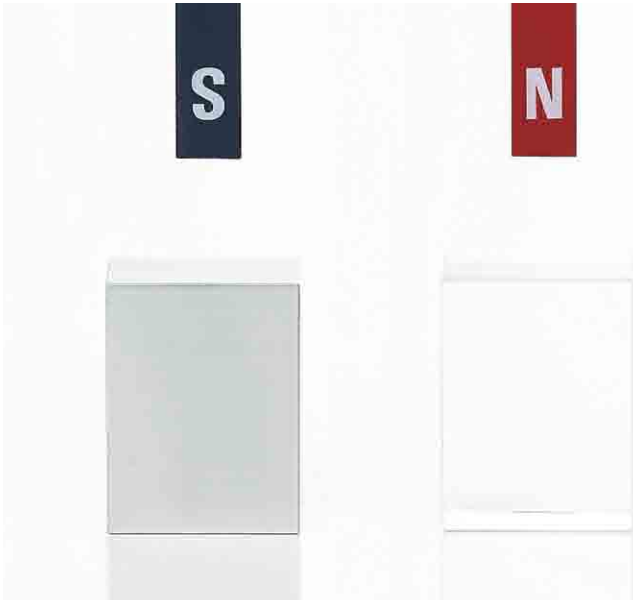
Recommended for studying the light



OPTICAL FIBER PRINCIPLE

Product No.	2-125-5601
Model No.	DP-23

- SPEC**
- Dimension/20 (W) × 10 (D) × 230 (L) mm
 - Material/special plastic, S shape and straight rod



U-Shaped Magnet

Product No.	8-115-0007
Model No.	DM-5A

- SPEC**
- U shape magnet (powerful magnet) ● Width of between the poles/50mm
 - Dimension/100 (L) × 63 (W) × 18 (H) mm ● Material/AlNi magnet steel ● Paint/Red and Green ● Magnetic force/about 80mT ● comes with keeper ● comes with protection magnetite piece ● with plastic case



MAGNETIC FIELD APP.

Product No.	8-115-0008
Model No.	DD-7M

- SPEC**
- Observation tank/Dimension: 110×80×80mm, Material: Transparent Acrylic
 - Hollow cylinder/diameter 14mm, with screw lid ● Sealed material/Liquidity paraffin, iron powder ● Accessory/Magnet rod (cylinder type) × 2



Bar magnets

Product No.	2-130-0264
Model No.	DM-577C

- SPEC**
- Bar magnet (Powerful magnet) ● Shape/Rectangular ● Dimension/50 (L) × 7 (W) × 7 (H) mm ● Material/Alnico magnet steel ● Magnetic Force/about 90mT ● Number of package/2pcs ● Color coded pole, protection magnetite piece, with plastic case



Bar magnets (2pcs / set) Strength: 60mT

Product No.	8-115-0006
Model No.	DM-6A

- SPEC**
- Bar magnet (powerful magnet) ● Shape/Rectangular ● Dimension/150 (L) × 19 (W) × 6.5 (H) mm ● Material/AlNi magnet steel ● Magnetic Force/about 60mT ● Number of package/2pcs ● Color coded pole, protection magnetite piece, with plastic case



By placing the magnet,
it becomes a compass!



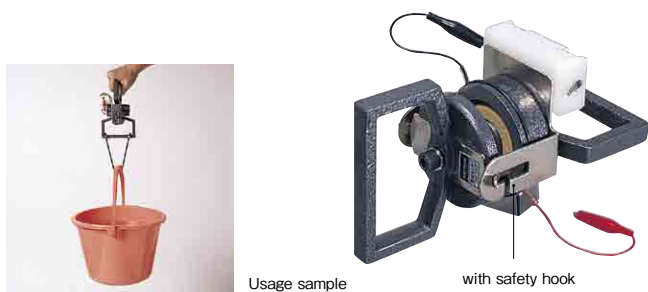
REVOLVING STAND FOR MAGNETIC 4pcs/set

Product No.	2-130-0801
Model No.	DP-6

- Sapphire is used for axis receptor, which has low drag for longer rotation.

SPEC
● Dimension/60 (dia) × 45 (H) mm ● Material/transparent plastic, sapphire for axis receptor
● Sample placement stand/with slit ● Scale/with eight direction scale ● Quantity/4 pcs set

With safety hook for peace of mind



Electro-magnet

Product No.	2-130-1106
Model No.	DK-75S

- Magnet side is polished.
- Comes with safety hook.

SPEC
● Maximum Load/about 650N ● Coil 250winding × 1 ● Power/1.5V(Size D battery × 1 (sold separately)) ● Accessory/Metal fitting for hanging



The state of the magnetic field can be observed



Observation set of Magnetic

Product No.	2-130-0703
Model No.	DF-S

- Magnetic field of a variety of magnet can be observed in three dimensions. It is ideal for learning magnetic field.

SPEC
● Sealed material/Transparent oil, line shaped iron powder ● Container/Acrylic transparent plastic ● Dimension/100 × 60 × 60mm ● Accessory/alnico magnet: 7 (dia) × 50mm, ring, square-shaped, U-type (ferrite magnet) each, white screen plate





Build a way of scientific thinking and perspective about magnetic field and current

When direction of current changes, direction of magnetic field changes



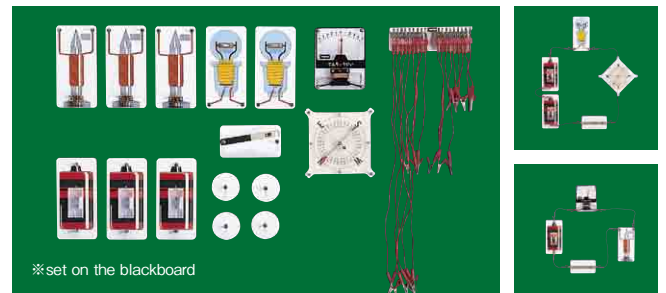
ELECTROMAGNETIC FIELD EXPERIMENT

Product No.	2-132-1315
Model No.	PP-3

● Magnet field, created by the current, is able to examine using compass and iron powder.

SPEC

- Sample/Dimension: 150×200×40 (H)mm, Material: Plastic, 3kinds (Line, circle, coil)
- Power usage/5A or less (possible to use power unit) ● Accessory/compact compass (13 (dia)mm)×8pcs, Anti-rust powder (100 mesh, around 20mL)85g



Large electronics study kit for blackboard

Product No.	2-132-3130
Model No.	DP-8

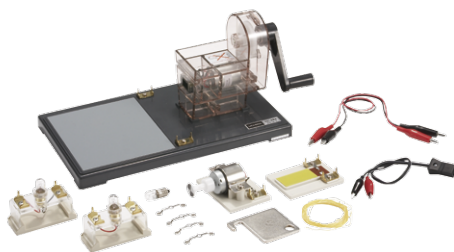
For demonstration

SPEC

- Lamp/Dimension: 100×200mm, 0.4A, Tube lamp, with reflection plate, 2pcs ● Battery holder/Dimension: 100×200mm, for D size battery, 3pcs ● Switch/Dimension: 80×150mm, Phosphorus bronze×1 ● Electro magnet/Dimension: 100×200mm, 3winding×1ea., 3pcs ● Compass/Dimension: 150×150mm, large sensitive type, Enameled wire winding possible, 1pc ● Ammeter/Dimension: 120×150mm, for 5A, 1-5scale, 1pc ● Relay terminal/Dimension: 70(dia)mm, ×4 ● Lead wire/with Alligator clip, 600mm×6pcs, 350mm×6pcs, 200mm×6pcs (total 18pcs) ● Others/clay, nail, 2 kinds of non-ferrous core for electro magnet, spare lamp×2, Lead wire holder×1

Experience the power generation by hand generator

Maximum output
12V-300mA



Handheld Generator Set

Product No.	2-132-3152
Model No.	DG-12-S

● It has magnet to place on the steel board, suitable for demonstration.

SPEC

- Generator/DC motor, Material: Transparent plastic, Maximum output: 12V-300mA, Alligator clip lead-wire, fixed to the plate ● Support plate/Material: Plastic, parts fixing steel plate, Dimension: 145×250×170(H)mm ● Motor (with stand)/Pulley, rubber magnet with winding, weight (50g)×1 ● Heater (with stand)/Print heater with 50°C thermo tape, rubber magnet ● Lamp (on stand)/6.3V-0.15A, rubber magnet, Dimension: 65×25×45mm, 2pcs, spare lamp×1 ● Accessory/sereal parallel bracket×4, alligator clip lead wire: red/black 200mm×1ea.



★★★
Recommend Goods

e/m measurement apparatus

Product No.	2-133-1010
Model No.	TG-13

SPEC

- Coil/Helmholtz coil, Dimension: 300 (dia) mm, Separation: 150mm, input 6-9V, 2A (use the power source with ripple 10% or less)
- e/m Tube/Filled with Helium gas, Dimension: 130 (dia) mm, Material: hard glass, 90° rotatable, Life time: 200 to 250 hours of operation
- Accelerating voltage/0 to 800V (standard 200 to 300V)
- Accessory/Cloth cover (for black out)



It can widely used for dynamics experiment

Aluminum



Scale



Spring Scales

Product No.	8-103-3201
Model No.	SA-2Ng

Spring Scales

Product No.	8-103-3202
Model No.	SA-5Ng

● High spec spring scale with 0 point setting.

