



**DFROBOT®**  
DRIVE THE FUTURE

DFRobot Education 

# Education

Empowering Creation for Future Innovators



**04**

## DFRobot for Education

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## Product Overview

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## Key Product Lines

- | BOSON
- | micro:Maqueen
- | Gravity
- | Mind+
- | UNIHIKER

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## Computer Science

- | micro:Maqueen Series
- | BOSON Coding Starter Kit
- | IoT Starter Kit for micro:bit
- | MindPlus Coding Kit for Arduino

**34**

## Science

- | BOSON Science Design Kit
- | BOSON Science Kit
- | Gravity: SCI DAQ Module
- | Lark Weather Station
- | Environment Science Expansion Board

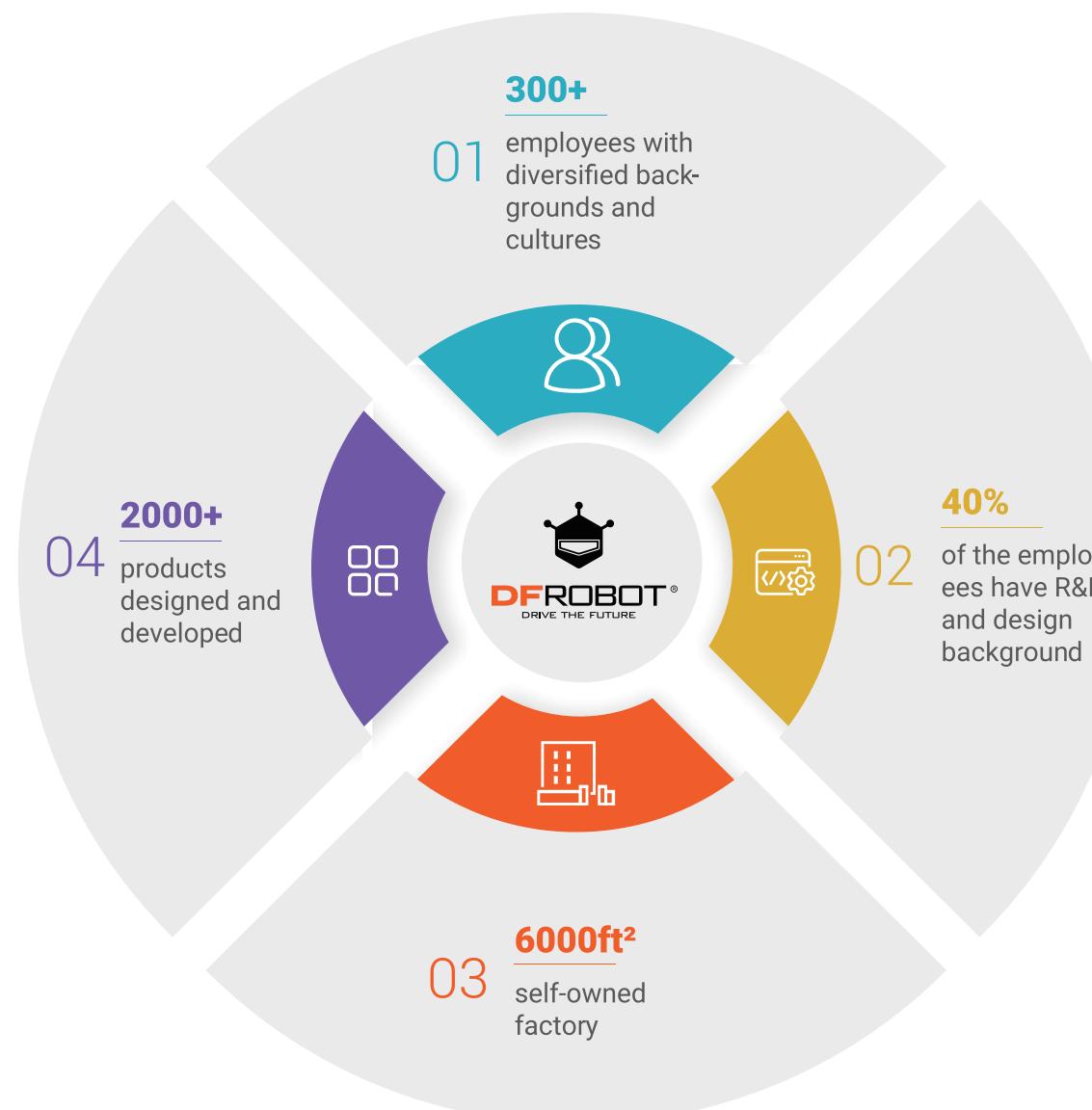
**40**

## Design Challenge

- | BOSON Creativity Kit
- | BOSON Inventor Kit
- | DIY Electronics

## About DFRobot

DFRobot was founded in 2008, among the first to embrace open source hardware. After a decade, DFRobot has expanded from open source hardware to STEM education, AIoT, and other high-tech industries. Our mission is to form a community with easy access to whether hardware, software and ideas that allow makers and younger generation to achieve their goals and realize creative ideas in an effective manner.



