Jupiter Scientific (Australia) *Bringing Science To Life*

Popular Products 2023

Contact info@jupiterscientific.com.au to find your local distributor

Alpha Scattering Apparatus

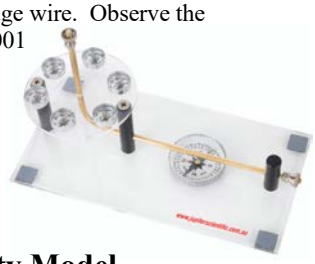
★ **Observe alpha scattering** ★

Roll the steel ball towards the 'Chinese hat" to demonstrate the physics of alpha-scattering. Vary the speed and incident angle of the ball and observe the variation in deflections. Cat R001

Ampere Rule

★ **Investigate fields around a straight wire** ★

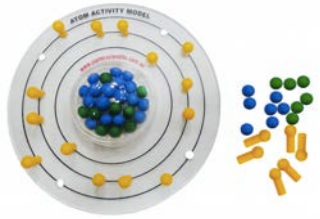
Pass a current through the heavy gauge wire. Observe the movement of the compasses. Cat E001



Atom Activity Model

★ **So easy for students to now build their own atoms** ★

Add/remove neutrons and protons to the nucleus. Peg the required number of electrons in the appropriate shells. A brilliant aid to student understanding of atomic structure, ions and isotopes. Can be used on the overhead projector for easy class demonstration. Cheap enough for class sets. Cat R002



Boyle's Law Syringe

Simple Boyle's Law syringe: Plot pressure versus volume Cat F001

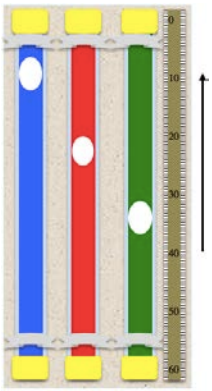
Please also see PVT Syringe (Cat F002) for investigating other gas laws.

Pressure versus Volume **Plus** Pressure versus Temperature

Bubble Tubes

★ ***A great introduction to basic physics concepts*** ★

The Bubble Tubes is a set of three transparent plastic tubes each containing coloured fluids of varying viscosity. Measure the speed of each bubble as they rise up the tubes. Provides a great introductory physics exercise in demonstrating the concepts of recording and graphing data, extrapolation, precision and uncertainty. Cat I001



DIOXIDE GLASS

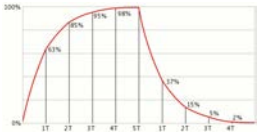
★ **Challenge your student's understanding of optics** ★

A tricky demonstration that really challenges a student's understanding of optics and lenses. Why does the clear plastic rod invert the red coloured "GLASS" but not the blue coloured "DIOXIDE"? Cat L001

Capacitance Demonstration Unit

★ **Has it ever been easier to demonstrate a capacitor** ★

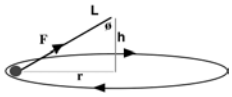
Charge the capacitor. LED will still glow hours later when the switch is pressed to discharge the capacitor. Vary the time constant and observe the charging process of a capacitor (unit plugs straight into your cro). Cat E002



Centripetal Force Apparatus

★ **Motorized unit for exploring centripetal motion** ★

Investigate the properties of centripetal forces as you vary the length of the line, the speed and the mass of the rotating bob. Cat M001



Colorimeter (student)

★ ***Economic and simple to use colorimeter*** ★

A student colorimeter that is easy to use and cheap enough for class sets. Determine the concentration of a solution by comparing the intensity of its colour with that of a solution of a known concentration.

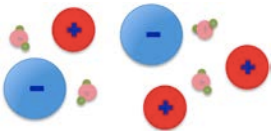
Battery operated. Plugs straight into your multimeter (not supplied).

Cat C001

Conductivity tester

★ ***Easy to use. Test solids and liquids*** ★

Place the probes against a material or in a liquid Brightness of lamp indicates conductivity. Suitable for primary and secondary students. Attractively priced for purchasing in class sets. Cat I002



Current Balancer

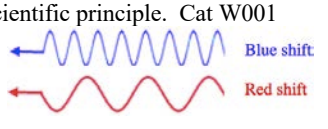
★ ***Do away with your old current balance kits*** ★

Remember the old PSSC experiment "Measurement of a magnetic field" and mucking about with fiddly bits of string? Now there is a much easier way to measure the magnitude and direction of the force produced by a current carrying wire. Sit the Current Balancer on your mini electronic balance. Apply a voltage, measure the up/down force and calculate the magnetic field. Cat E003