SPEC

- Dimension/25 (W) × 18 (D) × 300 (H) mm
- Weighing/(8-103-3201)200g/2N, (8-103-3202)500g/5N
- Minimum scale/(8-103-3201)2g/0.02N, (8-103-3202)5g/0.05N
- Main unit material/aluminum casing, alumite processed, 0 point adjustment
- Accessory/push rod: 2.3(dia)mm, stainless



★★★
Recommend Goods

Material
Aluminum

Most basic ammeter



Measurement range	-1~0~+5A
Measurement range	-100~0~+500mA
Measurement range	-10~0~+50mA

DC ammeter

Product No.	8-106-0022
Model No.	TM-50

SPEC

- Measurement range/-1~0~+5A (1scale 100mA), -10~0~+50mA (1scale 1mA), -100~0~+500mA (1scale 10mA), 3 range
- Terminal/Triple terminal × 4 (+DC, 50mA, 500mA, 5A)
- Others/terminal adapter × 1
- Meter/JIS2.5 glade, Taut band formula, Movable wire wheel type, equal scale, meter scale dia. 85mm, meter protection logic
- Case/Material: ABS plastic, color coded plate
- Dimension/120(W) × 149(D) × 105(H) mm, including terminal

Galvanometer
Large Display for easy read-out

Product No.	8-106-0034
Model No.	T-5L

SPEC

- Dimension /300 (W) × 275 (D) × 260 (H) mm
- Measurement range / -5~+5A, -500~+500mA
- Accuracy / ±2.5% (JIS2.5 glade equivalent)



★★★
Recommend Goods



Large display enable to perform an experiment in public



DC voltmeter T-3VL Large Display for easy read-out

Product No.	8-106-0035
Model No.	T-3VL

- SPEC**
- Dimension / 300 (W) × 275 (D) × 260 (H) mm
 - Measurement range / -5~+15V, -1~+3V, -100~+300mV
 - Accuracy / ±2.5% (JIS2.5class equivalent)

DC ammeter T-5AL

Product No.	8-106-0036
Model No.	T-5AL

- SPEC**
- Dimension / 300 (W) × 275 (D) × 260 (H) mm
 - Measurement range / -1~+5A, -10~+50mA, -100~+500mA
 - Accuracy / ±2.5% (JIS2.5class equivalent)



DC ammeter T-5A (single-faced type)

Product No.	8-106-1001
Model No.	T-5A

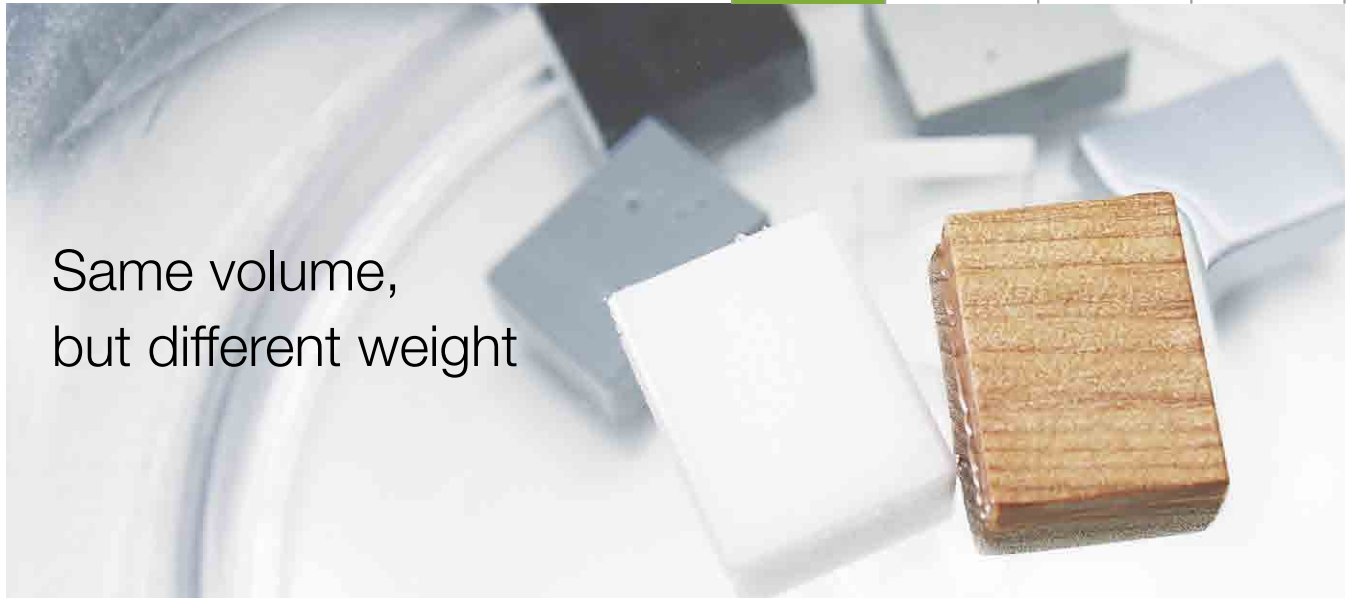
- SPEC**
- Measurement range / -1~0~+5A (1 scale 100mA), -10~0~+50mA (1 scale 1mA), -100~0~+500mA (1 scale 10mA)
 - Meter / JIS2.5class, Taut band formula, meter protection logic
 - Dimension / 100 (W) × 130 (D) × 110 (H) mm (incl. terminal)
 - Material / ABS plastic



DC ammeter T-5A (Both faces type)

Product No.	8-106-1004
Model No.	T-5A

- SPEC**
- Measurement range / -1~0~+5A (1 scale 100mA), -10~0~+50mA (1 scale 1mA), -100~0~+500mA (1 scale 10mA)
 - Meter / JIS2.5class, Taut band formula, meter protection logic
 - Dimension / 100 (W) × 130 (D) × 110 (H) mm (incl. terminal)
 - Material / ABS plastic



Same volume,
but different weight



- Measurement range
-100~0~+300V
- Measurement range
-5~0~+15V
- Measurement range
-1~0~+3V

DC voltmeter T-3V(single-faced type)

Product No.	8-106-1006
Model No.	T-3V

SPEC

- Measurement range/ -100~0~+300V(1 scale 10V),
-5~0~+15V(1 scale 0.5V), -1~0~+3V(1 scale 0.1V)
- Meter/JIS 2.5 class,Taut band formula,meter protection logic
- Dimension/100(W) × 130(D) × 110(H)mm (incl. terminal)
- Material/ABS plastic



- Measurement range
-100~0~+300V
- Measurement range
-5~0~+15V
- Measurement range
-1~0~+3V

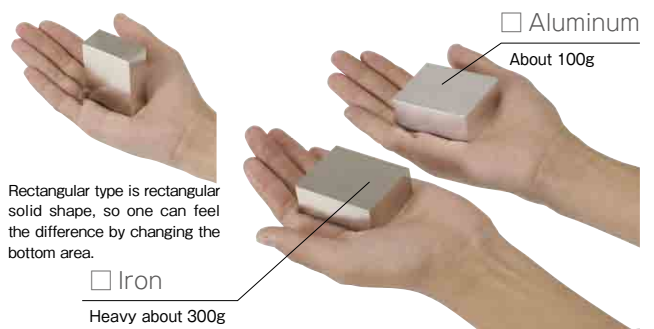
DC voltmeter T-3V(Both faces type)

Product No.	8-106-1009
Model No.	T-3V

SPEC

- Measurement range/ -100~0~+300V(1 scale 10V),
-5~0~+15V(1 scale 0.5V), -1~0~+3V(1 scale 0.1V)
- Meter/JIS 2.5 class,Taut band formula,meter protection logic
- Dimension/100(W) × 130(D) × 110(H)mm (incl. terminal)
- Material/ABS plastic

One can feel six kinds of material



Material weight comparison set (Cube type)

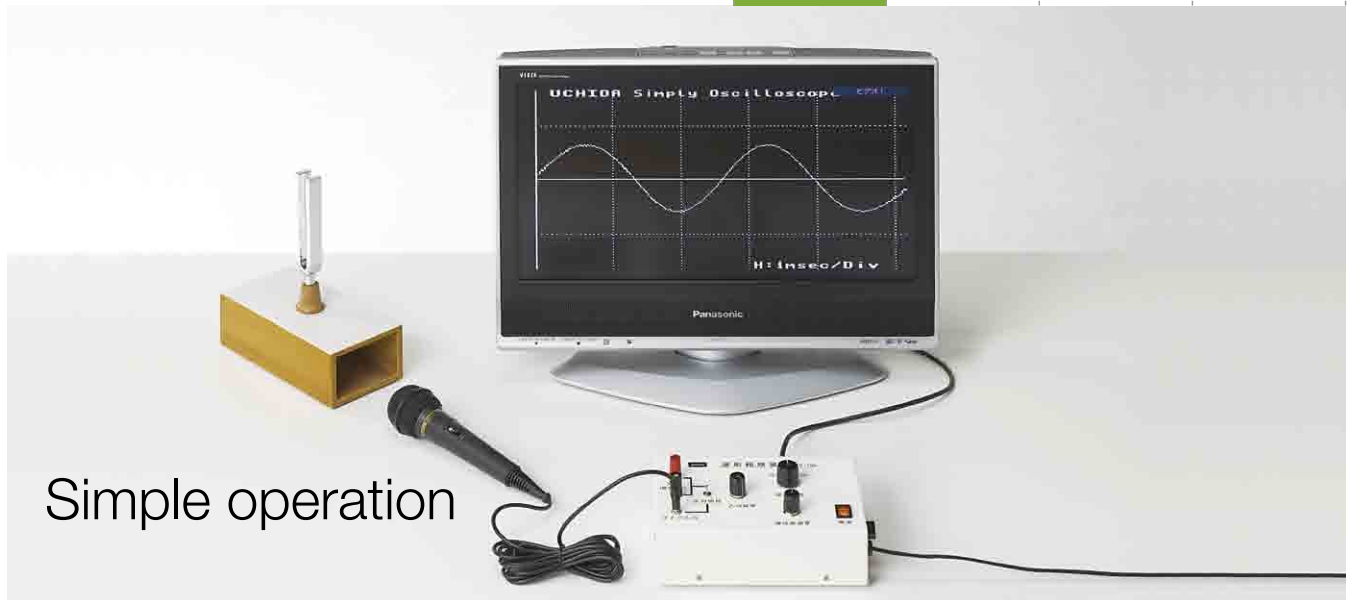
Product No.	8-110-0020
Model No.	DW-6K

Material weight comparison set (Sphere type)