## STEM Education

### Empowering Creation for Future Innovators

Since 2013, DFRobot began to create STEM education kits and comprehensive learning resources including hardware, software, content solutions for students to engage with in the classroom, which allow students to benefit from creation, identifying their own challenges, solving new problems, motivating themselves to work together and share with others. We believe making and creating will get our younger generation closer to the future, and one day they will change the world with what they make.

### Hardware



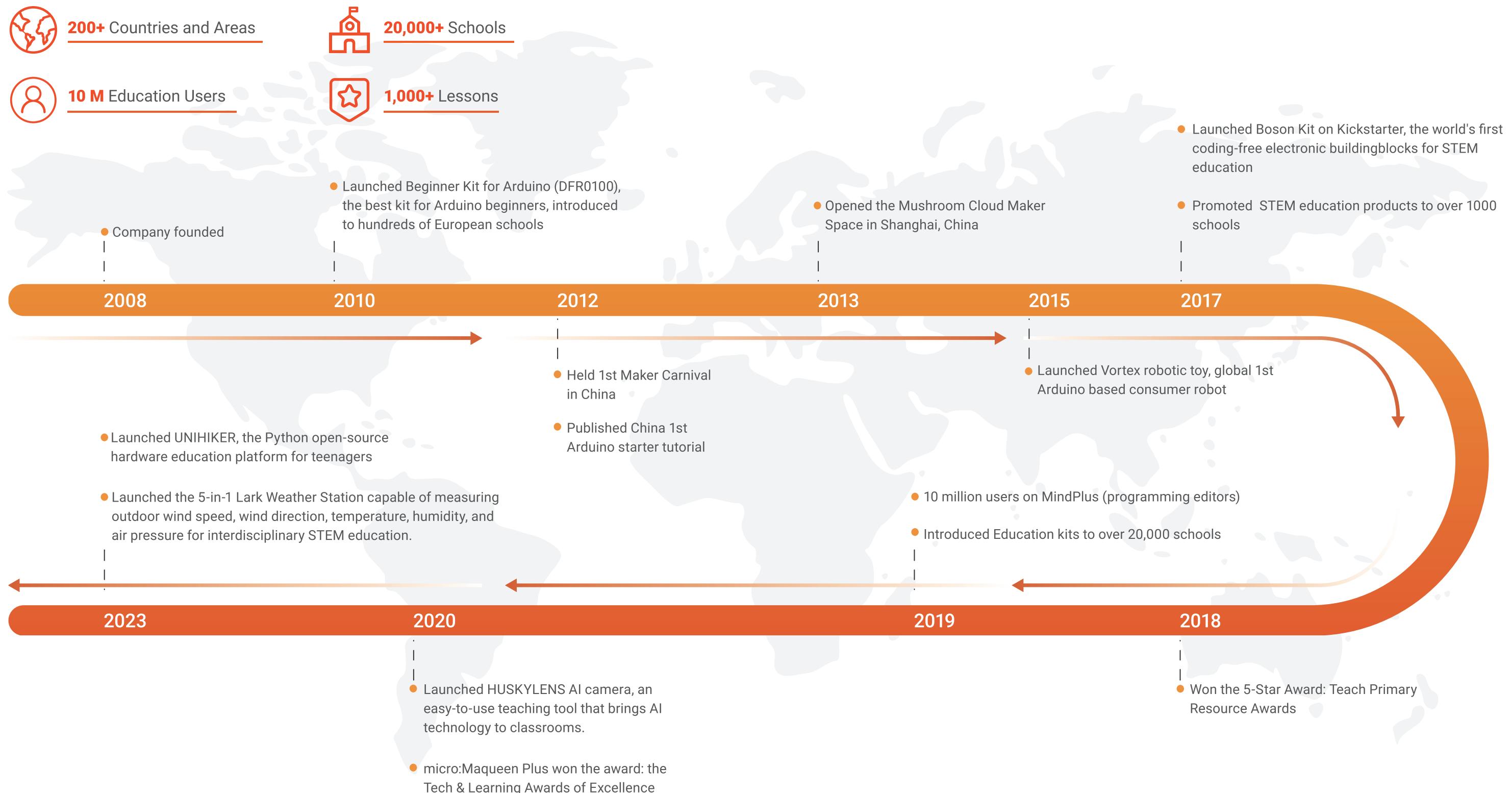
- Systematic product road map suitable for all ages
- Thousands of open-source electronic modules and components
- Compatible with the mainstream digitalized STEM educational platforms

### Curriculum



- Standard-aligned
- Well-designed PBL solutions, curriculum, course plan and teacher training materials
- Skill: robotics, electronics, programming, IoT (Internet of Things), AI (Artificial Intelligence)

