einstein™ Catalogue 2016

Brought to you by SLS Select Education

einstein™

Imagine

if we could nurture every
child's inquisitive nature
into a passionate curiosity.

We could **inspire**
a generation of young minds
to pursue the answers that
will change the world.

Our vision

Children start out eager to learn about the world around them, yet by the time students reach Key Stage 4, half of them have already decided science is not for them.

Research shows that the earlier you expose children to science, technology, engineering and maths (STEM), the more likely they are to succeed in STEM and pursue STEM careers.

SLS Select Education are excited to bring you the latest in data logging technology from Fourier Education. We don't merely want to expose kids to science; we are determined to add an extra spark to the classroom that drives students to become the next brilliant STEM leaders.

If you would like an on-site demo or further information don't hesitate to contact us to arrange a visit from your local area representative.

If we can get these tools into the hands of teachers and students, we can change the equation and help children find their inner scientist.

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einstein™ LabMate™+

the ideal solution for schools already equipped with tablets or computers

- Features 6 built-in sensors commonly used in most science curricula
- Connects to up to 8 external sensors simultaneously
- Pairs with any tablet or computer via Bluetooth or Micro-USB port
- Built-to-last sturdy design
- Runs experiments of over 24 hours without charging

Use the **einstein**™LabMate™+ with any of the free apps and software to enjoy the full platform:

MiLAB

einstein™World

More apps to come in 2016

More info on apps at www.**einsteinworld**.com

6 Built-in sensors

- Heart Rate
- Temperature
- Humidity
- Pressure
- UV
- Light

Compatible with over

60 **einstein**™ sensors

Collects data from up to

14 sensors simultaneously

Also available:

- **einstein**™LabMate (without internal sensors)
- **einstein**™LabMate Link (low-cost solution)

LOG5006
£173.40 **einstein**™ LabMate+

The award-winning, all-in-one **einstein**™Tablet+

- Full Android tablet with a built-in science lab
- Contains 8 built-in sensors, commonly used in most science curricula
- Connects up to 8 external sensors, from the over 60 in the **einstein**™catalogue
- Designed with NGSS and Common Core in mind, it can be used both in the science lab and also in a broader educational environment

The **einstein**™Tablet+ includes free apps and software:

MiLAB

einstein™World

TrackIt!

More apps to come in 2016

8 Built-in sensors

- UV
- Light
- Temperature
- Heart Rate
- Humidity
- Accelerometer
- GPS/location
- Microphone

bett awards 2014
WINNER
Best Digital Device

Compatible with over
60 einstein™ sensors

Collects data from up to
16 sensors
simultaneously

LOG5000
£264.40 einstein™ tablet+

Features

- Android™ OS
- Dual-core processor
- 7" Capacitive screen
- MicroSD card slot
- Front & back cameras
- Projector friendly
- WiFi
- Bluetooth™
- Long Lasting Battery

einstein™World

The **einstein**™World app runs interactive multimedia science activities designed by educators, publishers and students. Activities contain a self-guided, sensor-based experiment to be conducted by students.

einstein™World presents a new concept in inquiry-based science learning:

- Integrating videos and scientific principles and having students conduct experiments while taking their own measurements
- Enabling students to progress at their own pace via self-guided learning units, enhancing their work at home
- Promoting cross-disciplinary learning through engineering challenges