Product No.	8-110-0021
Model No.	DW-6M

SPEC

- Material/iron,aluminum,polyvinyl chloride,polyethylene,rubber,wood,total of six species ● Dimensions/DW-6K:20(W)×40(D)×50(H)mm, DW-6M:30(dia)mm ● Accessory/Case,anti-rolling rubber (for only DW-6M)



Simple operation



Convection experiment apparatus

Product No.	2-124-2610
Model No.	DP-3

- SPEC**
- Heating part/movable up/down/left/right, about 60W(both AC/DC) up to 12V-5A, Anti-rust processed Nichrome wire Retention pipe(13(dia)×24mm, Bakelite resin), terminal
 - Water tank/Dimension:262(W)×62(D)×195(H)mm, Material: PVC, Container: about 3L, for water and air, transparent
 - Dividing plate/Dimension:60×225×3mm×2pcs, Material: Metal with plastic leg
 - Accessory/White screen(make the convection visible), Heater, holder, dividing plate holder×2, powder to make it easy to observe



※Specification may change without notification

OPTICAL TRANSMITTER

Product No.	8-114-0104
Model No.	DO-3W

- SPEC**
- Dimension/150(W)×210(D)×210(H)mm, pair
 - Power/Size D batter×4 (for 2 units, including 8 pcs)
 - Other/audio input/output headset, Light reception solar battery

Simple low frequency generator, producing 10Hz to 10KHz



Display monitor
Digital LCD display with back light

Simple low-frequency oscillator model

Product No.	8-114-5001
Model No.	TO-3

- SPEC**
- Dimension/200(W)×150(D)×110(H)mm ● Weight/1.7kg ● Material/Steel ● Oscillating frequency/10Hz~10KHz (10~800Hz, 800Hz~10KHz, 2 step) ● Output/Sine wave, Triangle wave, Square wave, maximum 3Vp-p to more(at no load) ● Display/Digital LCD display with back light, minimum display 1Hz ● Power/AC 100V 50/60Hz 5W ● Other/Speaker for checking output, 50(dia)mm, output 0.4W

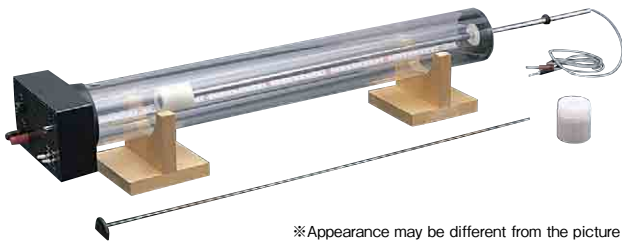


Speaker
Internal speaker





Galvanometer



※Appearance may be different from the picture

CATHODE AIR RESONANCE

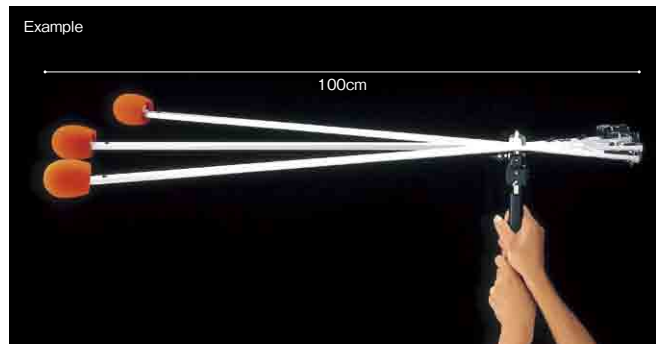
Product No. **2-126-1821**

Model No. **PG-12A**

- Air column has natural vibration, so by using this principle, force the soundwave and generate standing wave. When adding the same wave cycle as natural wave, then adding the force to change, it will resonate.

SPEC

- Speed of sound measurement equipment
- Resonate tube/Double tube: Inner tube diameter 40×800mm, Outer tube diameter 80×800mm, Material: transparent Acrylic, water intake of changing air column temperature
- Piston rod/comes with Capacitor type microphone (N battery×1), slide movement, power code 1m
- Oscillation and amplification unit/750/1000Hz (switching type), 4W speaker, power input protection logic
- External power supply/DC 15V-1A (ripple 2mV or less)
- Accessory/Cork powder 50mL, Bar for spreading powder



ELECTRONIC DOPPLER EFFECT APP.

Product No. **2-126-2010**

Model No. **DM-1**

- Simple and easy Doppler effect experiment.

It enable to listen the sound repeatedly, and understand the difference.

SPEC

- Sound source/about 2kHz, Electric busser, 006P battery×1, Continuous · one side · alternating selecting switch
- Rotation rod/Rotating radius 750mm, Aluminum frame, 1000(L)mm, Weight/800g



Simplified Galvanometer 2 units set

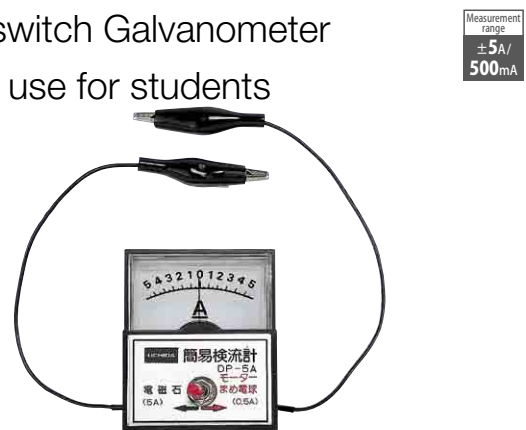
Product No. **8-117-0018**

Model No. **DP-5S**

SPEC

- Measurement range/DC ±5A/500mA (select switch)
- Meter/Center meter, 2.5 class, Arc length 60mm
- Dimension/94(W)×110(D)×49(H)mm
- Quantity/2 units
- Power surge protection
- Lead wire with clip

Select switch Galvanometer Easy to use for students



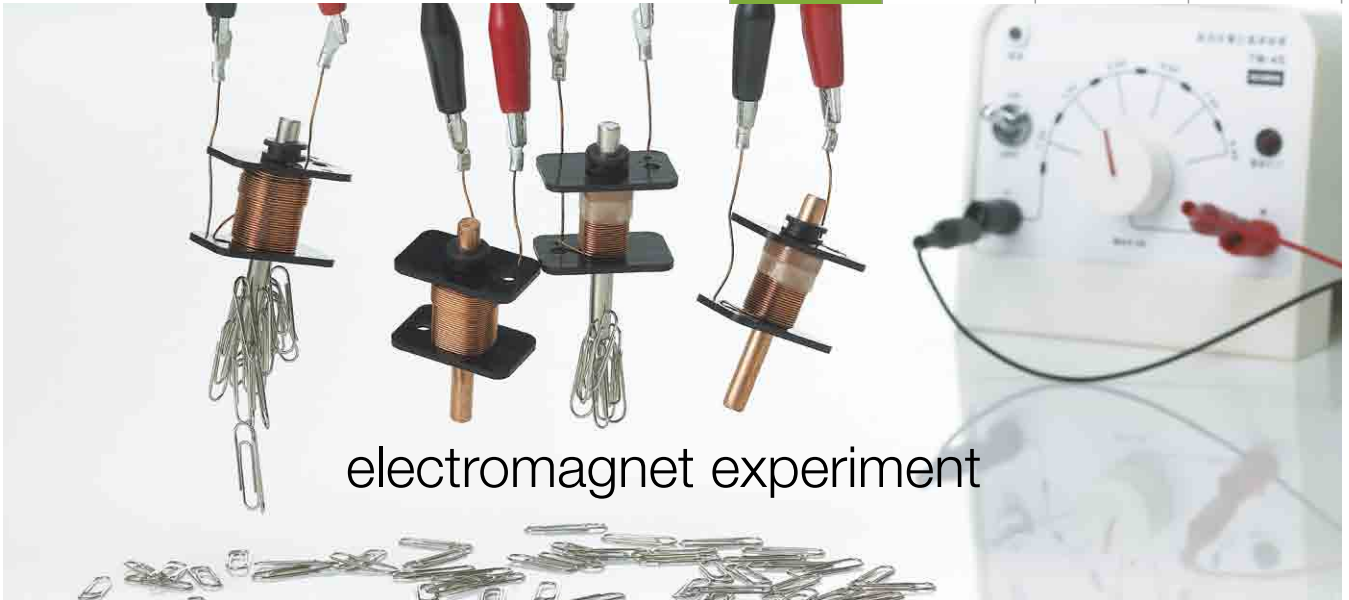
Simplified Galvanometer 2 units set

Product No. **8-117-0019**

Model No. **DP-5A**

SPEC

- Measurement range: DC ±5A/500mA/500mA (select switch)
- Meter/Arc length: 40mm, Center meter, meter scale (transparent) for OHP projection
- Dimension/70(W)×57(D)×44(H)mm
- Material/Main unit: plastic
- quantity/2 units
- Power surge protection
- Lead wire with clip