# Our Journey



## Awards



5-Star Award on Teach Primary Resource Awards



Tech & Learning's Awards of Excellence



EdTech Cool Tool Awards Finalist



Maker Faire 2015 Goldsmith Sponsor, 3 editor's Choice Awards

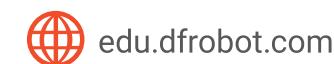
## In The Press



Forbes



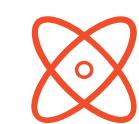
## Online Learning Resource



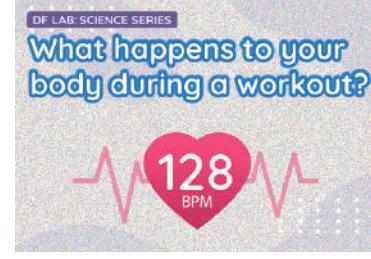
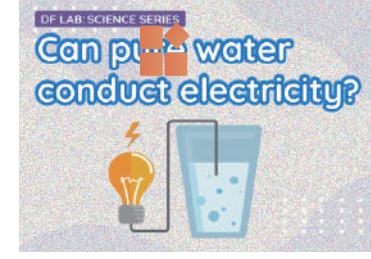
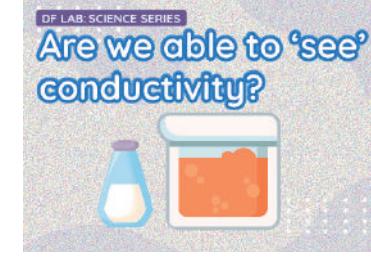
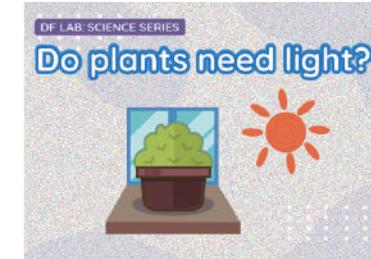
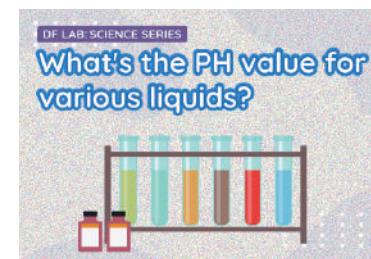
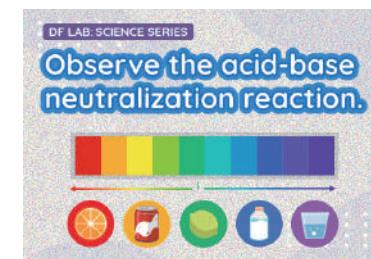
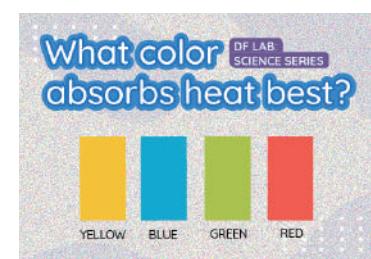
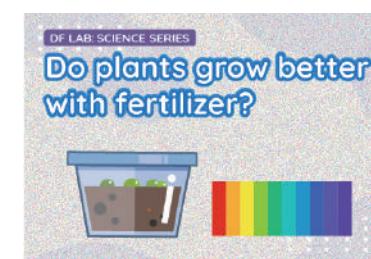
Quality resources to support the teaching and learning of STEM, get inspired with ideas, projects and tutorials for beginners.

With a mission to inspire more people to create, we build an online platform to support communities of educators and partners through providing easy & effective learning materials and projects. Selected tutorials featuring our popular products are updated on this online platform regularly.

### Featured Lessons



Science





Design &  
Technology

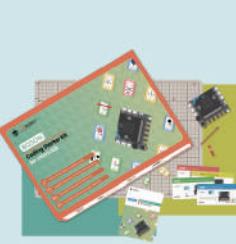
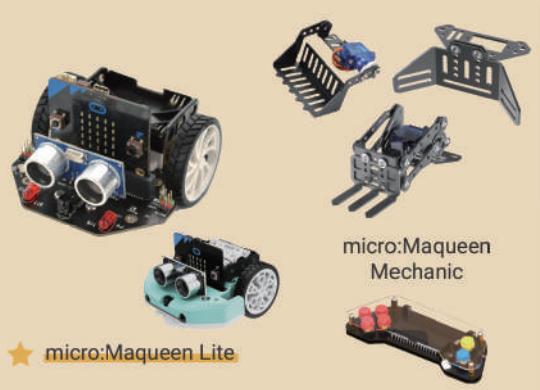


Computer  
Science &  
Robotics



# 01 | PRODUCT OVERVIEW

Product Portfolio I

PRODUCT OVERVIEW	Computer Science			Science	Design Challenge
	Mind+				
Preschool	 <b>Boson Coding Starter Kit</b>			Mindplus Coding Editor, supports both block-based and text-based programming	 4-Claying Interactive Kit
Primary School	 Boson Starter Kit for micro:bit	 ★ micro:Maqueen Lite	 micro:Maqueen Mechanic	 MindPlus Coding Kit for Arduino	 Boson Creativity Kit
Secondary School	 Boson Artificial Intelligence Starter Kit	 ★ micro:Maqueen Plus	 HUSKYLENS	 ★ IoT Cloud Kit for micro:bit	 4-Soldering Zoo Animal Kit
High School		 HUSKYLENS Pro	 IoT Starter Kit for micro:bit	 Intermediate Kit for Arduino	 4-Soldering Light Chaser Beam Robot Kit
	 BOSON	 micro:Maqueen	 Gravity	 UNIHIKER	 DIY