GET IT ON Google play

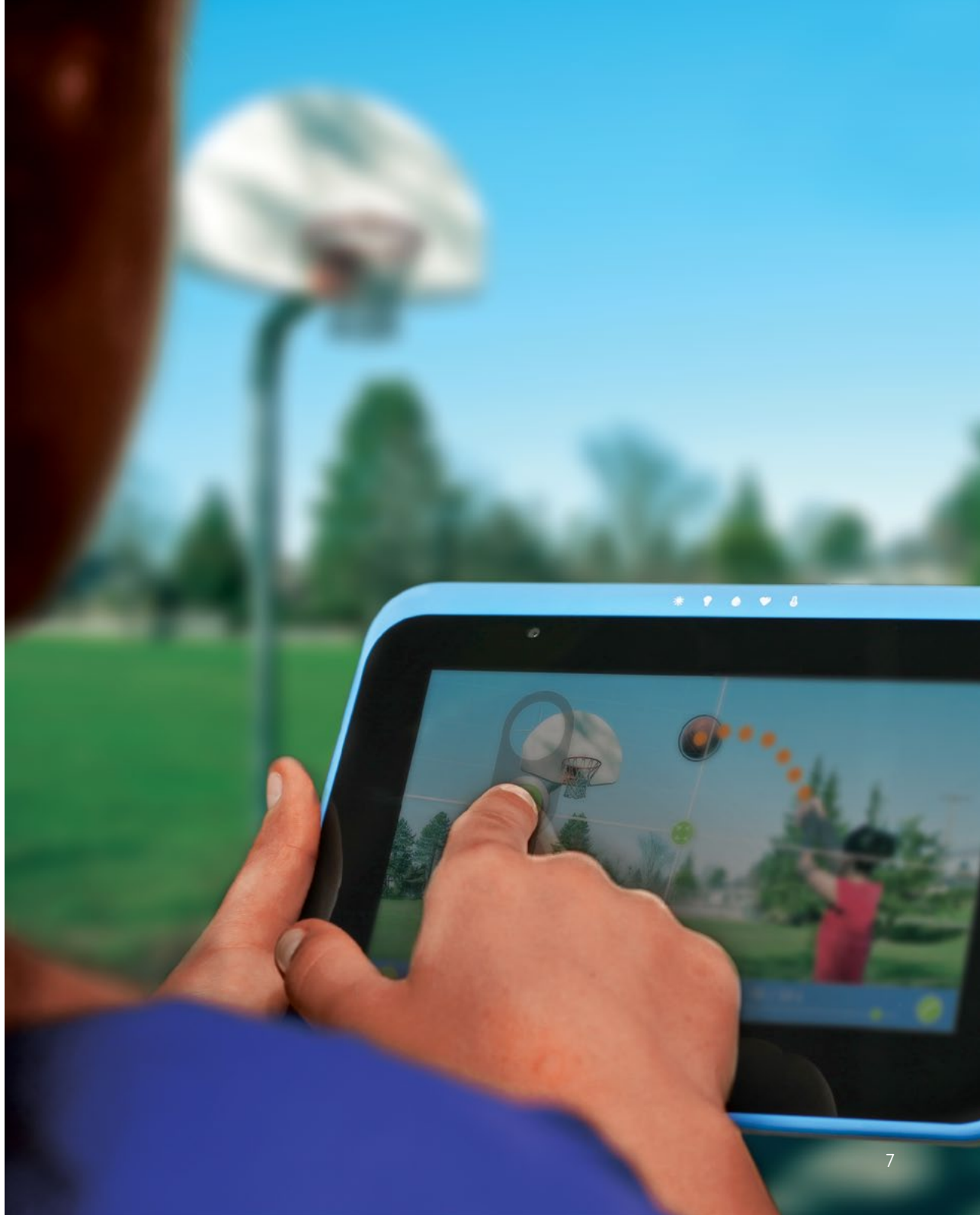
Download on the App Store

TrackIt!

TrackIt! is a video motion analysis tool allowing you to move frame by frame through a movie, tracking the motion of a single object. TrackIt! is the perfect tool for teaching speed, acceleration, the laws of motion, and more.

- TrackIt! helps students understand and analyse an object's motion through plotted graphs
- Use pre-recorded video clips on your device or capture new footage from within the app
- Change placement of axis origin and pivot it 360° to control the x and y axes
- Analysis graphs to help understand the object's movement
- Scale tool to activate additional analysis graphs

GET IT ON Google play



MiLAB™

MiLAB™ is an intuitive and user-friendly app that makes it easy to collect, visualise and analyse data, providing students with both basic and advanced tools for inquiry-based scientific discovery.