electromagnet experiment

Complete set for electromagnet experiment

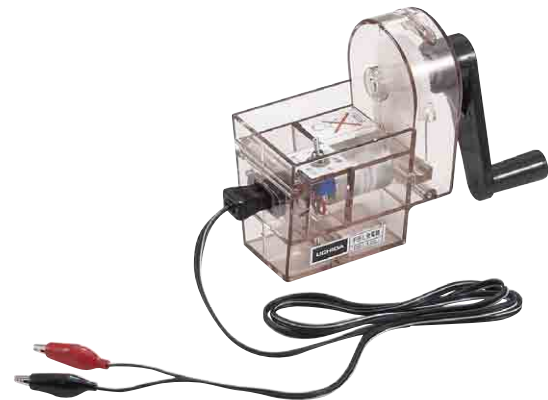


Learning kit for electromagnet

Product No.	8-117-0215
Model No.	DP-D

SPEC

● Coil(100 wind)×1/Material: Plastic bobbin,Dimension:35×20×25mm,Conducting wire 100 wind ● Coil (200 wind)×1/Material:Plastic bobbin,Dimension:35×20×25mm,Conducting wire 200 wind ● Iron rod(thick 1pc , thin 1pc)/Material:Iron,6(dia)×60mm ● Copper rod(thick 1pc , thin 1pc)/Material:copper, 6(dia)×61mm ● Aluminum rod (thick, 1pc)/Material:aluminum, 6 (dia)×61mm ● Compass (2 pcs)/35 (dia)mm, with winding frame,transparent plastic case ● Resistance compensation copper wire (single)/45 (dia) mm,same length as coil winding 100 ● Paper clip (about 30 pcs)/iron clip ● Storage case/Material:plastic,Dimension:200×90×37mm



Handheld Generator DG-12 with Limiter

Product No.	8-117-0216
Model No.	DG-12L

● DC Motor/rotating hand generator,Power about 12V-300mA
 ● Case/Dimension: 50×130×100 mm,Material: Transparent plastic,with accessory storage
 ● Accessory/alligator clip separator lead wire 1m ×1

Stabilize the power, generated by hand generator



Simple constant voltage for model DG-12

Product No.	8-117-0225
Model No.	DK-10

SPEC

● Dimension:53(W)×92(D)×54(H)mm
 ● weight/0.1kg
 ● Input/for hand generator MODEL DG-12(1 to 15V)
 ● Output/1 to 10V (DC fixed voltage)

Electricity principle learning set

Product No.	8-117-0222
Model No.	DP-SN

SPEC

● Fairy lights,Fairy lights stand (1 pair)/Fairy light:1.5V-0.3A×1, 2.5V-0.3A×1, stand:Dimension:about 60×25×40mm, Material/Transparent plastic
 ● Battery Holder(3 pcs)/for size D battery,bracket for making for both serial and parallel connection ● Knife switch (1 pc)/lever open,close type,Dimension:about 60×25×35 mm,Material:Transparent plastic ● Windmill motor(for battery,1 pc)/Motor 1.5V,500mA,Dimension:about 75×50×70mm,with propeller
 ● Lead wire with alligator(6 pcs)/Red and black 3 ea..Length:about 300mm
 ● LED (1 pc)/1.5V when working, maximum 3.1V with surge protection
 ● Electro melody(1 pc)/1.5 to 3V, Dimension:about 65×40×25 mm with surge protection ● Solar Power battery(1 pc)/1.5V, about 400mA,Dimension:54×89 mm(not including 12mm terminal on both end), with alligator clip lead wire ● Storage case (1 pc)/Dimension: about 220×160×80mm,Material:Plastic



Heat generated by electricity

Let's compare the energy as turning the light switch of your home

※Appearance is subject to change without notice



Electric charging experiment

Product No.	8-117-0226
Model No.	DE-2

● One can feel the difference of energy consumption of light bulb and LED.

- SPEC**
- Fairy light/2.5V, 0.3A, 3 pcs
 - LED/Large type, 3 pcs
 - Panel (stand)/Material: plastic
 - Dimension/100×125×40 mm
 - Weight / 100g

Electricity usage and storage is unified in one unit

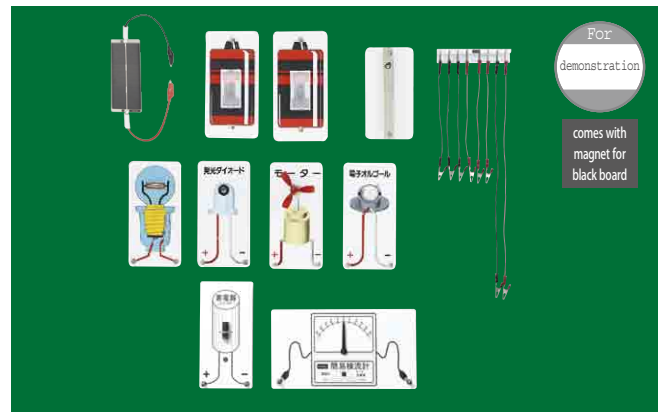


DC-B Electric charging experiment (with storage checker)

Product No.	8-117-0403
Model No.	DC-B

● It comes with the meter, which can check the level of electricity storage.

- SPEC**
- Storage battery (capacitor)/Dimension:205 (W)×200(D)×60(H) mm,Output:2.5V-4.7F
 - Fairy light/2.5V-0.3A
 - LED/2.5V-0.03A(with surge protection)
 - Electric melody/1.5V-0.03A (with surge protection)
 - Windmill motor/1.5V-0.5A
 - Capacitor checker/switch type



Solar panel principle learning set

Product No.	8-117-0309
Model No.	DP-7N

- SPEC**
- Solar battery panel/1 pc
 - Battery Holder/2 pcs
 - Switch/1 pc
 - Fairy light/1 pc
 - LED /1 pc
 - Motor/1 pc
 - Electronic music box/1 pc
 - Lead wire/2 kinds,Total 8 pcs
 - Capacitor/1 pc
 - Galvanometer needle (movable)/1 pc
 - Accessory/2 pcs

It makes possible to experiment with heat wire safely

Screw type fixing fixture for fixing the heating wire without slack.

Safe guard to avoid unintended contact accident during the experiment.

Principle of heat wire function experiment

Product No.	8-117-0406
Model No.	DH-10

- SPEC**
- Dimension/84 (W)×120 (D)×70(H)mm, Heat wire terminal distance:100 mm
 - Accessory/Heat wire:thickness 0.4(dia)mm, heat wire:0.2 (dia) mm,Thermo tape (for 50°C),Polystyrene foam

Terminal with jagged terminal to prevent easy disconnection.



Convert the self-generating energy

Easy to grip, and rotate
Our standard model for
hand generator

Output
about
12v-
300mA



Feature



Easy to grip shape enable to rotate the handle.



It is possible to fix the generator to the table top.



Strap hole make it possible to hang the generator for storage.



Self standing feature enable it to store the generator standing.

10sets - Handheld Generator 10 units set

Product No.	8-117-0412
Model No.	TG-55

SPEC

● DC motor/Manual rotation,output about 12V-300mA ● Case/Dimension:150×60×130mm(including handle), Material:semi-transparent plastic ● Accessory/Lead-wire with alligator clip 1m×1 pc

Low power type, in order not to surge
the fairy lights

Maximum
output
about
3.4v-
200mA



It is possible to fix the generator to the table top.

Easy to grip for small children as well.



Feature



Cord can be stored cleanly.



By rotating to the arrow, polarization will be fixed.



The wire is fixed, so there will be no mistake on polarization.



Rotation axis The rotation axis's gear is thick for heavy duty usage.

Handheld Generator

Product No.	8-117-0420
Model No.	DG-4V

5sets - Handheld Generator 5 unit set

Product No.	8-117-0421
Model No.	DG-4V

10sets - Handheld Generator

Product No.	8-117-0422
Model No.	DG-4V

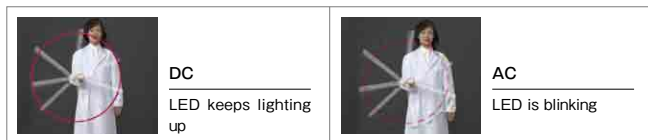
SPEC

● Normal power output voltage/2.8 to 3.0V ● Maximum output voltage/3.4V ● Current/ Less than 200mA ● Storage Voltage/about 2.3V ● Main unit/Dimension:about 70×40×90mm (incl. handle),Material:Plastic,Lead-wire with alligator clip about 450mm

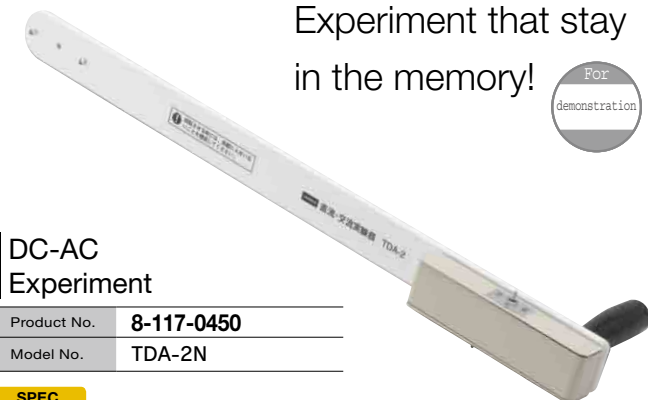


Let's check the difference between AC and DC

□ Difference between AC and DC



Experiment that stay in the memory!