## 02 | KEY PRODUCT LINES

| BOSON

| micro:Maqueen

| Gravity

| Mind+

| UNIHIKER

## | Product Solution

Tangible Coding = Software + Hardware

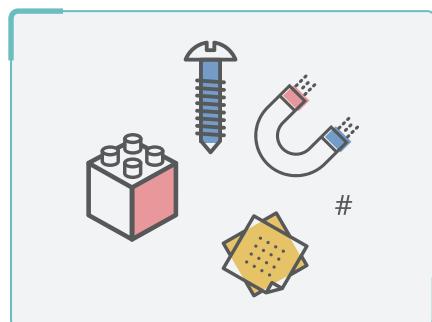
	Coding Language & Editor	Programmable Electronics Platform
Popular Teaching Tool	    	  
DFRobot Product Solution		BOSON micro:Maqueen Gravity UNIHIKER

Compatible with 3 major programmable electronics platforms

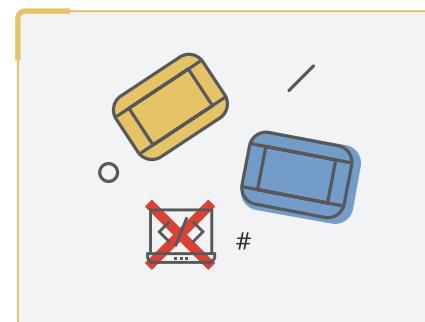
	micro:bit is a tiny programmable computer, designed to make learning and teaching easy and fun. As one of the first micro:bit partners, DFRobot has devoted to close collaboration with Micro:bit Education Foundation to reaching the goal of getting children coding everywhere.
	Arduino is an open-source electronic prototyping platform enabling users to create interactive electronic objects.
	The Raspberry Pi is a series of small single-board computers developed in the United Kingdom by the Raspberry Pi Foundation to promote the teaching of basic computer science in schools.


**BOSON** PLAY, LEARN, INVENT

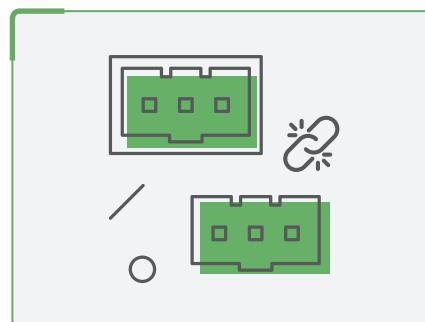
BOSON series is a set of modularized electronic building blocks designed for young inventors and STEM educators.



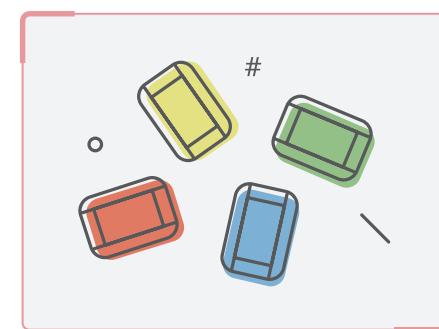
Compatible With LEGOs  
Magnets Screws and Velcro



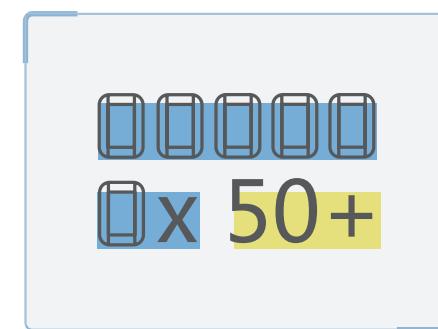
Coding-Free Electronic  
Building Blocks