Doppler Effect Apparatus

★ *An audible AND visual demo of the Doppler Effect* ★

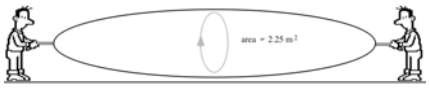
The wavelength of a sound is affected by the motion of its source. Twirl the apparatus above your head for students to clearly hear the Doppler Effect. A great aid for explaining this significant scientific principle. Cat W001



Earth's Magnetic Field Detector

★ *Measure the strength of the Earth's magnetic field* ★

Swing the detector like a skipping rope and record the emf on your multimeter. Calculate the Earth's magnetic field. Cat E004

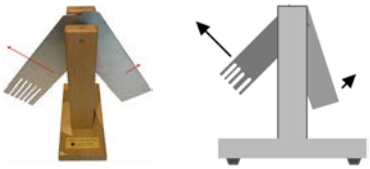


$$B = \frac{\xi\, t}{A}$$

Eddy Currents Apparatus

★ **Why does one plate swing for longer than the other?** ★

Two aluminium plates swing through a strong magnetic field. Eddy currents quickly dampen the motion of the solid aluminium plate whilst the pronged aluminium plate continues to swing. Cat E005

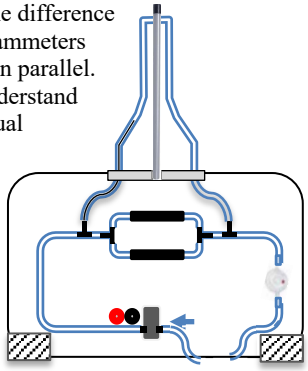


Electric Circuit Simulator

★ *Uses water to demonstrate the principles of electricity* ★

Uses water to brilliantly demonstrate the difference between voltage and current, and why ammeters are connected in series and voltmeters in parallel. 56 cm wide. Students cannot fail to understand the concepts of current via the very visual spinning flowmeter ball. Cat E006

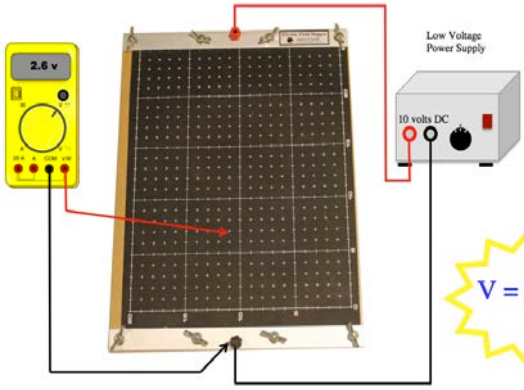
$$V = IR$$



Electric Field Mapper

★ *A great aid to understanding electric fields* ★

Use your voltmeter to explore lines of equipotential. Mark and map the electric field produced by the two charged electrodes onto the electrical conducting paper. Cat E007



$$V = ED$$

Replacement Field Mapper Paper Cat E007A

Electrostatic Stick

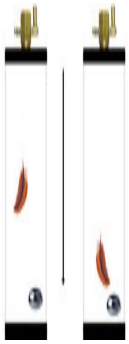
★ *Watch the balls fly in reaction to the presence of charge* ★

Slide the rubber sleeve along the clear plastic stick and watch the balls fly. A vivid demonstration in electrostatics. Cat E008

Guinea and feather tube

★ *Recreate the lunar experiment* ★

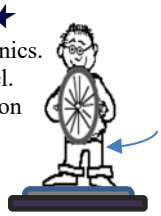
Recreate the famous experiment performed on the moon. Use your vacuum pump to evacuate the tube. When the tube is inverted, the heavy steel ball and feather drop almost at the same rate. Cat M002



Gyroscope/Rotating platform

★ *Become a human gyroscope* ★

A fun interactive demonstration of rotational mechanics. Feel the opposing effect of tilting the spinning wheel. Become a human gyroscope as the wheel turns you on the rotating platform.
Gyroscope wheel Cat M003.
Rotating platform Cat M004



Inverse Square Law Projector

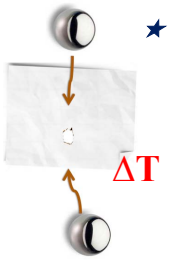
★ *A key concept when teaching light and sound* ★

Students can vividly explore the inverse square law (a key concept of light and sound). Point the powerful beam of dots from the very compact projector (just 8cm long) at a target. Increase the distance between projector and target, and count and plot the decreasing number of dots. Cheap enough for class sets. Cat L003