MiLAB™ features:

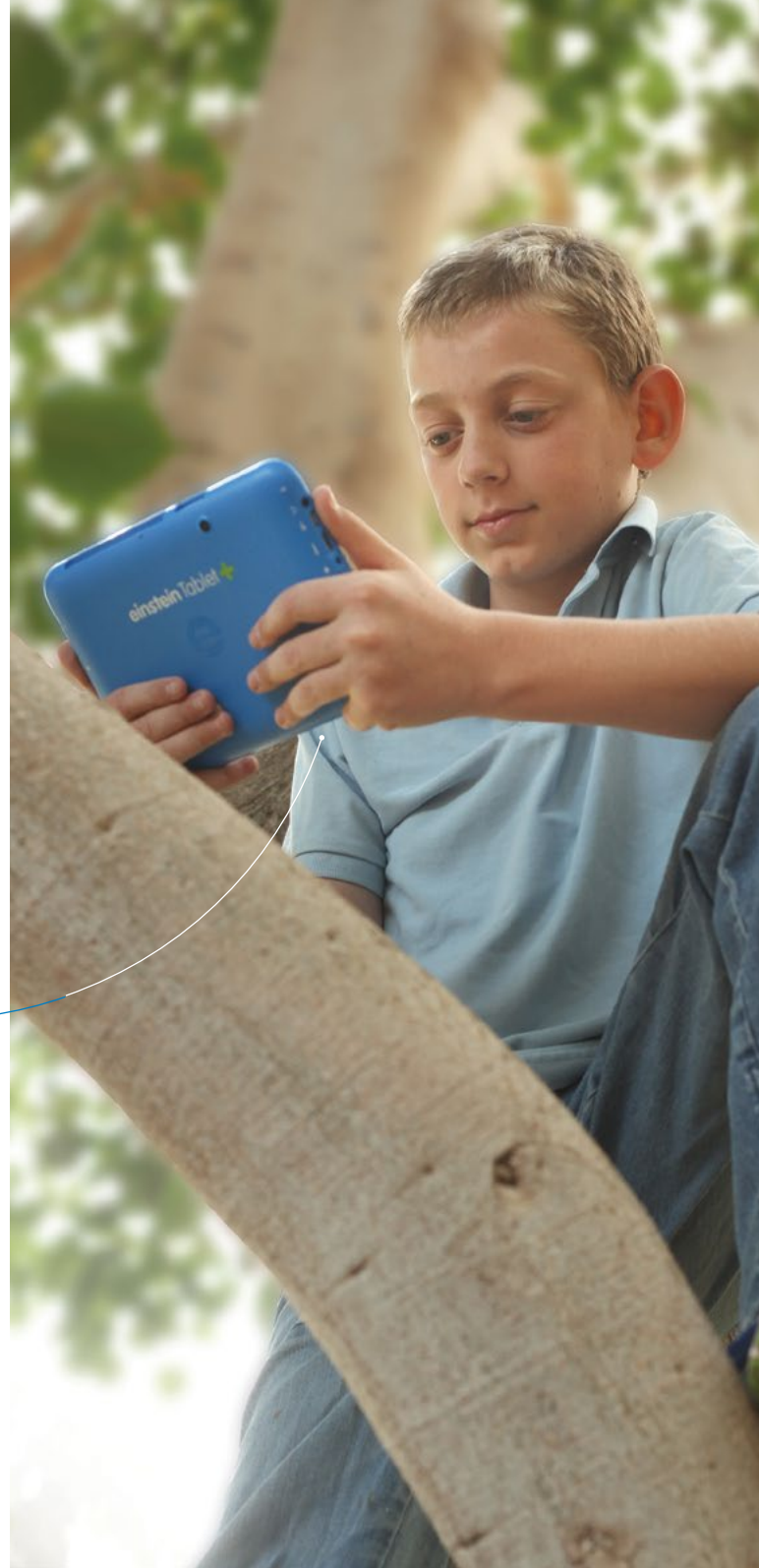
- Intuitive and simple interface
- Multiple data display modes: graphs, tables, metres and map
- Real-time data measurements via built-in and external sensors
- Export and share options
- Prediction tool, functions for advanced analysis, and video-sync abilities