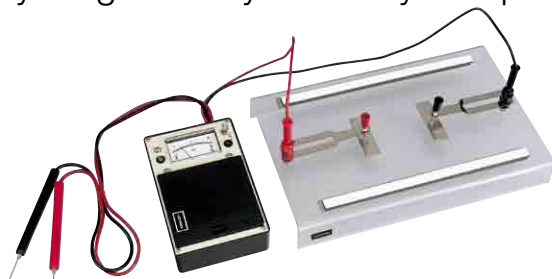


DC-AC Experiment

Product No.	8-117-0450
Model No.	TDA-2N

- SPEC**
- Power source/Battery(006P)),9V ● Switch function/AC/DC conversion switch
 - Dimension/510(W)×35 (D)×113 (H) mm ● Weight/about 0.4kg

All-in-one set for the experiment
Everything is ready for easy setup



POTENTIAL HIGH SPEC MODEL

Product No.	8-117-0212
Model No.	DM-34

- SPEC**
- Laboratory stand/Material:Plastic,Dimension:260(W)×165(D)×30(H)mm, Terminal ×2 pcs, with rubber magnet ● Electrode point/Pint electrode×1 pair, parallel electrode×1 pair,Leaf spring×2 pcs(adjustable position) ● Meter/LED(Red, black blinking),Center meter type(HIGH, LOW display),Dimension: 140(W)×90(D)×35(H)mm,battery holder for AA battery ×4,tester rod(red/black), lead wire ● Accessory/Conductive paper(about 200×300mm)×3 sheet, Tracing paper×5 sheet,Carbon paper×1 sheet,Rubber magnet×1 pair

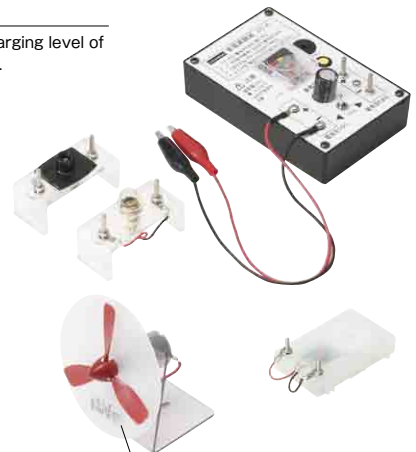
□ Meter

Check the charging level of the electricity.



□ Reset switch

Release the stored electricity.



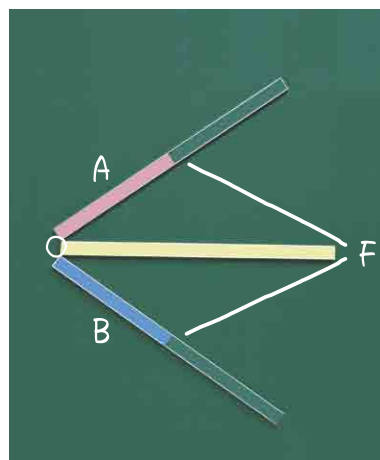
Electric charging experiment (basic set)

Product No.	8-117-0482
Model No.	DC-E3

□ Windmill motor with safety panel

Prevent from popping out of windmill.

- SPEC**
- Charger (capacitor)/Output:2.5V-4.7F ● Fairy lights/2.5V-0.3A ● LED/2.5V-0.03A (with surge protection) ● Electronic melody/1.5V-0.03A (with surge protection) ● Windmill Motor/1.5V-0.5A



Example

Variable bar graph (Green & Pink)

Product No.	8-230-1101
Model No.	DA-GP

- SPEC**
- Dimension/500 (W) × 25 (D) × 13 (H) mm ● Material/Frame:Aluminum with alumite process, magnet on the back ● Scale printed on the side



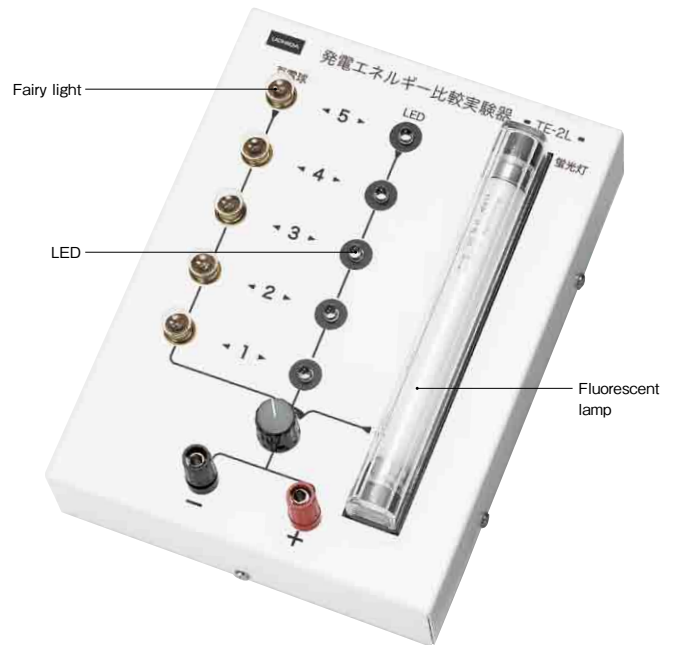
Feel the energy saving of LED!



Turn on fairy light

Turn on LED

Turn on fluorescent lamp



Fairy light

LED

Fluorescent lamp

Energy generation comparison experiment model

Product No.	8-117-0483
Model No.	TE-2L

- SPEC**
- Dimension/150 (W) × 200 (D) × 75 (H) mm ● Weight/about 1kg ● Fairy lights/12V, 0.11A×5 pcs (with surge protection) ● LED/White color×5 pcs (with surge protection)
 - Fluorescent lamp/4W(with internal Inverter circuit)
 - ※Please use in conjunction with 12V hand generator

Feel the hand generator
Which one is the hardest?



Turn on light bulb

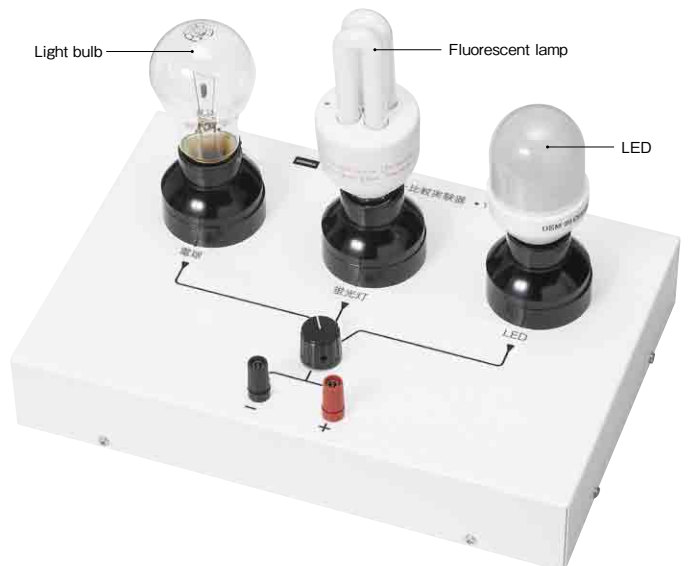
Turn on fluorescent lamp

Turn on LED

Experimental Apparatus for Energy Comparison

Product No.	8-117-0484
Model No.	TE-3L

- SPEC**
- Dimension/300 (W) × 200 (D) × 215 (H) mm ● Weight/about 2kg ● Light bulb/10W
 - LED/12V ● Fluorescent lamp/12V (with internal inverter circuit)
 - ※Please use in conjunction with 12V hand generator



Light bulb

Fluorescent lamp

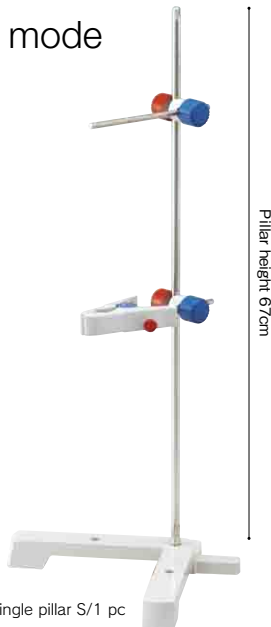
LED



Stand is simple, and easy to use Variety of parts are available
New concept science stand

Pillar height
670mm
Stainless
pillar

Basic single pillar mode
Set, ideal for
general purpose



Science Stand

Product No.	8-120-1250
Model No.	SSX-S1

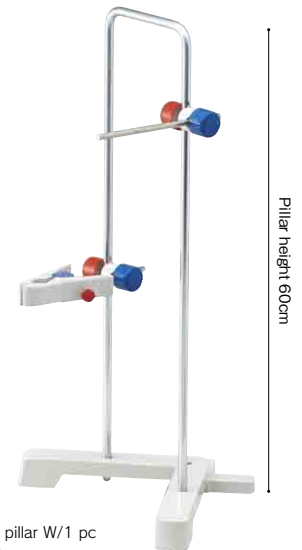
- SPEC**
- Single pillar standard set ● Stand SSX/1 pc ● Single pillar S/1 pc
 - Right angle clamp/2 pcs ● One-touch clip/1 pc
 - Suspending bar/Length:190 mm× 1 pc

Pillar height
600mm
Stainless
pillar

Science Stand (U)SSX-W

Product No.	8-120-1251
Model No.	SSX-W1

- SPEC**
- U shape pillar set ● Stand SSX/1 pc ● U shape pillar W/1 pc
 - Right angle clamp/2 pcs ● One-touch clip/1 pc
 - Suspending bar/Length:190mm, 1 pc



Setting sample for
U shape pillar mini set
※ Gas stove, beaker,
thermometer is not included.



Setting sample for
U shape pillar mini set
※ Gas burner is not included.