★ **New Exciting Product** ★

Kinetic Balls

★ *The cavemen would have loved a set of these* ★

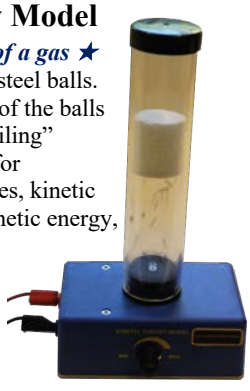


An amazing demonstration of conversion of mechanical energy into heat energy. Smash the two large chrome balls together onto a sheet of paper. Enough heat will be generated to burn a small hole and produce a strong smell of burnt paper. Cat H001

Kinetic Theory Model

★ *Effect of temperature on volume of a gas* ★

The model's vibrating base excites the steel balls. As the power is increased – the energy of the balls increases and raises the foam block "ceiling" (simulating gas expansion). Great aid for demonstrating molecular motion of gases, kinetic theory, and the relationship between kinetic energy, temperature and volume. Cat H002



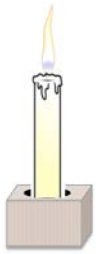
LED Array

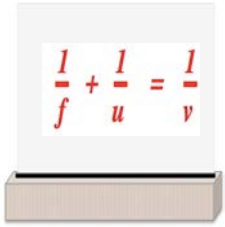
Switch between the 11 LEDs of varying colours. Study the relationship between light, colour & wavelength. Determine Planck's Constant (measure voltages & the wavelength across different coloured LED's). Cat R004

$$E = h\nu$$

Optical screen and candle

Semi opaque screen (20 x 20 cm) plus a mounted candle for performing simple optics experiments. Cat L002





Light dependent resistor

Investigate intensity of light versus resistance. Have fun controlling simple circuits via light. With 4mm banana sockets for easy connection to your multimeter or electronic circuit. E013

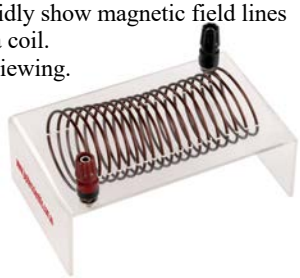
Parallel Wires Field Apparatus

★ A visual demonstration of the attractive/ repulsive forces between current carrying wires ★

An easy and no fuss way to demonstrate the attractive/repulsive forces between two current carrying conductors. Apply a voltage and watch the foil blades bend in or out (dependent upon direction of currents). Cat E011

Magnetic Field Coil

Use compasses/iron filings to vividly show magnetic field lines resulting from a current through a coil.
Place on O/H projector for easy viewing.
Cat E009



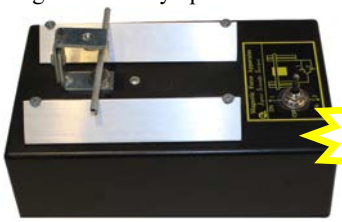
Power Microphone

Finally – a microphone with grunt!!

Does your microphone provide enough 'grunt' to demonstrate low volume sounds on your CRO? The Power Microphone provides powerful signals and connects easily to your oscilloscope (BNC plug). Cat W002

Magnetic Force Apparatus

Demonstrate the force between a current carrying wire and a permanent magnet. The magnetic field produced by the current through the rod causes it to roll along the rails towards/away from the magnets. Battery operated. Cat E010



F = BIL

PVT Syringe ★ *Gas Laws* ★

Combination unit for verifying the Gas Laws. Increase the load (pressure) and measure the decrease in volume PLUS the increase in temperature (multimeter required). Cat F002

PV = nRT

Refraction Tank (with laser)

A very affordable 2.5 litre clear acrylic water tank for use with laser (included) to perform reflection and refraction experiments.
Cat L004

Snells Law

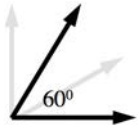
$$n_1 \sin\theta_i = n_2 \sin\theta_r$$

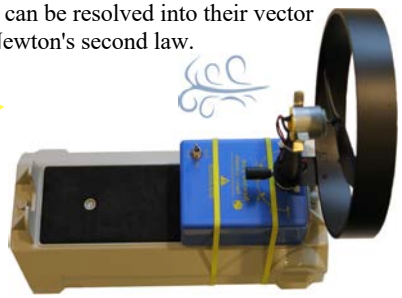
Newton Fan

★ Convert your dynamics cart quickly into a fan cart ★

Sit the Newton Fan on your dynamics cart and watch it race off. Investigate acceleration versus fan angle (0, 30^0, 60^0, 90^0). Demonstrate how forces can be resolved into their vector components. Confirm Newton's second law.
Cat M006

