



 **einstein**[™]
by Fourier Education

einstein[™]Catalog
2023



Our Vision

From its inception, one of the principal goals of science education has been to cultivate students' scientific habits of mind, develop their capability to engage in scientific inquiry, and teach them how to reason in a scientific context.

In today's world, science education needs to evolve with the teachers' and students' expectations for dynamic stimulation and technology innovation in science education methods and tools.

Fourier has focused on promoting 2023 as the year of out-of-the-box science experiences with its innovative ecosystem solutions.


Fourier's recent investment in Plethora is part of the company's strategy to expand its STEM toolbox by providing a computational thinking tool for students in primary and middle school. In the 2023 catalog, we will introduce **Fourier's** solution for STEM education from everywhere, starting from new and updated sensors that meet the new curriculum requirements, to new software features and innovative sub-apps that enable teachers and students to facilitate **Fourier's** dynamic solutions to practice science both online and offline.

Teach science!



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The MiLABEx contains 3 sub-apps:
Lab - Start an experiment
Workbook - Create and share experiments
Weather Station - Monitoring climate parameters

einstein™ From Everywhere



einstein™ Tablet+3
Android all-in-one
science tablet
+13 built-in sensors

OR Einstein™ LabMate II
Transform any screen
device into a science lab
+8 built-in sensors

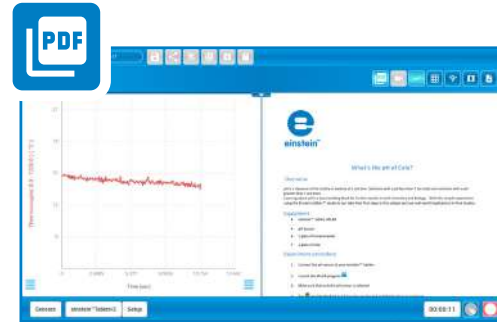


einstein™ Sensors
over 60 sensors that
cover all curriculum
subjects

3 Split screen options- parallel view while the experiment is taking place



Video recording of the experiment and the graph experiment



Experiment content in a PDF and the graph experiment



Video recording, PDF and experiment graph, all in the same screen



over 70 new
 WorkBook
 activities were
 uploaded to the
 store for free use



A waterproof
 sleeve for the
 CO₂ sensor for
 measuring the
 CO₂ concentrations
 in a solution.



Share to compare

A MiLABEx feature that enables teachers to share multiple students' experiments and easily compare results on the same graph.



New Litmus data presentation

Litmus paper view for PH Sensor.



Additional CO₂ Sensor

Improved range (100,000 ppm) that enables measuring a wide variety environments as well as heavy pollutants such as vehicles.



Photosynthetically Active Radiation (PAR) Sensor

The sensor measures the Photosynthetic Photon Flux Density (PPFD), which corresponds to micromoles of photons per meter squared per second.

Ideal for experiments investigating photosynthesis and primary productivity and can be used in science education.



MiLABEx

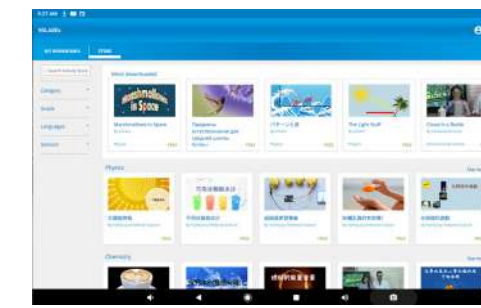


The MiLABEx contains 3 sub-apps:



Lab - Start an experiment

For performing experiments



Workbook

Create and share experiments



Weather Station

Monitoring climate parameters



New Learning Experience

MiLABEx is a powerful app that collects, displays, and analyzes experiment data.

MiLABEx must be paired with the **einstein™** Tablet or the **einstein™** LabMate, which allows you to transform any PC (desktop or laptop) and Android/iOS device (Tablet, Cell-phone) into a holistic digital lab, and works with unique brand sensors from a variety of over 60 external sensors.

Designed for K-12 educators, **MiLABEx** offers comprehensive features and capabilities for a unique online & offline learning and teaching experience:

The MiLABEx 3 sub-apps

Lab - Start an experiment

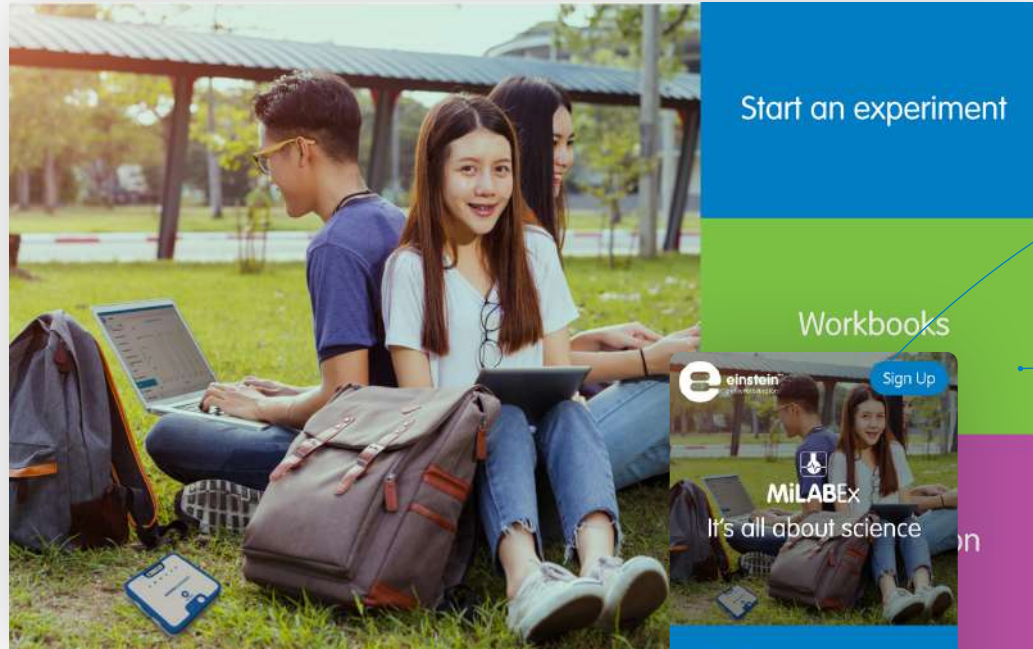
For performing experiments

Workbooks

Create and share experiments

Weather Station

Monitoring climate parameters



Find out more at <http://einsteinworld.com/product/einstein-milab-ex/>





einstein™ Data Loggers

einstein™Tablet+3

Android all-in-one
science tablet
+13 built-in sensors

OR

einstein™LabMateII

Transform any screen device
into a science lab
+8 built-in sensors

OR

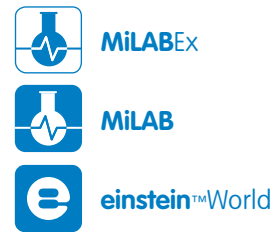
einstein™LabMate W/O Sensors

No internal sensors included

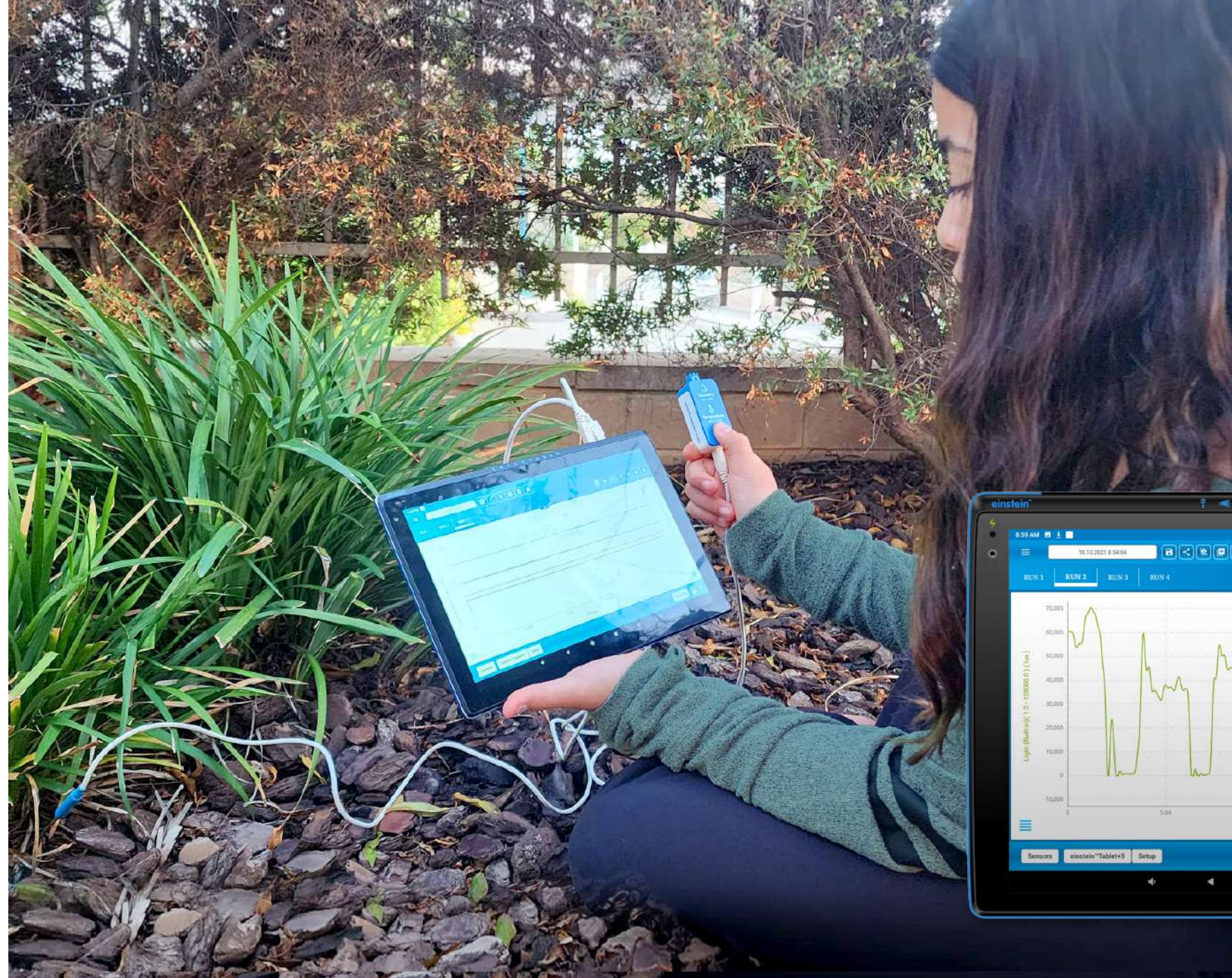
einstein™ Tablet+3

- Full Android 10.1" tablet with a built-in science lab
- Contains 13 built-in sensors, commonly used in most science curricula
- Connects up to additional 8 external sensors, from the over 60 in the **einstein™** catalog
- Designed with NGSS and Common Core in mind, it can be used both for science education and also for a broader educational environment