(soon)

GET IT ON Google play

Download on the App Store

*Multilab4 is now **MiLAB™**



einstein™ Activity Maker

Publishers, educators, and students can create multimedia, interactive, sensor-based science activities as easily as creating a slide presentation.

Activity Maker features:

- Works in multiple languages
- Uses web-based platform
- Integrates sensor-based data into presentations
- Encourages cross-curriculum development and collaborative work

einstein™ Sensors

Accelerometer

An einstein™ Tablet+ built-in sensor

Range: ±2g

LOG5048

£74.50

Accelerometer Sensor

Range: ±6g (±49 m/s^2) along 3 axes

In the lab, use these sensors to measure the acceleration of a moving cart, pendulum or falling body or go outdoors to study acceleration of vehicles, amusement park rides, bungee jumpers and other moving objects.

LOG5051

£243.30

Ammonium Sensor with Electrode *

Concentration Range:
5 µM to 1M or 0.1 ppm to 14,000 ppm

Easily measure the ammonium ion (NH_4^+) level of a solution. Use it to study water quality, determine the ammonium level in foodstuffs and more.

* Electrode also sold separately

LOG5057

£197.90

Anemometer

Wind Speed Range:
4 km/h to 280 km/h; 2.5 mph to 174 mph

Wind Direction Range:
0˚ to 360˚

This 2-in-1 sensor measures wind speed and direction at different daily intervals or over a longer period.

LOG5060
£81.50

Blood Pressure Sensor

Range: 0 to 375 mmHg

Measure blood pressure before and after exercise; investigate how blood pressure changes during the day or after physical activity.

LOG5063
£289.80

Bromide Sensor
with Electrode *

Concentration Range:
0.5 µM to 1 M or 0.4 to 79,900 ppm

Easily measures the amount of bromide in a solution. Use it to study bromide levels in soil and water.

* Electrode also sold separately

LOG5072
£243.30

Calcium Sensor
with Electrode *

Concentration Range:
0.5 µM to 1M or 0.02 ppm to 40,000 ppm

Measure the level of calcium in any solution in activities such as determining the hardness of water.

* Electrode also sold separately

LOG5078
£243.30

Chloride Sensor
with Electrode *

Concentration Range:
5 µM to 1M or 1.8 ppm to 35,500 ppm

Study levels of chloride in fertilisers or conduct water quality studies with this sensor.

* Electrode also sold separately

LOG5069
£150.20

CO_2 Sensor

Range: 350 to 10,000 ppm

With its broad dynamic range, this sensor can be used to measure a wide variety of CO_2 concentrations during photosynthesis and chemical reactions in Biology and Chemistry labs.

LOG5084
£80.30

Colorimeter*

Wavelength:
Blue (480 nm) | Green (500 nm) | Red (650 nm)

Designed to determine the concentration of a solution by measuring its colour intensity, students can use this sensor to study the effect of light on chlorophyll levels in plants, the Beer-Lambert Law and more.

* Sensor design may change

LOG5087
£98.90

Conductivity Sensor
with Electrode *

Range: 50 µS to 80 mS

Use this sensor to monitor changes in conductivity when dissolving salts in water, monitoring bodies of water for pollution or water salinity testing.