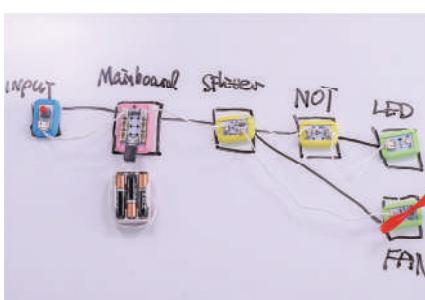
Fool-Proof  
Easy to Connect



Color-Coded  
Easy to Distinguish



50+Different Modules  
With Varying Functions



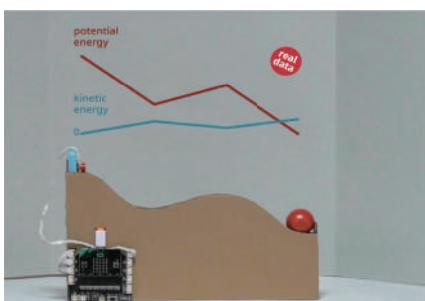
Physically program with BOSON



Explore the electrical conductivity  
of liquids



Test the plant-growing environment



Marble roller coaster



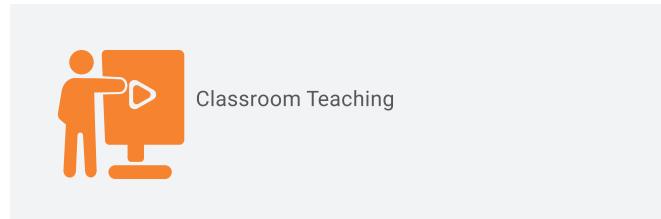
Walking Robot



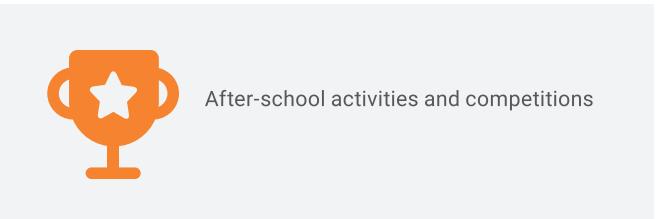
LEGO Car


**micro:Maqueen**

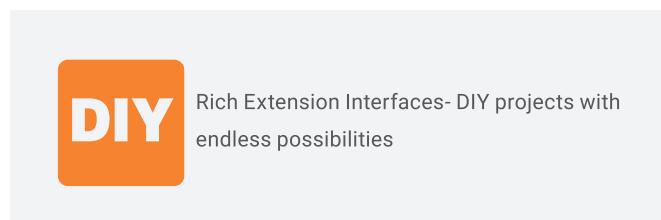
micro:Maqueen series is a graphical programming robot that is designed for students from the age of eight upwards. Despite a mini-body, its interesting features allow students to quickly learn graphic programming in entertaining, nurturing children's interest in science and logical thinking.



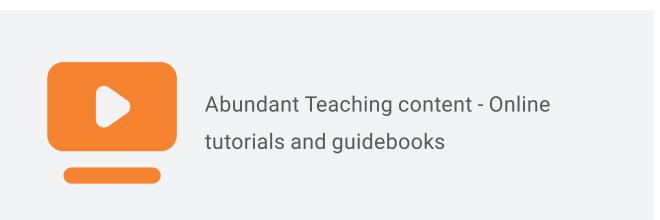
Classroom Teaching



After-school activities and competitions



DIY  
Rich Extension Interfaces- DIY projects with  
endless possibilities

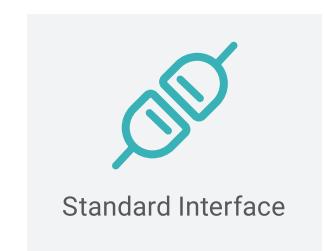


Abundant Teaching content - Online  
tutorials and guidebooks


**Gravity**

Gravity series is a high quality open-source, modular, plug and play electronics toolkit for everyone to create anything easily, which allows users at any skill level to easily connect and mix to realize ideas or develop projects.

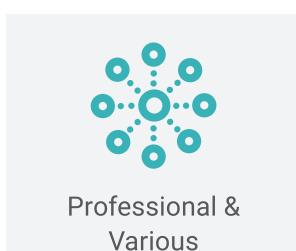
Various professional modules, powerful expansion shields and kits are available.  
Total over 250.



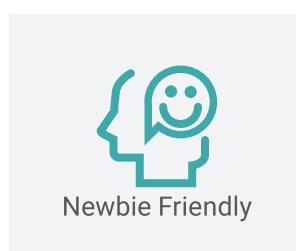
Standard Interface



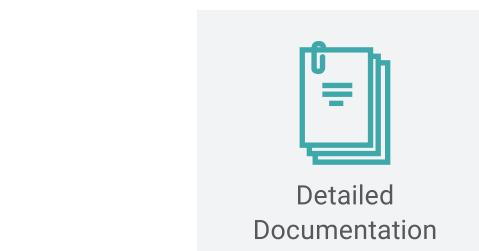
Colour coded Pin  
Headers & Cables



Professional &  
Various



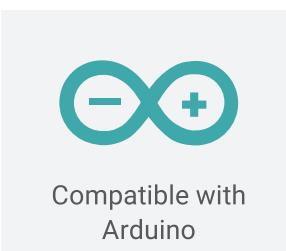
Newbie Friendly



Detailed  
Documentation



Compatible with  
micro:bit

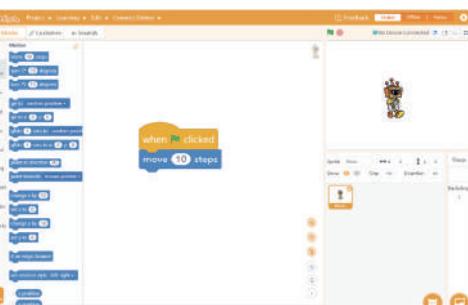


Compatible with  
Arduino



Mindplus is a programming educational software. You can use it to start coding from graphical programming, and then to master more programming languages like C and Python. Mindplus is also a tool you can create. Give rein to your imagination, you can make all kinds of cool projects there.

- Build programs by dragging and snapping coding blocks just like [Scratch](#).

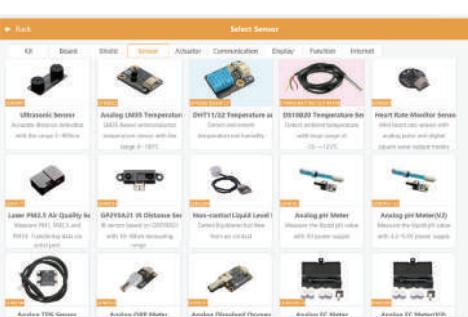


- Learn programming with no prior experience.