The **einstein™** Tablet+3 includes our free apps and software:



More info on our apps at www.einsteinworld.com



13 Built-in sensors

- | | |
|---------------|---------------------|
| UVI | Microphone |
| Light | Sound |
| Temperature | Barometric Pressure |
| Heart Rate | Heat Index |
| Humidity | Dew Point |
| Accelerometer | Video |
| GPS/Location | |

Features

- Android™ 9.0 OS
- Quad-core processor
- 10.1" Zero Gap IPS Capacitive screen
- MicroSD card slot
- Camera x 2 (front & back)
- 8 MP back camera with flash
- External display - up to 4K
- WiFi™
- Bluetooth4™
- Long-lasting battery
- over the air updates

Compatible with over

60 einstein™ sensors

Collects data from up to

20 sensors simultaneously



einstein™ LabMate™ II

The ideal solution for schools already equipped with tablets or computers

- Features 8 built-in sensors commonly used in most science curricula
- Connects to up to 8 external sensors simultaneously
- Pairs with any tablet, computer, or smart phone via BLE or micro-USB port
- Upgraded internal memory space
- Keeps collecting and saving data even when it's disconnected from the screen device
- Easier and faster Bluetooth connection
- Perform offline experiments from everywhere and export the data to any of your devices

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



MiLABEx

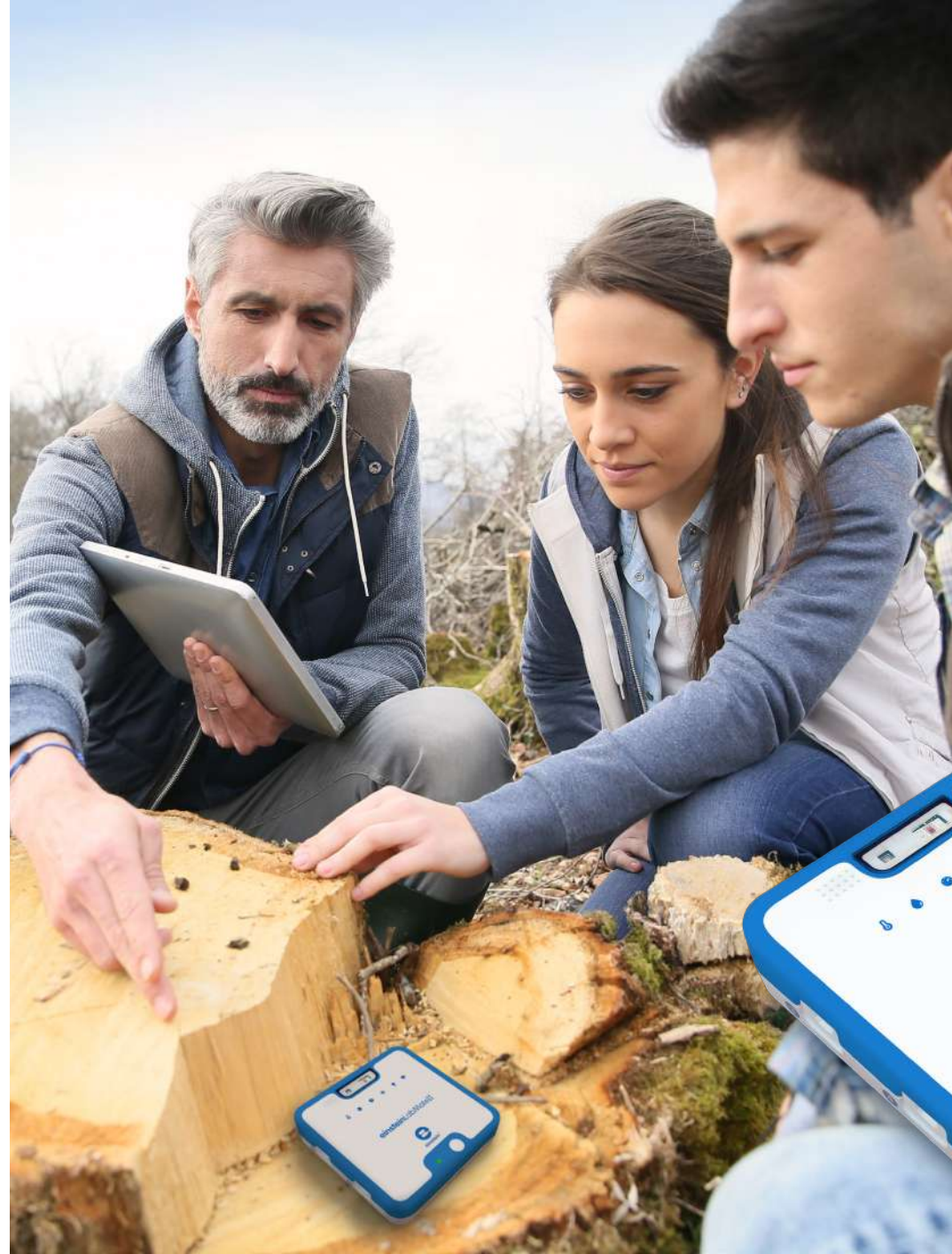


MiLAB



einstein™World

More info on our apps at www.einsteinworld.com



einstein™ LabMate II

8 Built-in sensors



Heart Rate



Temperature



Humidity



Barometer



UVI



Light



Heat Index



Dew Point

Features



High Sample rate



Connect up to 8 additional (external) Sensors



Offline mode experiments



Indoor and outdoor experiments



Auto Sensors recognition



Internal memory up to 750K samples



Long lasting Battery



USB Connection



Long wireless range Bluetooth (BLE)

