



Information about product price on demand

Parameters

Subject

Energy saving

Quantitative unit

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Thanks to the leXsolar-ESave Ready-to-go, discussions about energy becomes more tangible. The approach is holistic: the students focus first on issues like global energy consumption, climate change or energy consumption at private households. Based on the question-at-hand, students will make measurements based on the problem; for instance things like room temperature or climate, water and energy consumption, etc. The goal is to foster the ability to identify potentials for improvements and savings.

**Key data:**

- With the help of this combination of instruments, the following topics can be analyzed and optimized:
  - Electrical energy consumption
  - Heating behavior
  - Air quality
  - Water consumption of a school/household
  - Lighting
- Optimal for energy saving projects in the classroom
- Many measurements can utilize an automatic Data Logging System
- Includes a detailed introduction to the topics for students, exercise sheets for the respective measurements and an experiment guide for teachers

## Components:

- 1x Data Logging USB base station with power supply
- 3x Temperature sensors for inside use (temperature range: -30 °C - 80 °C/-22 °F - 176 °F, measuring accuracy: ±0,5 °C/0,5 °F)
- 1x Combined humidity-temperature-sensor (0 - 100 % relative humidity, accuracy ±4,5 %, temperature range: -40 °C - 120 °C/-40 °F - 248 °F, ±0,5 °C/0,5 °F)
- 1x Temperature sensor for outside use (temperature range: -30 °C - 80 °C/-22 °F - 176 °F, measuring accuracy: ±0,5 °C/0,5 °F)
- 1x Digital Light Meter (0,01 - 50000 Lux)
- 1x Infrared thermometer
- 2x Electricity meter
- 1x Flow meter
- Detailed worksheets
- Robust aluminium case with foam inserts

## Experiments:

### Understanding energy

- Primary and secondary energy, resources and reserves
- Units and conversions, key sizes
- Production of electricity, comparison of power plants
- Worldwide energy consumption
- Climate change and CO<sub>2</sub>
- Why save energy?

### Heating

- Learn more about your school - Which energy sources are used? What are their locations and costs?
- Temperature in the classroom
- Heat loss of buildings
- Air quality
- Heating and ventilating: correct behavior
- Humidity

### Water

- Learn more about your school - Where does drinking water come from? Where does the used water go? What are the annual consumption and costs, etc.
- Hot water preparation
- Where is water consumed: correct behavior

### Electricity Consumption

- Learn more about your school - Which energy suppliers are used? What are the annual consumption and costs?
- Electrical energy in everyday life
- Electrical energy in the kitchen
- Energy guzzler
- Hidden loss: stand-by-mode and the "off" position

### Light

- Light in the classroom
- Comparison of different light sources
- Researching different brightnesses

## Extra available:

- 1500-01 Combined CO<sub>2</sub>-temperature sensor (CO<sub>2</sub>: 400 ppm do 90%, accuracy: ±15 %, temperature range: -30 °C - 80 °C/-22 °F - 176 °F, measuring accuracy: ±0,5 °C/0,5 °F)

Age: 14 - 19 years