* Electrode also sold separately

LOG5096
£33.80

Current Sensor

Range: ±250 mA

LOG5093
£33.80

Current Sensor

Range: ±2.5 A

These broad differential sensors are capable of measuring both direct and alternating current.

LOG5102
£57.00

Drop Counter Sensor

Range: 0 to infinity drops

Accurately record the volume of titrant added with this optical sensor.

* Sensor design may change

LOG5099
£104.80

Distance Sensor

Range: 0.2 m to 10 m

Measure the distance of static and moving objects both near and far. Students can use this versatile sensor to investigate dynamic cart motion on a track, measure free fall acceleration and more.

* Sensor design may change

LOG5108

£60.50

Electrostatic Charge Sensor

Range: ±0.25 µC | ±0.025 µC

This dual range, sensor can be used in activities like measuring the charge produced by friction, measuring charge by induction, investigating conductive and insulating materials and exploring the relationship between the charge and the voltage drop across a parallel plate capacitor.

£POA

Ethanol Sensor

Range: 0-3%

Easily measures the amount of ethanol in a solution. Use it to study ethanol as a renewable source of energy and the process of fermentation.

LOG5111

£254.90

Flow Rate Sensor

Range: 0 to 4.0 m/s

Measure the velocity of water flowing in a river, stream or canal.

LOG5114

£289.80

Fluoride Sensor with Electrode *

Concentration Range: -1 µM to saturation or 0.02 ppm to saturation

Easily measures the amount of fluoride in a solution. Use it in Agriculture studies and Chemistry experiments

* Electrode also sold separately

LOG5120

£115.20

Force Sensor

Range: ±10 N | ±50 N

Study friction, simple harmonic motion, impact in collisions or centripetal force with this sensor.

LOG5123

£327.50

Geiger Muller Sensor

Range: 0 to 4096 Bq

This radiation sensor is used in experiments such as demonstrating the random nature of radioactive radiation, measuring activity vs. distance of a radioactive source and investigating the effect of different absorbers on radiation.

* Sensor design may change

GPS

An **einstein**™ Tablet+
built-in sensor

A standard Global Positioning System, helps students add the parameter of location to a variety of experiments.

Heart Rate

An **einstein**™ Tablet+
& **einstein**™ LabMate+
built-in sensor

LOG5126
£68.70

Heart Rate Sensor

Range : 0 to 250 bpm | 0 to 5 V

Use these high accuracy sensors to measure an individual's fitness, and how factors such as level of activity, gender and size impact heart rate.

LOG5129
£145.50

Exercise Heart Rate Sensor

Range: 0 to 250 bpm

Use this sensor to compare or monitor heart rates before, during and after brief vigorous activity and monitor the time it takes the heart rate to return to normal.

LOG5135
£64.00

Humidity and Temperature Sensor

Range: 0%-100% Relative Humidity | -40 to 125 °C

This highly accurate combined sensor makes experiments involving temperature and humidity simple. Perfect for studies in Biology, Environmental Science and Human Physiology.

Humidity

An **einstein™ Tablet+**
& **einstein™ LabMate+**
built-in sensor

LOG5132
£51.20

Humidity Sensor

Range: 0 % to 100 % Relative Humidity

Learn about body respiration properties, biotic conditions and research the meteorological connections between humidity and temperature.

* Sensor design may change

LOG5138
£289.80

Lead Sensor
with Electrode *

Concentration Range:
1 µM to 0.1 M or 0.2 to saturation

Easily measures the amount of lead in a solution and in soil.

* Electrode also sold separately

Light

An **einstein™ Tablet+**
& **einstein™ LabMate+**
built-in sensor

LOG5144
£33.80

Light Sensor

Range: 0-600 lux | 0-6000 lux | 0-150,000 lux

These light sensors contain a high precision photoelectric cell that measures light intensity in activities such as solar radiation and photosynthesis.