Compatible with over

60 **einstein™** sensors

Collects data from up to

16 sensors simultaneously



einstein™ LabMate W/O Sensors

No internal sensors included

Top rated



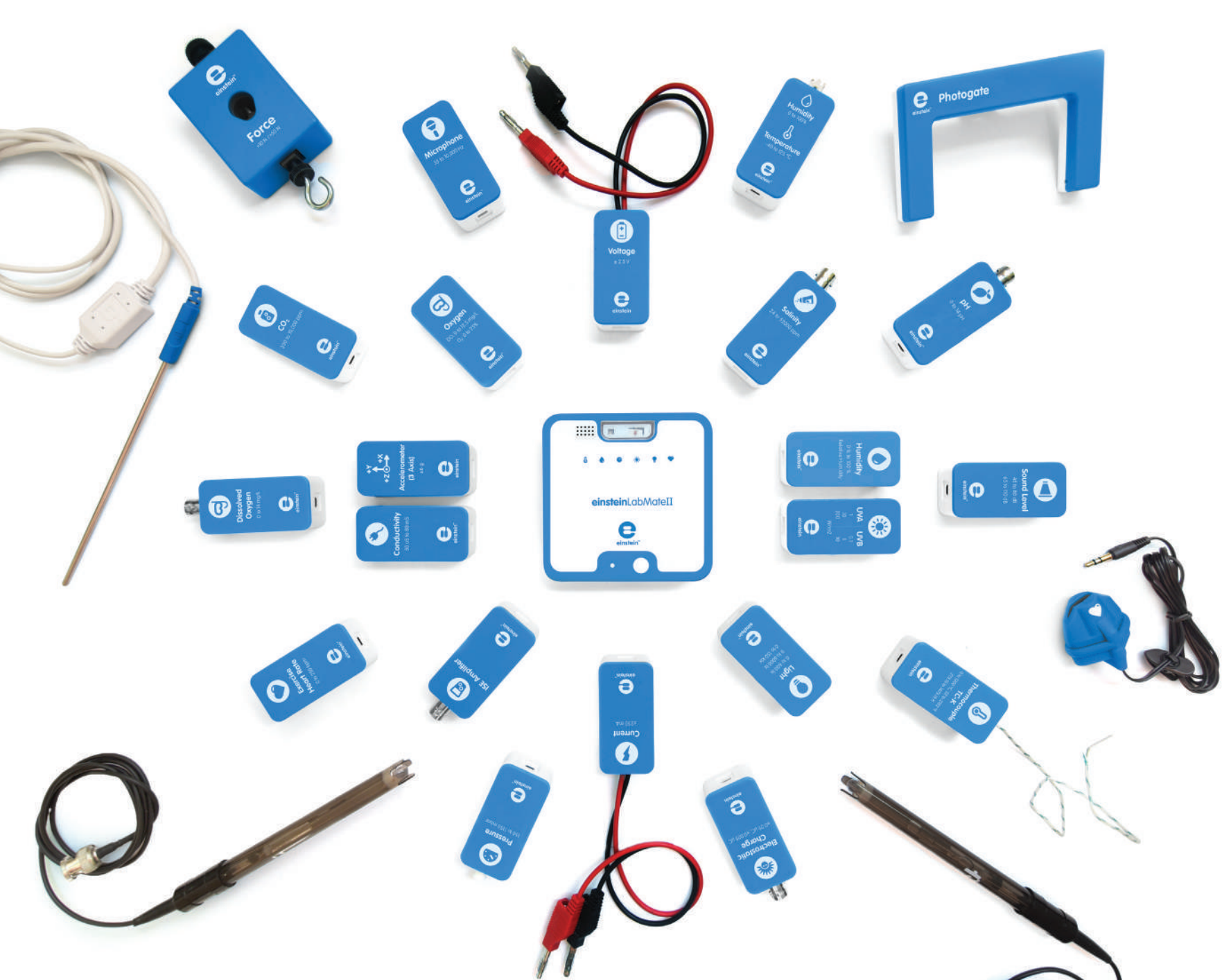
Compatible with over

60 **einstein™** sensors

Collects data from up to

8 External sensors simultaneously

Perform offline experiments from everywhere and export the data to any of your devices



einstein™ Sensors

over 60 sensors for accurate data-collection and inquiry-based experiments

Fourier's Recommended **einstein™** Bundles per subject learned

- Primary School
- Middle School
- High School and University

Each bundle comes with **einstein™Tablet+3** or **einstein™LabMateII** at your choice, with all it's internal sensors, as well as with the **MiLABEx** software, free of charge, with its 3 sub-apps - The Lab, WorkBooks and Weather Station



einstein™Tablet+3

Includes **13 Built-in sensors** (See page 14)

OR



einstein™LabMateII

Includes **8 Built-in sensors** (See page 16)