Science Stand Mini

Product No.	8-120-1256
Model No.	SSX-M1

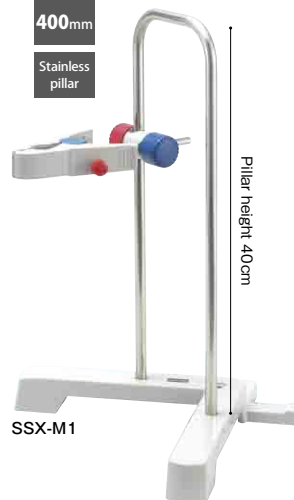
Science Stand Mini

Product No.	8-120-1257
Model No.	SSX-M2

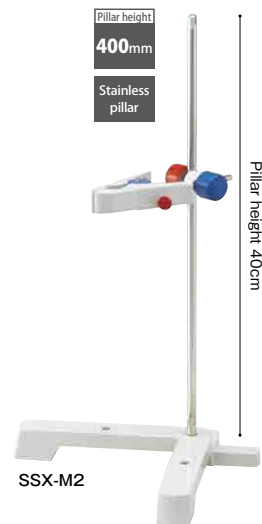
- SPEC**
- SSX-M1/Stand SSX:1 pc,U shape pillar W:1 pc,One-touch clip,clamp:1 set
 - SSX M2/Stand SSX:1 pc,Single pillar(400mm):1 pc,One-touch clip,clamp:1 set

It will not take space on
the teacher's desk

Pillar height
400mm
Stainless
pillar



Pillar height
400mm
Stainless
pillar





Fixing the Gas container

<p>250g 250g container fits to the unit perfectly</p> <p>②Set ③Close ①Slide</p> <p>Please set the container after sliding the container cover</p>	<p>120g 120g container is smaller, so it will not protrude from the main unit</p> <p>①Set ②Close</p> <p>It is possible to set small size container as it is</p>
--	--



Gas Burner for Experiment

Product No.	8-121-0013
Model No.	TU-2

- SPEC**
- Ignition system/Piezoelectric ignition system (it will not require other fire source)
 - Safety feature/Pressure sensing safety mechanism (When the container becomes hot, and inner pressure increases, it will automatically shut down)
 - Gas container standard/Toho gas container (Liquefied butane) 250g or 120g
 - Maximum heat output/about 750kcal/h (surrounding temperature 20°C)
 - Output/about 0.9kW (surrounding temperature 20°C)
 - Gas consumption/60g/h (surrounding temperature 20°C), 250g container will last about 4 hours
 - Main unit material/Aluminum diecast
 - Dimension/261 (W) × 216 (D) × 122 (H) mm
 - Weight/1.1kg
 - Accessory/Round dedicated trivet (gas container not included)

Measure the O₂ and CO₂ after burning



It is possible to measure the amount of O₂ and CO₂, before and after burning.

Measure the photosynthesis and breathing of the leaf



It is possible to distinguish the breathing and photosynthesis by comparing the data of plant.

Measure human breathing



It is possible to measure the gas, most familiar to us.

Digital Checker for CO₂ & O₂

Product No.	8-151-0070
Model No.	CD-2G

- SPEC**
- Measuring method/CO₂: Solid electrolyte sensor, O₂: Galvanic sensor
 - Measurement range/CO₂: 0.04 to 5%, O₂: 5 to 30%
 - Accuracy/CO₂: ±30%rdg (read out value), O₂: ±1%
 - Display resolution/CO₂: 0.01%, O₂: 0.1%
 - Display/Digital display (unit: %) switchable to CO₂ only, O₂ only, alternate
 - Calibration/calibrate as CO₂ in outside: 0.04%, O₂: 21% (at power on auto/manual calibration)
 - Power/AA battery × 4, (last about 20 hours) or AC adapter
 - Usage environment/0°C ~ 40°C, 80%rh or below (without dew condensation)
 - Outer dimension/Main unit: 77.5 (W) × 44 (D) × 145 (H) mm, Probe: 28 (W) × 27 (D) × 170 (H) mm, Code length: 100cm
 - Weight/Main unit: about 250g (incl. battery), Probe: about 105g
 - Accessory /Probe, Neck strap, Battery, Lid for gas gathering bottle
 - ※Probe is consumable, and expected life time is around 3 years.

Measurement range
0.04~5% (±30%)
CO₂

Measurement range
5~30% (±1%)
O₂

□ CO₂/O₂ indicator
CO₂ only: ● Light up
O₂ only: ● Light up
CO₂/O₂ alternate display:
● ↔ ● Light up alternatively (5 sec. interval)

□ Digital display
Clear and easy to understand %display.


□ Operation button
Only operation necessary is by button, and it is easy for the students to operate.

□ Probe
Separate type, which is easier to handle in an experiment


Easy to image the H tube It is a simple electrolysis apparatus



Example of experiment



It can conduct the experiment without any support stand.



Water changes to ice, and the increase of volume is visually observable.

□ Double layer structure
Outside will not be clouded, so icing process is easily observable.

Volume of water and ice experiment

Product No.	8-123-0023
Model No.	DK-V

SPEC

- Dimension / Outer layer: 120 (dia) × 102 (H) mm, Inner layer: 75 (dia) × 75 (H) mm
- Material / Double layer transparent acrylic ● Accessory / Thermo meter × 1 pc, Test tube with scale × 2 pcs, Test tube fixing lid × 1 pc, Test tube fixing rubber ring × 2 pcs, Thermo meter fixing rubber lid × 1 pc, Water height indicator × 1 pc, Clip × 1 pc



Experimental Apparatus for Electrolysis

Product No.	8-123-1014
Model No.	DK-75N2

SPEC

- Double layer water tank / Transparent acrylic, Outer dimension: 120 (dia) × 102 (H) mm, Inner dimension: 75 (dia) mm ● Electrode bar / Material: Stainless steel, Dimension: 5 (dia) × 60mm, 1 pair fixed



It is possible to start the ion experiment quickly



Experimental Apparatus for Movement of Ions

Product No.	8-123-0060
Model No.	PI-200

SPEC

- Sample container / Material: Transparent acrylic, Dimension: 66 × 106 × 15mm ● Electrode / Material: Stainless steel, Removable electrode ● Accessory / Separator for vegetable gelatin



※ There are possibilities for the spout shifting to the end

Experimental Apparatus for Electrolysis

Product No.	8-123-1018
Model No.	DK-100

SPEC

- Dimension / about 90 (W) × 62 (D) × 110 (H) mm (without rubber lid)
- Water tank / Transparent acrylic
- Electrode / Stainless steel



Electrode can be changed by using the screwdriver.



Simple and easy to use

Earthquake country Japan, it is clear by looking at cross section of the country

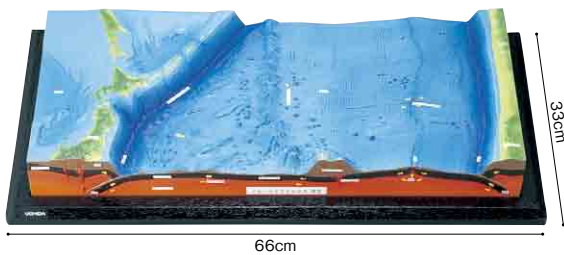


Plate Tectonics Model

Product No.	2-182-1121
Model No.	UP-60

- SPEC**
- Material / Hard plastic
 - Dimension / 660(W) × 330(D) × 100(H)mm

Ground is liquefied by vibration



Observation Apparatus for Earthquake

Product No.	8-144-0006
Model No.	DG-32

- It simulates the wet sand as ground, and replicate the phenomenon of liquefaction (ground becomes liquefied by earthquake).

- SPEC**
- Vibration receptor dish / Dimension: 300(W) × 230(D) × 50(H)mm, Material: PP plastic
 - Support mechanism / Dimension: 300(W) × 255(D) × 115(H)mm, Spring type
 - Vibration mechanism / Vibration variable type, Power: DC3V, Size D battery × 2
 - Contents / Vibration machine 1 pc, Sand for experiment, building model 2 type, mixing spatula × 1pc, Water measurement cup × 1 pc

Radcounter, which is made in Japan

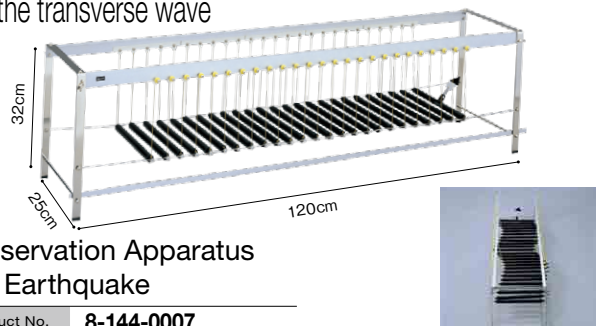


RADCOUNTER

Product No.	8-117-0038
Model No.	DC-100

- SPEC**
- Measurement method / CsI Scintillation formula
 - Measured dose / Current value: 0.01 ~ 19.9 μSv/h, Integrated value: 0.00 μSv ~ 999mSv
 - Power / AAA battery × 2
 - Dimension / 60(W) × 85(D) × 22(H)mm
 - Weight / 62g (without battery)

It is possible to experiment on each single longitudinal wave, and the transverse wave