LOG5147
£64.00

Magnetic (Triple Axis) Sensor

Range: ±10 mT | ± 0.2 mT

Measuring magnetic field strength along three axes, this highly accurate sensor can be used to investigate the effects of the earth's magnetic field, a solenoid's magnetic field and the magnetic field of Helmholtz coils.

* Sensor design may change

Microphone

einstein™ Tablet+
built-in sensor

LOG5150
£29.10

Microphone Sensor

Range: 35 to 10,000 Hz

These sensors are designed to study the properties of sound waves such as the speed of sound through air and other materials, sound beats or harmonic properties of sound.

LOG5153
£243.30

Nitrate Sensor
with Electrode *

Concentration Range:
7 µM to 1 M or 0.1 ppm to 14,000 ppm

Conduct water quality studies and easily and accurately measure nitrate ions in aqueous solutions.

* Electrode also sold separately

LOG5165
£195.60

Oxygen Sensor
with Electrode *

Range: 0 to 14 mg/L DO

Measure oxygen concentration in solutions and fluids. Conduct investigation into oxygen consumption in aquariums and other bodies of water. Built-in temperature compensation makes this sensor highly accurate and easy to use.

* Electrode also sold separately

LOG5171
£46.60

pH Sensor
with Electrode *

Range: 0 to 14 pH

Measure pH changes during chemical reactions, follow an acid-base titration or examine bodies of water over long periods of time.

* Electrode also sold separately

LOG5183
£33.80

Photogate Sensor

Range: 0 to 3 V

This general-purpose sensor is commonly used for a wide variety of experiments such as studying the swinging of a pendulum swing, measuring the speed of a rolling object or measuring the speed of colliding objects.

LOG5186
£243.30

Potassium Sensor
with Electrode *

Concentration Range:
7 x 10^{-6} M to 1M or 0.04 ppm to 39,000 ppm

The potassium sensor can be used to measure pollution, agricultural fertilisers or the effects of food processing

* Electrode also sold separately

Pressure
einstein™ LabMate+
built-in sensor

Range: 20 to 400 kPa or 0.2 to 3.9 atm or 200 to 4000 mbar

With their broad range, these pressure sensors can be used to monitor pressure changes. Use them in class to demonstrate phenomena such as Boyle's Law or Gay-Lussac's Law.

* Pressure Kit sold separately, see page 36.

LOG5195
£46.60

Pressure Sensor

LOG5192
£60.50

Pressure (Barometric) Sensor

Range:
15 to 115 kPa or 0.148 to 1.134 atm or 150 to 1150 mbar

This sensor can be used as an altimeter and as a barometer for various meteorological measurements. Investigating transpiration, measuring the respiration rate of germinating seeds and examining the Ideal Gas Law, all can be done with this sensor.

* Pressure Kit sold separately, see page 22.

LOG5198
£128.00

Rain Collector

Range: 0 to 819 mm

This sensor measures rainfall and is used in a variety of experiments in Climatology and Environmental Studies.

LOG5201
£208.90

Rotary Motion Sensor

Range: ±360°

Examine how objects move, accelerate and swing. This sensor and pendulum accessory help students explore topics such as the effects of gravity on objects in motion.

* Sensor design may change

LOG5207
£64.00

Smart Pulley Sensor

Range: 0 to 99 m/s

Measure the velocity and acceleration of moving objects. Learn Newton's laws of motion including Newton's second law with this smart pulley.

LOG5210
£231.60

Sodium Sensor with Electrode *

Concentration Range:
4 µM to 1 M or 0.1 to 23,000 ppm

Easily measures the amount of sodium in a solution. Use it for Agriculture studies, experiments on food and Chemistry studies.

* Electrode also sold separately

LOG5216
£133.90

Soil Moisture Sensor

Range: 0 to 200 cbar

Measure the soil moisture's electric resistance and convert data into calibrated readings of soil moisture.

LOG5219
£68.70

Sound Level Sensor

Range: 45 to 80 dB | 65 to 110 dB

Investigate environmental noises, room acoustics, sound level or sound isolation.