 Biology Bundle	<p>Temperature Sensor (-40 to 140°C)</p> <p>● ● ●</p>	<p>Humidity Sensor</p> <p>● ● ●</p>	<p>Light Sensor</p> <p>● ● ●</p>	<p>CO2 Sensor</p> <p>● ●</p>	<p>Conductivity Sensor</p> <p>● ●</p>	<p>Colorimeter Sensor</p> <p>● ●</p>	<p>pH Sensor</p> <p>● ●</p>	<p>Pressure Sensor (20-400 kPa)</p> <p>● ●</p>	<p>Dissolved Oxygen Sensor</p> <p>● ●</p>	<p>Geiger Muller Sensor</p> <p>●</p>	<p>Ethanol Sensor</p> <p>●</p>	<p>Turbidity Sensor</p> <p>●</p>	
 Physics Bundle	<p>Temperature Sensor (-40 to 140°C)</p> <p>● ● ●</p>	<p>Current Sensor A (250 mA)</p> <p>● ● ●</p>	<p>Voltage Sensor (2.5V)</p> <p>● ● ●</p>	<p>Light Sensor</p> <p>● ● ●</p>	<p>Distance Sensor</p> <p>● ●</p>	<p>Force Sensor</p> <p>● ●</p>	<p>Pressure Sensor (20-400 kPa)</p> <p>● ●</p>	<p>Acceleration Sensor</p> <p>●</p>	<p>Electrostatic Charge Sensor</p> <p>●</p>	<p>Magnetic (Triple Axis) Sensor</p> <p>●</p>	<p>Photogate Sensor</p> <p>●</p>	<p>Smart Pully Sensor</p> <p>●</p>	<p>Geiger Muller Sensor</p> <p>●</p>
 Chemistry Bundle	<p>Temperature Sensor (-40 to 140°C)</p> <p>● ● ●</p>	<p>Current Sensor (250 mA)</p> <p>● ● ●</p>	<p>Voltage Sensor (2.5V)</p> <p>● ● ●</p>	<p>Conductivity Sensor</p> <p>● ●</p>	<p>pH Sensor</p> <p>● ●</p>	<p>Pressure (barometric) Sensor</p> <p>● ●</p>	<p>Drop Counter Sensor</p> <p>●</p>	<p>Eihanol Sensor</p> <p>●</p>					
 Environmental	<p>Temperature Sensor (-40 to 140°C)</p> <p>● ● ●</p>	<p>Anemometer Sensor</p> <p>● ● ●</p>	<p>Dissolved CO2 Sensor</p> <p>● ●</p>	<p>Flow Rate Sensor</p> <p>● ●</p>	<p>Sound Sensor</p> <p>● ●</p>	<p>Soil Moisture Sensor</p> <p>● ●</p>	<p>Rain Collector</p> <p>● ●</p>	<p>Dissolved Oxygen 0 to 12.5 mg/L</p> <p>● ●</p>	<p>Combined Oxygen 0 to 14 mg/L</p> <p>● ●</p>	<p>ISE* Sensors</p> <p>●</p>			
 Human Physiology Bundle	<p>Temperature Sensor (-40 to 140°C)</p> <p>● ● ●</p>	<p>Humidity Sensor</p> <p>● ● ●</p>	<p>Heart Rate Exercise Sensor</p> <p>● ● ●</p>	<p>Blood Pressure Sensor</p> <p>● ●</p>	<p>CO2 Sensor</p> <p>● ●</p>	<p>Dissolved Oxygen 0 to 12.5 mg/L</p> <p>● ●</p>	<p>EKG</p> <p>●</p>						



einstein™ Environmental & Renewable Energy Bundles

Dedicated bundles for students in primary, middle, and high school that enable focusing on world **enviromental and climate challenges**.

Promote a healthy curiosity in society for the world around us, enable creative thinking, boost wonder and questioning, and take action in collaboration and communication.



einstein™ Tablet+3

Includes **13** Built-in sensors

OR +



einstein™ LabMate II

Includes **8** Built-in sensors

Climate Monitoring	Temperature Sensor	Humidity Sensor	Light Sensor	UVI Sensor	Barometric Pressure	Dew Point	Heat Index	Anemometer Sensor	Rain Collector					
Water Quality	pH Sensor	Conductivity Sensor	Temperature Sensor	Dissolved Oxygen Sensor	Turbidity Sensor									
Soil quality	Soil Moisture Sensor	Turbidity Sensor	Temperature Sensor	pH Sensor	PAR Sensor <i>Coming soon</i>	Ammonium Sensor	Bromide Sensor	Calcium Sensor	Chloride Sensor	Fluoride Sensor	Lead Sensor	Nitrate Sensor	Potassium Sensor	Sodium Sensor
Air Quality	CO ₂ Sensor	Oxygen Sensor	PAR Sensor <i>Coming soon</i>	Temperature Sensor	Humidity Sensor	UVI Sensor								
Solar Power	Voltage Sensor	Current Sensor	Terra Nova Solar Panel											

einstein™ Sensors

We offer over 60 sensors for accurate data-collection.

Biology

Accelerators	26
Ammonium Sensor	26
Anemometer	26
Blood Pressure Sensor	27
Bromide Sensor	27
Calcium Sensor	27
Chloride Sensor	27
CO ₂ Sensors	28
Colorimeter	39
Conductivity Sensor	28
Dew Point	29
Drop Counter Sensor	29
EKG	30
Ethanol Sensor	30
Flow Rate Sensor	30
Fluoride Sensor	30
Geiger Muller Sensor	31
GPS Built-in Sensor	31
Heat Index	31
Heart Rate Sensors	31
Humidity Sensors	32

Lead Sensor	32
Light Sensors	32
Nitrate Sensor	33
Oxygen Sensors	33
pH Sensor	34
Photogate Sensor	34
Potassium Sensor	34
Pressure Sensors	35
Salinity Sensor	35
Sodium Sensor	36
Soil Moisture Sensor	36
Temperature Sensors (4 types)	37
Turbidity Sensor	38
UV Sensors	38

Chemistry

Ammonium Sensor	26
Bromide Sensor	27
Calcium Sensor	27
Chloride Sensor	27
CO ₂ Sensors	28
Colorimeter	28
Conductivity Sensor	28