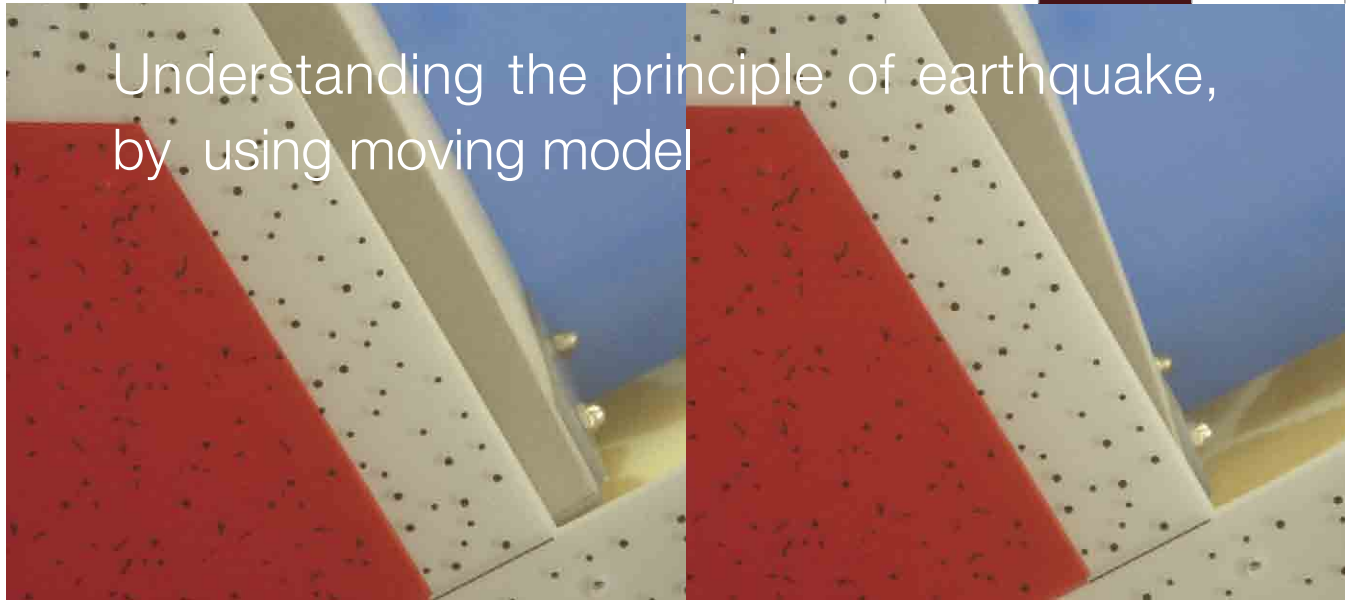
Observation Apparatus for Earthquake

Product No.	8-144-0007
Model No.	DG-120W

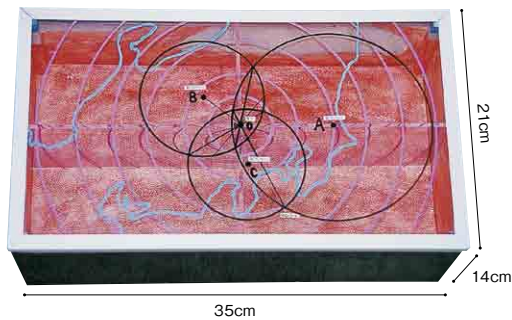
Example (Transverse wave)

- It is an experimental vessel to observe the difference in speed transmitted (longitudinal wave, transverse wave) component of the seismic wave.
- Also, at the same time causing longitudinal wave, and transverse wave, it is possible to see at a glance the difference between the conduction of the wave.
- It is also possible to be used as a general description of the longitudinal wave, and transverse wave.

- SPEC**
- Dimension / 1200(W) × 250(D) × 320(H)mm
 - Oscillator / Dimension: 18(dia) × 300mm, 25 pcs, Material: ABS plastic, String hanging type, connected via rubber band
 - Accessory / Oscillator stopper, Spare rubber band



Where is the Epicenter



Model of Earthquake Source

Product No.	8-144-0013
Model No.	H-1

SPEC

● Material/Plastic plate, Wooden frame ● Dimension/350×210×140mm ● Weight/ 1.7kg

Why the rain becomes acid rain?



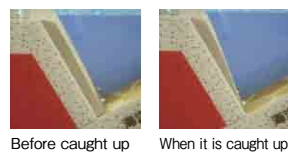
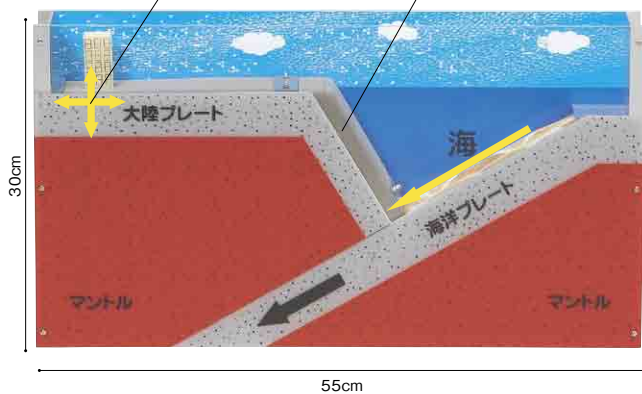
Acid Rain Generator

Product No.	8-144-0014
Model No.	DK-40S

● Acid rain is becoming a bigger problem on the earth, and this apparatus will enable to visualize the mechanism of acid rain

When rolling of the continental plate comes to a breaking point, earthquake occurs, and model building will shake and fall down.

The continental plate according to the subduction of oceanic plate, it will be caught up little by little.



Back side
Handle on the back will reproduce the subduction of oceanic plate.

For demonstration

Material
Plastic
Manual

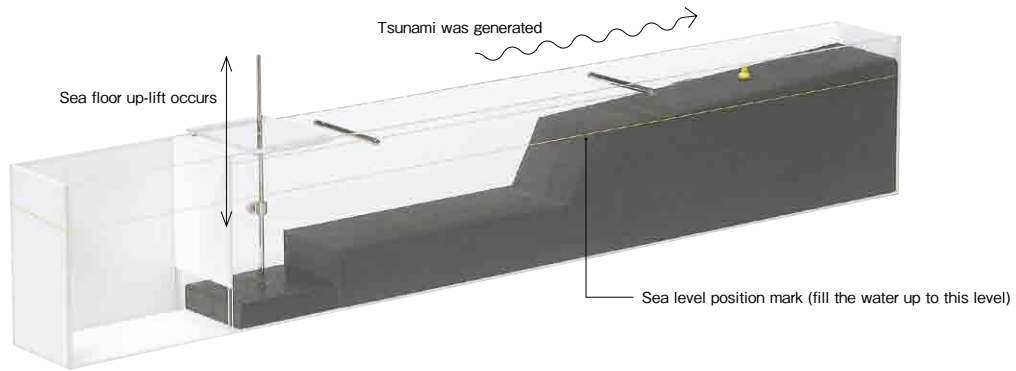
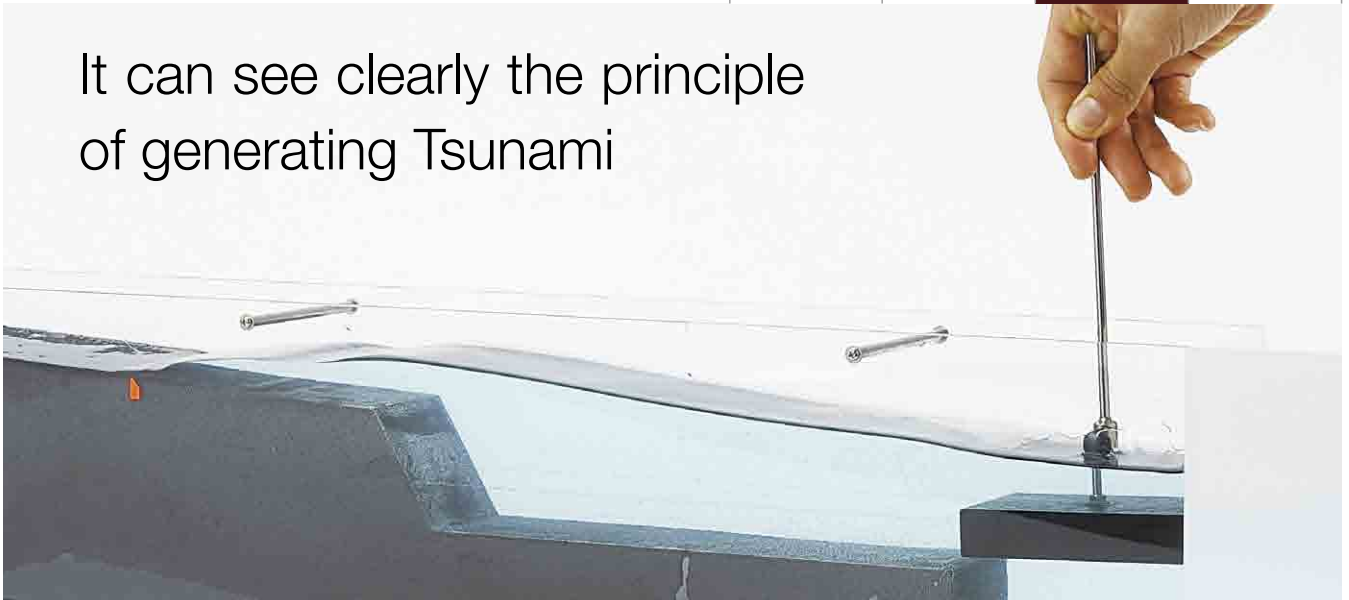
Observation Apparatus for Earthquake

Product No.	8-144-0019
Model No.	DG-E

SPEC

● Main unit dimension/550×70×300mm ● Main unit material/Plastic ● Movement of the plate/Manual ● Plate representation/Paint in different color ● Accessory/model building

It can see clearly the principle of generating Tsunami



Observation Apparatus for Tsunami

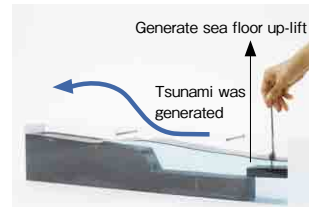
Product No.	8-144-0020
Model No.	DG-T

● By artificially creating the uplifting of sea floor, it will create Tsunami in the water tank.