LOG5222

£115.20

Spirometer

Range: ± 315 L/min | ± 5.25 L/sec

Breathe into this sensor to measure total lung volume, tidal volume or forced vital capacity (FVC).

* Sensor design may change

Ambient Temperature

An **einstein**™ Tablet+ & **einstein**™ LabMate+ built-in sensor.

Range: -30°C to 50°C

This internal sensor is useful for measuring ambient temperature and conducting experiments in micro-climates.

LOG5225

£25.60

Surface Temperature Sensor

Range: -40°C to 140°C or 40°F to 284°F

This high accuracy surface temperature sensor enables exploration of topics such as skin temperature measurements and the effects of wearing light or dark-coloured clothing.

LOG5228

£21.00

Temperature Sensor

Range: - 40°C to 140°C or - 40°F to 284°F

This all-purpose temperature sensor is particularly well suited for conducting water and solution temperature measurements.

LOG5231

£92.00

Temperature PT-100 Sensor

Range: -200°C to 400°C

This Platinum Resistance Thermometer (PRT) is ideal for use in the research of extremely low temperatures and it is also a very powerful sensor for monitoring liquids, gases and other materials.

LOG5234
£51.20

Thermocouple TC-K Sensor

Range:
0°C to 1200°C | 32°F to 2192°F | 273.15 K to 1473.15 K

The temperature TC-K sensor can be used in high temperature experiments such as monitoring chemical processes that occur at high temperatures, measuring the different temperature zones of a flame or simply monitoring ovens.

* Sensor design may change

LOG5237
£104.80

Turbidity Sensor

Range: 0 to 200 NTU

This sensor measures the cloudiness of water due to industrial processes or environmental pollution.

* Sensor design may change

UV

An **einstein**™ Tablet+
& **einstein**™ LabMate+
built-in sensor

Range : 0- 10 W/m² | 0-200 W/m²
Wave length: 290-390nm

This sensor can be used mainly to measure UVA radiation.

LOG5240
£52.40

UVA / UVB Sensor

Range UVA:
320nm - 400nm | 1 W/m² | 10 W/m² | 200 W/m²

Range UVB:
280nm - 320nm | 100mW/m² | 1 W/m² | 10 W/m²

Study the UV variations along a fluorescent tube, the invisible light from different sources or fluorescent rocks and dyes.

LOG5246
£45.40

Voltage Sensor

Range: 0 to 5 V

LOG5243
£33.80

Voltage Sensor

Range: ± 2.5 V

LOG5255
£21.00

Voltage Sensor

Range: ± 25 V

These low and medium range sensors can measure both AC and DC voltage and are used in experiments involving EMF and internal resistance, a light bulb and a diode, I-V characteristics of a diode, electric circuits, resistance of a wire or Ohm's Law.

LOG5252
£57.00

Voltage Sensor

Triple range: ±1 V | ±10 V | ±25 V

This broad range sensor can measure both AC and DC voltage and is used in experiments involving EMF and internal resistance, a light bulb and a diode, I-V characteristics of a diode, electric circuits, resistance of a wire or Ohm's Law.

LOG5249
£52.40

Voltage Sensor

Range: ±30 V
TRMS Range: 0 to 21 V

This sensor not only has a broad range but can also conduct extremely accurate TRMS (True Root Mean Square) readings. Measures both AC and DC voltages and can be used in experiments involving EMF and internal resistance, alternative energy, electric circuits, resistance of a wire or Ohm's Law.

Contact

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einstein™ Kits

Micro Stirrer

Attach to any ISE electrode and use with a laboratory magnetic stirrer (not included) to enhance stirring of a solution near the electrode tip.

LOG5273
£12.20

Pressure Kit

This kit contains accessories for use with any **einstein**™ Pressure Sensor.