Current sensors	29
Drop Counter Sensor	29
Ethanol Sensor	30
Fluoride Sensor	30
Geiger Muller Sensor	31
Humidity Sensors	32
Lead Sensor	32
Light Sensors	32
Nitrate Sensor	33
Oxygen Sensors	33
pH Sensors	34
Potassium Sensor	34
Pressure Sensors	35
Salinity Sensor	35
Sodium Sensor	36
Temperature Sensors	37
Turbidity Sensor	38
UV Sensors	38
Voltage Sensors	39

Environmental Science

Ammonium Sensor	26
Anemometer	26

Bromide Sensor	27
Calcium Sensor	27
Chloride Sensor	27
CO ₂ Sensors	28
Dissolved CO ₂ Sensor	28
CO ₂ extended range Sensor	28
Colorimeter	28
Conductivity Sensor	28
Dew Point	29
Drop Counter Sensor	29
Flow Rate Sensor	30
Fluoride Sensor	30
GPS Built-in Sensor	31
Heat Index	31
Humidity Sensors	32
Lead Sensor	32
Light Sensors	32
Nitrate Sensor	33
Oxygen Sensors	33
PAR Sensor	34
pH Sensors	34
Potassium Sensor	34

Rain Collector	35
Salinity Sensor	35
Sodium Sensor	36
Soil Moisture Sensor	36
Sound Level Sensor	36
Temperature Sensors	37
Terra Nova Solar Panel	38
Turbidity Sensor	38
UV Sensors	38

Human Physiology

Blood Pressure Sensor	27
CO ₂ Sensors	28
Dew Point	29
EKG	30
GPS Built-in Sensor	31
Heat Index	31
Heart Rate Sensors	31
Humidity Sensors	32
Oxygen Sensors	33
Temperature Sensors	37

Physics

Accelerators	26
Colorimeter	28
Current Sensors	29
Distance Sensor	29
Dynamics System	29
Electrostatic Charge Sensor	30
Force Sensor	30
Geiger Muller Sensor	31
GPS Built-in Sensor	31
Light Sensors	32
Magnetic (Triple Axis) Sensor	33
Microphone Sensors	33
pH Sensor	34
Photogate Sensor	34
Pressure Sensors	35
Rotary Motion Sensor	35
Smart Pulley Sensor	36
Sound Level Sensor	36
Temperature Sensors (4 types)	37
UV Sensors	38
Voltage Sensors	39



Accelerometer
An **einstein™ Tablet+3**
built-in sensor



Range: ±2g

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.



Accelerometer



Range: ±6g (±49 m/s²) along 3 axes

ENACL138



Ammonium Sensor with Electrode *



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

Easily measure the ammonium ion (NH₄⁺) level of a solution. Use it to study water quality, determine the ammonium level in foodstuffs and more.

*Electrode also sold separately

ENAMN020A



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.

ENANM012A



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.

ENBLD098



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

ENCAL-A019A



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

ENBRO048



Chloride Sensor with Electrode *



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

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

* Electrode also sold separately

ENCHL-A018A





CO₂ Sensor



Range: 350 to 10,000 ppm

This sensor can be used to measure a wide variety of CO₂ concentrations during photosynthesis and chemical reactions in biology and chemistry labs.

ENCO2B040A



CO₂ extended range Sensor



Range: 350 to 100,000 ppm

This sensor can be used to measure a wide variety of CO₂ concentrations during photosynthesis and chemical reactions in biology and chemistry labs.

ENCO2B040A-N



Dissolved CO₂ Sensor



A waterproof sleeve for the CO₂ sensor for measuring the CO₂ concentrations in a solution.

CSWCO2



Current Sensor



Range: ±250 mA

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

ENCRN006

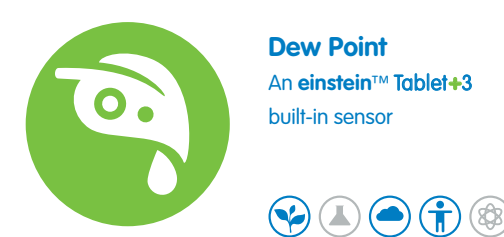


Current Sensor



Range: ±2.5 A

ENCRN005



Dew Point
An einstein™ Tablet+3 built-in sensor



Range: °C or °F

The temperature at which a vapor (such as water) begins to condensate. Since water vapor is also affected by the humidity of the air, the temperature and humidity sensors are used to measure dew point.



Colorimeter*



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

Designed to determine the concentration of a solution by measuring its color 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

ENCOL-A185



Conductivity + Temperature with Electrode *



Conductivity range: 50 µS to 80 mS

Temperature range: 0-80°C

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

ENCNT435A



Distance Sensor



Range: 0.2 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.

ENDST020



Drop Counter Sensor



Range: 0 to infinity drops

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

* Sensor design may change

ENDRP-AD100



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 is also well suited for teaching motion to middle school students.

DT072A



EKG Sensor

Range: 0 to 3 V

An electrocardiogram – abbreviated as EKG or ECG – is a test that measures the electrical activity of the heartbeat. With each beat, an electrical impulse (or wave) travels through the heart. This wave causes the muscle to squeeze and pump blood through the body.

ENEKG189



Electrostatic Charge Sensor

Range: $\pm 0.25 \mu\text{C}$ | $\pm 0.025 \mu\text{C}$

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.

ENCRG261



Ethanol Sensor

Range: 0-4%

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.