- Based on [Python 3](#), effectively transitioning from block-based coding to text-based coding for a complete programming learning experience.

- Create real life projects compatible with a wide range of [electronic components](#).



## Mind+ Dashboard

The Mind+ Dashboard has interactive display components that can be personalized by dragging and selecting different themes. It also supports multiple data-sources, making data presentation intuitionistic and more interactive and playful scientific projects possible.



Custom interface



Multiple data-sources



Themes color

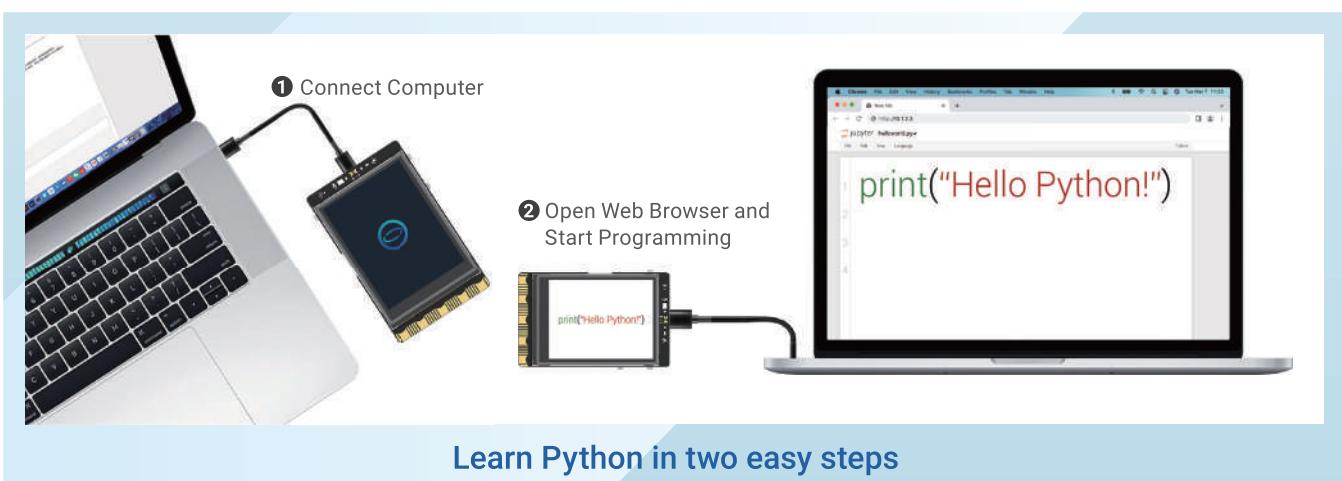


## The easiest dev computer for Python learning.

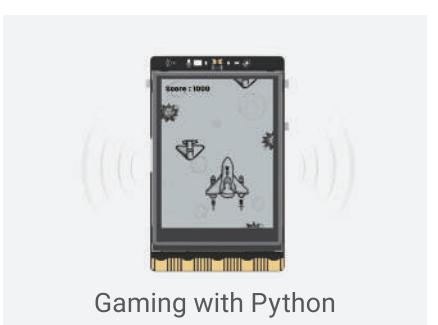
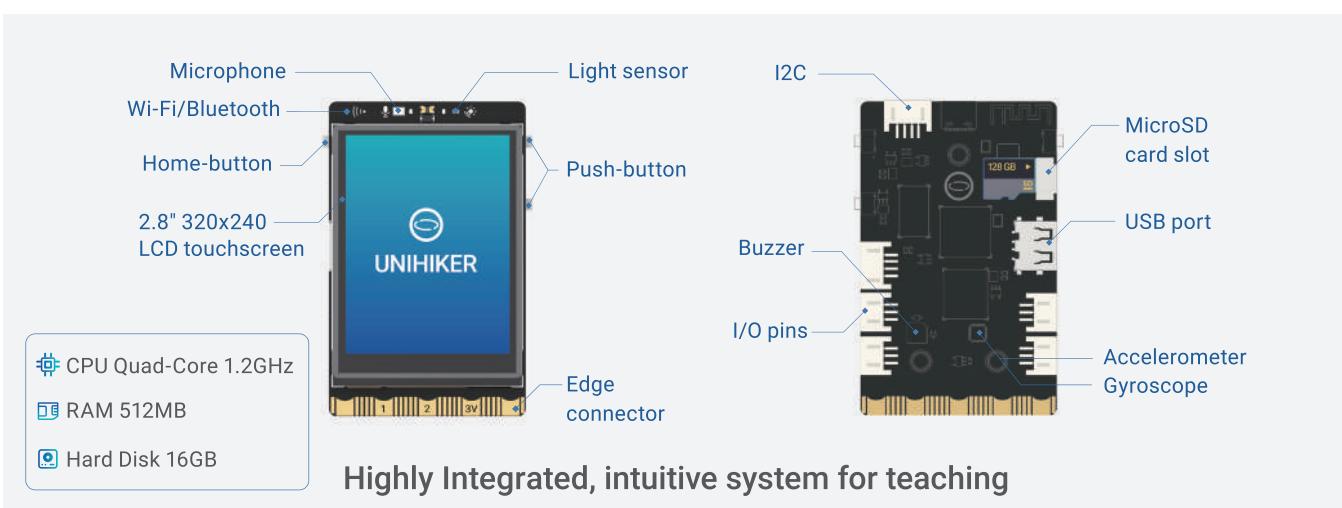
UNIHIKER is an open-source hardware that features a Linux operating system and a Python programming environment with a range of built-in Python libraries. Teachers and students can seamlessly connect it to their computers and instantly begin their Python learning journey without any configurations.