F = ma





Resistors

Mounted with banana socket terminals for easy connection. Compared to other resistors on the market, these are **HIGH WATTAGE** to reduce risk of accidental burnout. Available in:
1.0Ω, 2Ω, 5Ω, 10Ω, 20Ω, 50Ω and 100Ω
Cat E012-1; E012-2; E012-5;
E012-10; E012-20; E012-50; E012-100

Singing (resonance) rods

★ **Guaranteed to grab the attention of students – AND everyone else in the building** ★

Generate an ear-piercing sound as you slide your fingers along the length of the rod. Set consists of five rods of varying length (60cm to 90cm), diameter and composition; plus resonance powder (15g). Cat W003

Sonometer (weight-less) with Pick up

★ ***No weights required. Displays clean lasting vibrations*** ★

Use the thumb screw/spring balance to increase and measure tension on a wire and investigate the effects (no need for weights). Use the unique Pick Up to demonstrate waves on your oscilloscope (provides a much clearer wave pattern than via a microphone). Cat W004

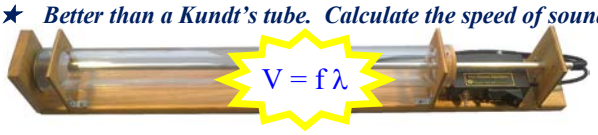
Sound Box

★***Signal Generator, amp and speaker all in the one convenient package! No more fiddly wiring*** ★

A signal generator, amplifier and speaker all in one convenient box. Use the optional 2nd speaker for a brilliant demonstration of sound interference. Stand at a node and 'hear the silence'. Battery or mains operated (plug pack sold separately). Cat W005

Sound Machine

★ ***Better than a Kundt's tube. Calculate the speed of sound*** ★



Use the sliding probe to investigate how the amplitude of the sound from the inbuilt speaker varies along the length of the tube. Investigate interference, standing waves and nodes (points along the tube where there is no sound). Calculate the speed of sound. Battery operated and with banana sockets/BNC terminal for direct connection to the Sound Box or to your signal generator and oscilloscope. Cat W007

Voltameter (student)

★ ***Simple experiment in electrolysis. Produce and collect hydrogen and oxygen gases*** ★

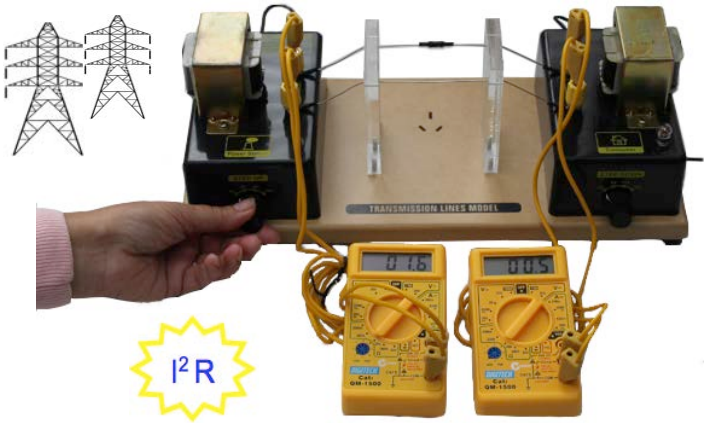
Perform simple electrolysis experiments. Robust stainless steel probes. Easy to use and cheap enough for class sets. Cat C002

Transmission Lines Model (power lines)

★ ***BEWARE OF UNSAFE and INFERIOR IMITATIONS*** ★

Demonstrate easily and safely why power companies step up/down the voltage when transmitting electricity over large distances.

- Vary the step up/step down voltage ratio in increments of 0x, 8x, 12x and 16x. Observe the change in brightness of the Consumer lamp as the effects of the I^2R term kicks in.
- Measure the power losses within the transmission lines.
- Fully self-contained unit. Just use your multimeter to measure step up/down voltages and currents. Compact unit for easy storage (37cm long). Cat E015



Vertical Acceleration Demonstrator

★ ***A compelling test of student reasoning*** ★

Two steel balls are launched simultaneously. One explodes out in a horizontal direction whilst the other drops straight to the ground. Which ball hits the ground first? Demonstrate that vertical acceleration is independent of horizontal velocity. Listen for the simultaneous clunk as both the balls hit the ground. Cat M008

Vibration Generator

★ ***Generate standing waves. Investigate nodes etc*** ★

Connect your signal generator (0.1Amp) and generate mechanical waves along a spring or length of string. Demonstrate nodes and standing waves and more. Investigate the effect of varying the frequency, the tension and also the mass per unit length. Investigate longitudinal waves in a spring and transverse waves in a string. Compact unit for easy storage. Cat W008