ENETH105



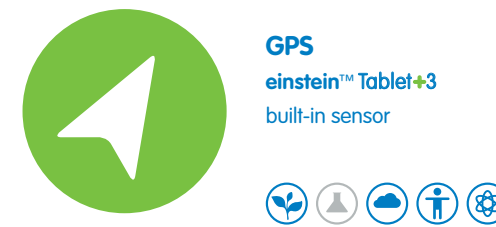
Geiger Muller Sensor

Range: CPM

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

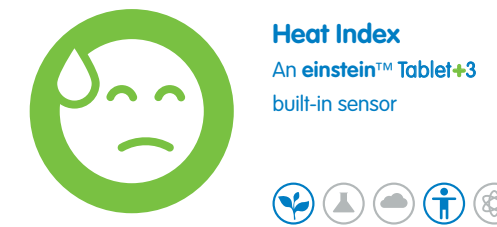
* Sensor design may change

ENGEM116



GPS
einstein™ Tablet+3
built-in sensor

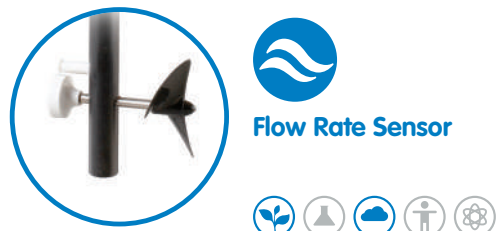
A standard Global Positioning System, helps students add the parameter of location to a variety of experiments.



Heat Index
An einstein™ Tablet+3
built-in sensor

Range: °C or °F

Also known as the apparent temperature is what the temperature feels like to the human body when relative humidity is combined with the air temperature.



Flow Rate Sensor

Range: 0 to 4.0 m/s

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

ENFLO-A254A



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

ENFLU049



Force Sensor

Range: $\pm 10 \text{ N}$ | $\pm 50 \text{ N}$

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

ENFRC272



Heart Rate
A built-in sensor on all einstein™ data loggers

Range : 0 to 250 bpm | 40-240 bpm (Tablet+3)

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. In the new einstein™Tablet+3 the Haert rate is using the back camera.



Heart Rate Sensor

ENHRT-A155



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.

ENEXRT298



Humidity

A built-in sensor on all **einstein™** data loggers



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

ENHMD014



Humidity Sensor



Humidity + Temperature



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

This highly accurate combined sensor simplifies experiments involving temperature and humidity. New-when connected, it enables dew point and heat index measurement.

ENHMT041



Magnetic (Triple Axis) Sensor



Range: ±20 mT | ± 0.4 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.

ENMGN



Microphone
einstein™ Tablet+3
built-in 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.

ENMCR008



Microphone Sensor



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

ENLEA050



Light

A built-in sensor on all **einstein™** data loggers



Range: 0-600 lux | 0-6000 lux | 1-128,000 lux (Tablet+3)

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

ENLGT009-4



Light Sensor



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

ENNTR-A017A



Dissolved Oxygen Sensor with Electrode*



Range: 0 to 14 mg/L

Measure oxygen concentration in solutions and fluids. Conduct investigations 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

ENOX422A



Combined Oxygen Sensor with Electrode*



Range: 0 to 12.5 mg/L DO | 0 to 25% O₂

The oxygen sensor is used to perform experiments in both liquid and gaseous environments, such as measuring oxygen in an aquarium or understanding photosynthesis.

ENOXY-A222



Coming soon



PAR Sensor



Range: Ask your representative

The sensor measures the Photosynthetic Photon Flux Density (PPFD), which corresponds to micromoles of photons per meter squared per second. Ideal for experiments investigating photosynthesis and primary productivity and can be used in science education.



Photogate Sensor



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

ENFTG137



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. Also available with a flat electrode

ENPH-A016 and ENPHF052 (for flat)



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 fertilizers or the effects of processing food.

* Electrode also sold separately

ENPOT-A008



Pressure Sensor



Range: 400 Kpa

With their broad range, these Pressure Sensors can be used to monitor a variety of pressure changes.

Use them in class to demonstrate phenomena such as Boyle's Law or Gay-Lussac's Law.

ENPRS015-4




Rain Collector




Range: 0 to 819 mm

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

ENRNCOL



Pressure (Barometric) Sensor
A built-in Barometer on all **einstein™** data loggers



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

einstein™Tablet+3 range: 26 to 260 kPa or 0.26 to 1.24 atm or 260 to 1260 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.




Pressure (Barometric) Sensor



ENPRS015



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

ENROT-A148



Salinity + Temperature with Electrode *



Salinity range: 24 to 52000 ppm

Temperature range: 0-80°C

This easy to use sensor measures the salt content of a solution and is ideal for testing water quality.

ENSLT



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.

ENSMP-A122



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

ENSOD051



Soil Moisture Sensor



Range: 0 to 200 cbar

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

ENSOI-A171



einstein™ splitter



A splitter allows to connect 2 external sensors into one sensor port.

ENSPL011



Sound Level Sensor



Range: 45 to 80 dB | 65 to 110 dB

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

ENSND320



Ambient Temperature

A built-in sensor on all einstein™ data loggers



Range: -30°C to 50°C | -15 to 50°C (Tablet+3)

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



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.

ENTMP029



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-colored clothing.

ENTMP060



Temperature PT-100 Sensor



Range: -200°C to 400°C or -328 to 752 F

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

*Sensor design may change

ENTMP027



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.

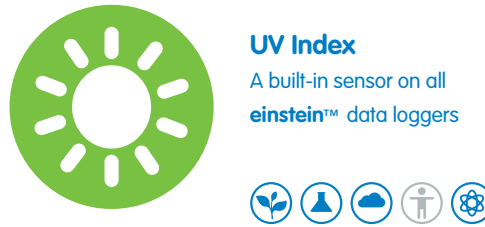
ENTMP025



Terra Nova Solar Panel

A kit for solar renewable energy experiments that can be connected to all types of einstein™ data loggers using the voltage & current sensors.