LOG5270
£34.90

Picket Fence

Commonly used with a Photogate Sensor (page 16) to measure position, velocity and acceleration vs. time.

LOG5276
£16.30

SOLAR
LOG5261
£498.20

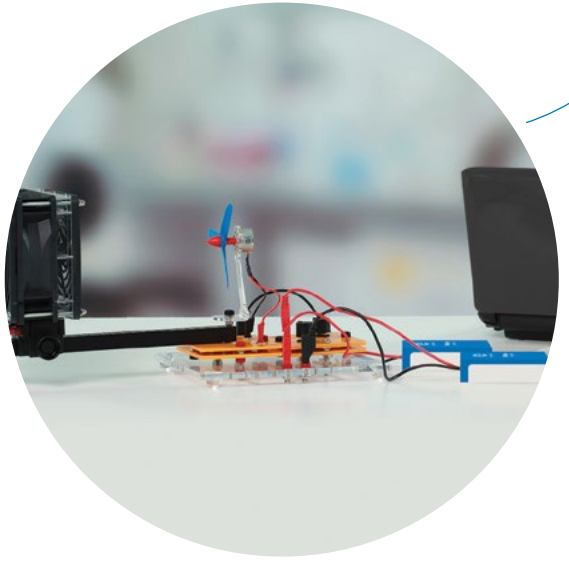
WIND
LOG5264
£669.30

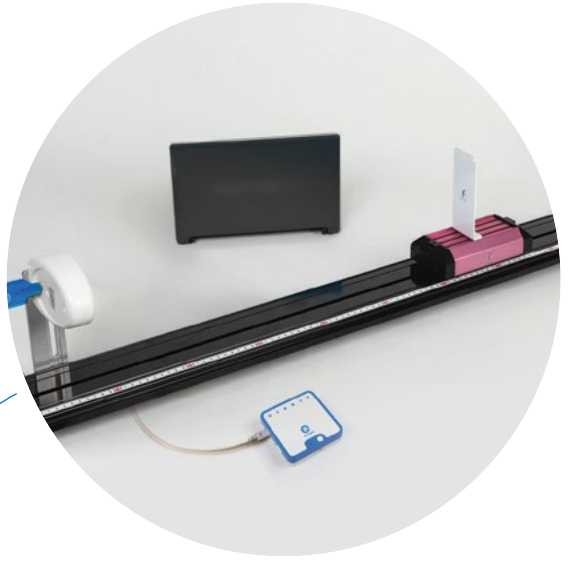
SOLAR & WIND
LOG5267
£1464.30

TERRA NOVA™

Solar & Wind Renewable Energy Science Education Kits

TERRA NOVA™ is comprised of 3 kits that explore solar energy, wind energy and a combination of the two. These hands-on-kits will advance the exploration of alternative energy technologies and their impact on everyday life.





Dynamics System

Dynamics System is an ideal accessory for the high school Physics laboratory that lets students perform hands-on activities in the field of Mechanics, and it is also well suited for teaching Motion to KS3 students.

LOG5258
£299.00

einstein™ Accessories

Child-friendly case

* Coming soon

Tablet Grip

LOG5033
£11.63

Extendable Clamp Stand

LOG5015
£46.60

Tablet Floor Stand

LOG5012
£64.02

Tablet Folding Stand

LOG5018
£5.80

Tablet Silicone Sleeve

LOG5027
£5.81

Tablet Case & Stand

LOG5024
£17.45

Plastic Case

LOG5021
£41.90

einstein™Splitter

LOG5318
£17.40

Options available including short sensor cables

Stylus

LOG5042
£5.81

Bluetooth Keyboard

LOG5030
£34.91

Bluetooth Mouse

LOG5039
£11.69

Bluetooth Headphone

LOG5045
£74.50

Tablet Charging Trolley

* Illustration only

£POA

Tablet Cloth

LOG5036
£1.15

SLS Select education

einstein™

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FOURIER education

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