SPEC

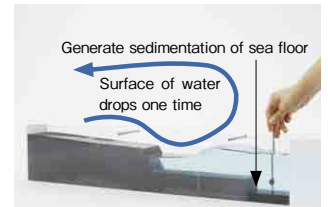
● Main unit material/Plastic ● Main unit dimension/900 (W) × 85 (D) × 150 (H) mm ● Accessory/Handle, wave generator block(wooden), simple lid, water level indicator string, pin(use for indicator)

Push wave



Push wave (Tsunami will come suddenly)

Pull wave



After pull wave (water surface will drop) then after time lag, Tsunami will come



It is possible to use ordinarily pen or pencil



Sliding mechanism allow to shake smoothly on desk or lab bench

Learn about mechanism of seismograph

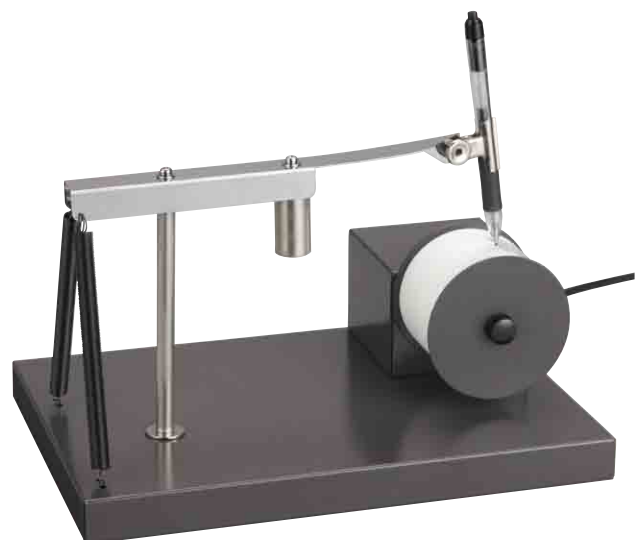
Seismograph Model

Product No.	8-154-0003
Model No.	SJ-13

● Learn the mechanism of recording the earthquake shake in to the paper
 ● Sliding stopper on the back allow to shake the desk, and conduct the experiment, or Remove the sliding stopper, and shake the apparatus itself.

SPEC

● Material/Main unit:Steel ● Dimension/Main unit:297 (W) × 210 (D) × 195 (H) mm, for recording Roll paper:58 (W) mm ● Structure/Slide function,Slide stopper rubber,switchable ● Motor rotation/1 time ● Power/AC100V ● Accessory/Recording paper (replacable), clip for pen/pencil





Ideal for utilizing big screen TV

- PC connection via USB cable
- TV connection via video cable



□ 2 way LED illumination



Transmission LED
Illumination from lower position enable to see the transmitting samples



Digital Microscope

Product No.	8-170-0027
Model No.	D-EL2

SPEC
 ● Output/USB1.1/2.0, Video output ● Video element/about 5 million pixel, CMOS sensor
 ● Magnification/40 to 400 times ● Memory/Internal 128MB, SD card slot×1 ● LCD monitor/TFT monitor
 ● Objective lens/4×, 10×, S40× ● Lighting/Continuous peripheral light white color LED, AC100V
 ● Data format/still image: JPEG, video: AVI ● Dimension / 120 (W) × 175 (D) × 350 (H) mm
 ● Weight/1.45kg ● Supported OS/Windows XP, Vista, 7, 8 ● Accessory/Software, video cable (5m), USB cable, sample prepared slide, dust cover, AC adapter, slide for calibration, carrying case

Standard microscope



Lens barrel Rotates 360°
Rechargeable

Microscope

Product No.	8-170-0301
Model No.	AA-51LED

SPEC
 ● Revolver type ● Magnification/40 to 400 times(40,100,400 times) ● Eyepiece(small)/WF10×(number of views 13.5) ● Object lens(small)/4×, 10×, S40× ● Barrel format/Monocular: 45°, Tilt barrel: Rotates 360° ● Barrel length/139mm ● Focus adjustment/Up and down adjustment of the stage ● Stage/Rectangular movable stage ● Lighting equipment/Rechargeable white LED, rechargeable AA battery×3 pcs ● Dimension/176 (W) × 154 (D) × 294 (H) mm ● Weight/1.86kg ● Accessory/AC adapter, dust cover
 ※The viewing image will be up and down upright, left and right inverted, due to the prism

New generation microscope!
Genuine surprise and inspiration to the children



Lens barrel Rotates 360°
Rechargeable



Microscope for Students

Product No.	8-170-0331
Model No.	SK-52

SPEC
 ● Magnification/40 to 400 times (40,100,400 times) ● Eyepiece/WF10× (Number of views 18)
 ● Objective lens/4×, 10×, S40× ● Barrel format/Monocular: 45°, Tilt barrel: Rotates 360°
 ● Barrel length/160mm ● Focus adjustment/Up and down adjustment of the stage
 ● Stage/Round movable stage ● Aperture/disk rotation type ● Lighting equipment/Rechargeable white LED ● Dimension/117 (W) × 185 (D) × 278 (H) mm ● Weight/2.0kg
 ● Accessory/AC adapter, dust cover, Tool for object lens

Experience the micro world



Binocular
Rechargeable



Stereoscopic Microscope

Product No.	8-171-1042
Model No.	SSR-EMLLED

SPEC
 ● Magnification/20, 40 times ● Eyepiece/WF10× ● Object lens/2×, 4× (Rotation type) ● Barrel format/Binocular: 45°, Tilt barrel, eye distance adjustment: 53 to 75mm, with diopter adjustment ● Focus mechanism/Rack-and-pinion type with hardness control handle ● Stage/Acrylic panel(white, black), matt glass, 80(dia)mm ● Lighting equipment / White LED, rechargeable, AC100V ● Dimension/126 (W) × 215 (D) × 288 (H) mm ● Weight / 2.9kg ● Accessory/rubber eye cover, dust cover, AC adaptor



Rechargeable LED lighting



By using the LED lighting, it enable to observe the slide for a long period of time without damaging the object

-  Connect to TV with HDMI cable
-  Connect to PC with USB cable

Digital Microscope

Product No.	8-171-1060
Model No.	DMSM-202HD

- It can project the image to the TV with single HDMI cable.
- With USB cable, it enable to connect with the PC.

SPEC

● Output(TV)/HDMI ● Output(PC)/USB 2.0 ● Image sensor/about 5 million pixels
 ● Magnification/20 times,40 times ● Eyepiece/WF10× ● Object lens/2×,4×(Rotation type) ● Barrel format/Binocular:45°,Tilt barrel,360° rotation,eye distance adjustment:50 to 75mm, with diopter adjustment ● Focus mechanism / Rack-and-pinion with arm ● Stage / Acrylic panel(white, black),matt glass,80(dia)mm ● Lighting mechanism/LED rechargeable
 ● Dimension/140 (W) × 237 (D) × 262 (H)mm ● Weight/2kg ● Supported OS/Windows XP,Vista,7,8 ● Accessory/Software,HDMI cable(5m), USB cable,Dust cover,AC adapter, Calibration slide,rubber eye cover,Stage panel(black/white plate, matt glass plate).
 ※In case of HDMI output,it will be 2 million pixels
 ※In case of USB output,it will be 1.3 million pixels

Connects to large screen TV with single HDMI cable

-  Connect to TV with HDMI cable
-  Connect to PC with USB cable



Digital Microscope

Product No.	8-170-0363
Model No.	DMSK-122HD

SPEC

● Output (TV)/HDMI ● Output (PC)/USB 2.0 ● Image sensor/about 5 million pixels
 ● Magnification/40 to 600 times (40,60,100,150,400,600 times) ● Eyepiece(JIS)/WF10 ×,WF15 × ● Object lens(JIS)/4×,10×,S40× ● Barrel format/Monocular: 45°,Tilt barrel ● Barrel length/160mm ● Focus mechanism/up and down of the stage with fine adjustment axis ● Stage / Rectangular fixed, mechanical stage ● Aperture / Linear adjustment iris type ● Lighting mechanism/LED rechargeable ● Dimension/150 (W) × 269 (D) × 353 (H) mm
 ● Supported OS/Windows XP,Vista,7,8 ● Accessory/Software, HDMI cable,USB cable, Dust cover,AC adapter,Calibration slide
 ※In case of HDMI output, it will be 2 million pixels ※In case of USB output, it will be 1.3 million pixels

With HDMI output, check the beautiful image

-  Connect to TV with HDMI cable
-  Connect to PC with USB cable



Adapter for stereo microscope Adapter for biological microscope

※Appearance is subject to change

Digital Microscope Camera

Product No.	8-173-3039
Model No.	SCD-50HD

SPEC

● Output(TV)/HDMI ● Output(PC)/USB 2.0 ● Camera/image sensor:5 million pixels
 1/2.5"CCD,power consumption:DC12V,180mA ● Supported OS/Windows XP,Vista, 7,8
 ● Accessory/C mount TV lens:12mm,C mount adapter for Biological microscope(dia. 28mm), Stereo microscope(dia. 34mm), Calibration slide (2 kinds),Calibration gauge, HDMI cable(5m), USB cable,AC adapter (DC12V-2A) ● Dimension/75 (W) × 120 (D) × 60 (H) mm ● Weight/180g
 ※Pleas we check the diameter of the barrel
 ※In case of HDMI output,it will be 2 million pixels
 ※In case of USB output,it will be 1.3 million pixels

MEMO

ENJOY WORLD DIDAC!!



A series of horizontal dotted lines for writing.

MEMO

ENJOY WORLD DIDAC!!



A series of horizontal dotted lines for writing.



内田洋行

2-4-7, Shinkawa, Chuo-ku, Tokyo, Japan 104-8282

For inquiry : **UCHIDA YOKO GLOBAL LIMITED**

Tel : +852-2877-3663

E-mail : sales@uchidayoko.com