[Learn more](#) 

<https://www.unihiker.com/>



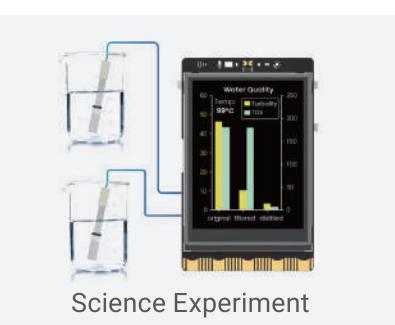
Learn Python in two easy steps



Gaming with Python



Hardware Extension



Science Experiment

# 03 | COMPUTER SCIENCE

| micro:Maqueen Series

| BOSON Coding Starter Kit

| IoT Starter Kit for micro:bit

| MindPlus Coding Kit for Arduino



## micro:Maqueen

micro:Maqueen is a series of programmable robots for students in all levels. The mini-body, abundant accessories and interesting tutorials allow children to quickly learn computer science in entertaining and gaming.

Level	Product	Tutorial	Lessons
Beginner	micro:Maqueen Lite	«Maqueen Lite Tutorial for Beginners»	11
	micro:Maqueen Lite +Mechanic	«Maqueen Lite Advanced Tutorial»	7
Intermediate	micro:Maqueen Plus	«Maqueen Plus Tutorial for Beginners»	15
	micro:Maqueen Plus +Mechanic	«Maqueen Plus Advanced Tutorial»	6
Advanced	micro:Maqueen Plus +Mechanic +HUSKYLENS	«Maqueen Plus & HUSKYLENS Tutorial for Beginners»	6





### STEM education smart robot for beginners

 micro:bit  Age • 8-12  Computer Science  11 • Lessons  SKU • ROB0148-EN

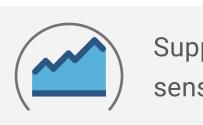
- |   |   |  |   |
|---|---|--|---|
|  | Small in size, assemble easily in 4 steps             |  | Interactive projects with light, sound, motion                            |
|  | Contents: algorithm and programming, computing system |  | Combining with Maqueen Mechanic and GamePad to explore more possibilities |

With the various functions integrated on Maqueen Lite, students can realize projects like line-tracking, ultrasonic avoidance, light-chasing, which allows them to learn robotics and programming knowledge such as line-tracking principle and ultrasonic in a fun way.



### Advanced education robot

 micro:bit  Age • 12-19  Computer Science  27 • Lessons  SKU • MBT0021-EN

- |   |  |   |   |
|---|--|---|---|
|  | Increased in size, power, stability, and functionality                 |  | Supporting HUSKYLENS AI vision sensor                                     |
|  | Contents: algorithms and programming, computing system, internet, data |  | Combining with Maqueen Mechanic and GamePad to explore more possibilities |

An advanced version of micro:Maqueen Lite(4.0), micro:Maqueen Plus comes with a larger and more stable chassis, and more function integrated, supporting HUSKYLENS AI vision sensor. 15 teaching projects are provided for students to learn robotics as well as algorithms & programming and computing system in practice. Moreover, there are 6 structure expansion projects and 6 AI projects that enable students to study internet and data analysis when combining Maqueen Plus with Mechanic Accessories or HUSKYLENS sensor.

## HUSKYLENS/HUSKYLENS PRO

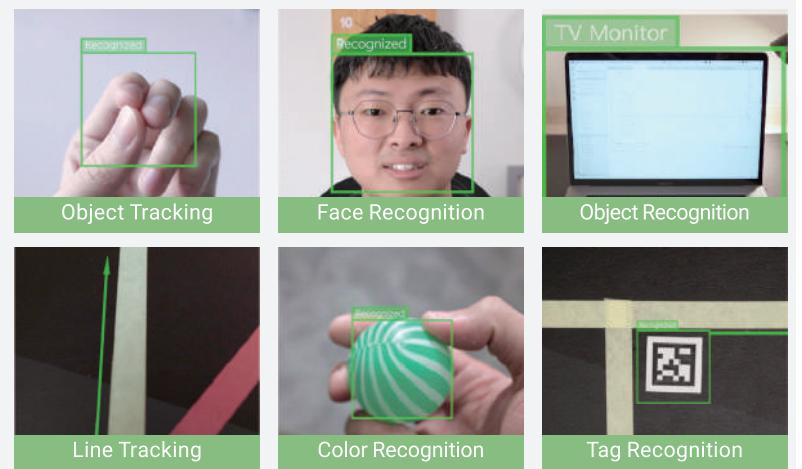
### An easy-to-use powerful artificial intelligence vision sensor.