TN001



UV Index

A built-in sensor on all einstein™ data loggers

Range : UV Index (Tablet+3)
Wave length: 290-390nm

This sensor can be used mainly to measure UVA radiation. In the New einstein™Tablet+3, the internal UV sensor is presenting the data as UV index (UVI)



Turbidity Sensor

Range: 0 to 200 NTU

This sensor measures the cloudiness of water due to industrial processes or environmental pollution. Each sensor comes with 5 cuvettes

* Sensor design may change

ENTRB-A095



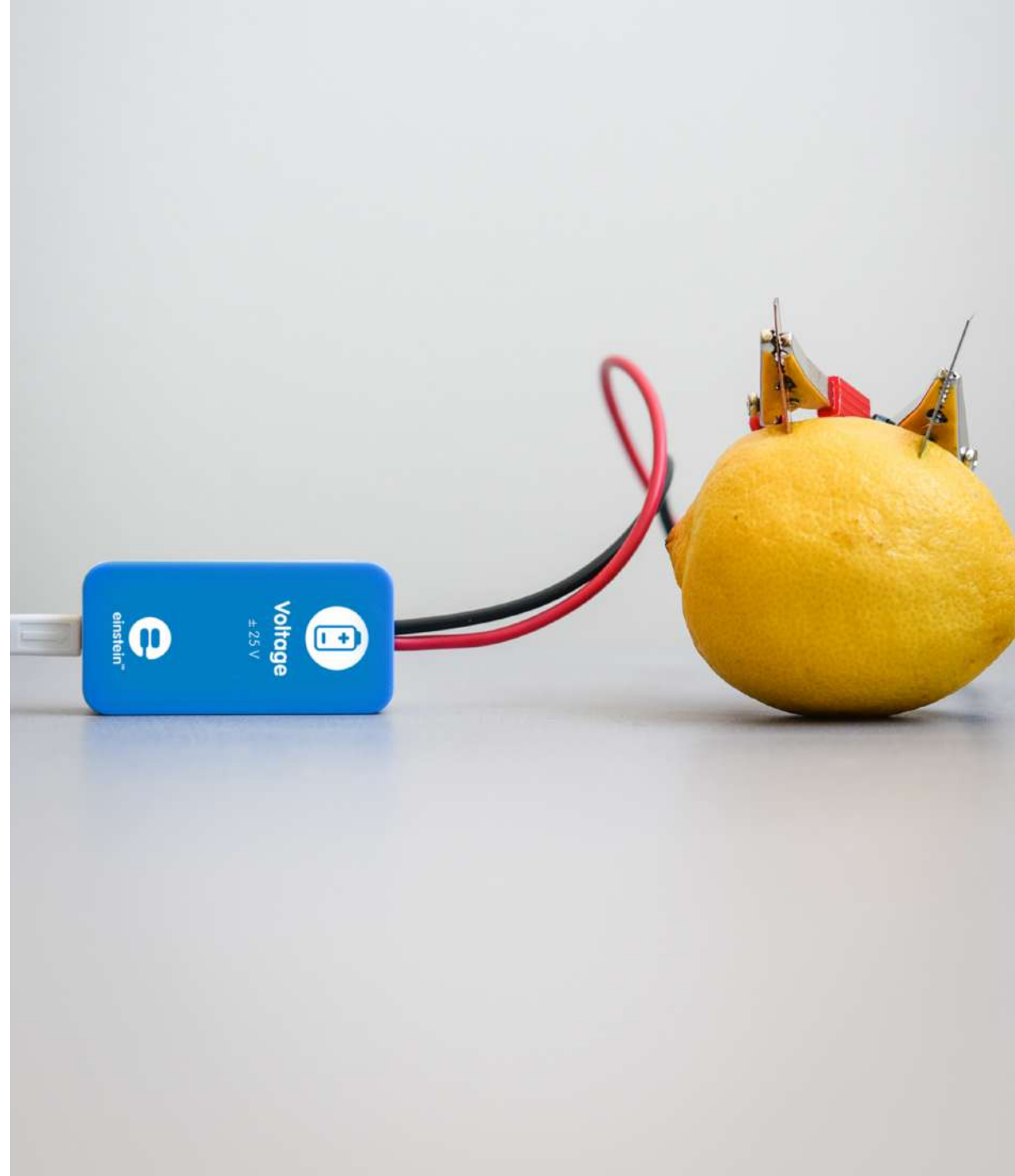
UVA / UVB Sensor

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

Range UVB:
280nm - 320 nm | 100 mW/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.

ENUVAB063

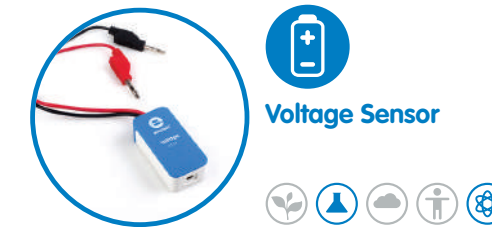


Voltage Sensor

Triple range: $\pm 1\text{ V}$ | $\pm 10\text{ V}$ | $\pm 25\text{ V}$

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.

ENVLT019



Voltage Sensor

Range: $\pm 2.5\text{ V}$

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.

ENVLT003



Voltage Sensor

Range: $\pm 30\text{ V}$
TRMS Range: 0 to 21 V

This sensor not only has a broad range but can also conduct extremely accurate TRMS 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.

ENVLT02



Voltage Sensor

Range: $\pm 25\text{ V}$

ENVLT001



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