With built-in machine learning technology, it can complete AI training only with one button. The main functions the sensor included are as follows:

#### Study Pack of HUSKYLENS for micro: bit



 SKU • KIT0179-EN



#### micro:Maqueen Mechanic

 SKU • ROB0163-EN

Mechanic Accessories turning Maqueen Lite/Plus into various shapes, bringing infinite joy to classroom teaching!

#### micro: GamePad

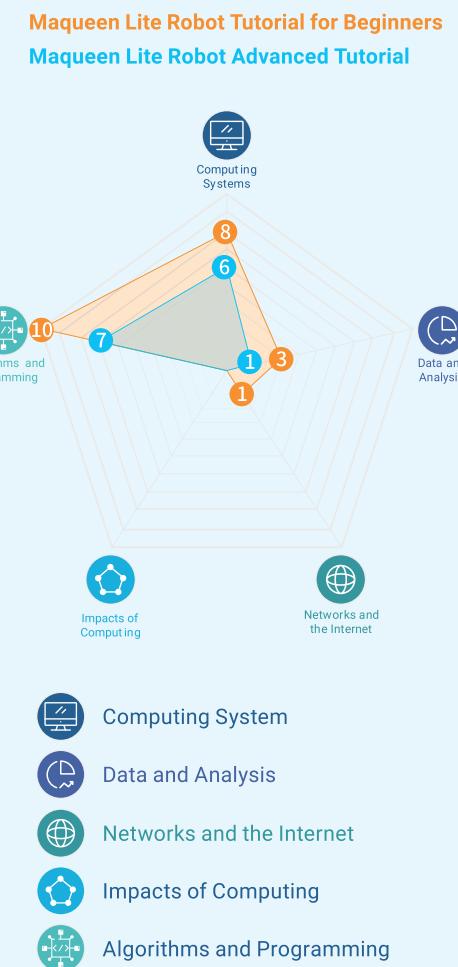
 SKU • DFR0536

Use a GamePad to remotely control Maqueen Lite or Maqueen Plus via the Radio on micro:bit. Bring more possibilities for interactive projects!

## Maqueen Lite Tutorial

Making Difficulty ★★ Programming Difficulty ★★

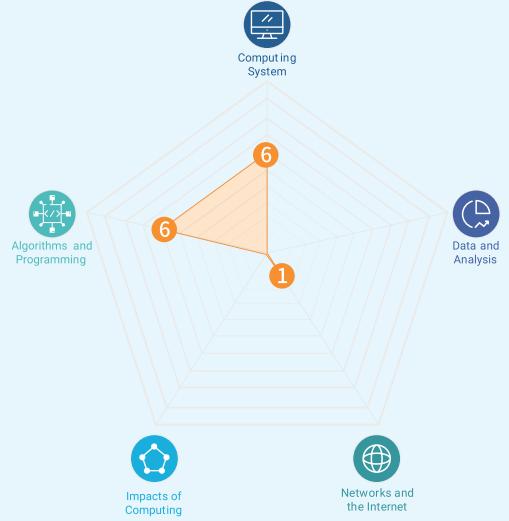
Catalog	Field	Field Distribution Chart
Beginner	Lesson 1 Preparation	Computing System
	Lesson 2 Walking Maqueen	Algorithm & Programming
	Lesson 3 Singer Maqueen	
	Lesson 4 Rhythm Maqueen	
	Lesson 5 Little Tagalong	Computing System
	Lesson 6 Streetcar	Algorithm & Programming
	Lesson 7 Light Chaser	Computing System
	Lesson 8 Maqueen's Commander	Algorithm & Programming Data Analysis
	Lesson 9 Motion-controlled Robot car	Computing System
	Lesson 10 Fly Chess	Algorithm & Programming Data Analysis
Advanced	Lesson 11 Gamepad+Maqueen	Network & Internet
	Product Introduction	Computing System
	Features and Functions	
	Installation Steps	
	Lesson 1 Pitch Cleaner	Algorithm & Programming
	Lesson 2 Maqueen Football Cup	
	Lesson 3 Little Loader Expert	Computing System
	Lesson 4 Forklift Worker	
	Lesson 5 Railway Patroller	
	Lesson 6 Relay Race	
Lesson 7 Sorting Manipulator	Computing System	Algorithms and Programming
	Algorithm & Programming	Data and Analysis
	Networks and the Internet	Impacts of Computing
	Computing System	Algorithms and Programming



## Maqueen Plus Visual Recognition Tutorial

Making Difficulty ★★ Programming Difficulty ★★

Catalog	Field	Field Distribution Chart
Beginner	Lesson 1 Numbered Musical Notation of Colour	Computing System
	Lesson 2 Easy ETC (Electronic Toll Collection) System	Algorithm & Programming Data Analysis
	Lesson 3 AI Sorting Master	
	Lesson 4 Undercover Detective	Computing System
	Lesson 5 Pokémon	Algorithm & Programming
	Lesson 6 Following the "Right Track"	



## Maqueen Plus Tutorial

Making Difficulty ★★★ Programming Difficulty ★★★

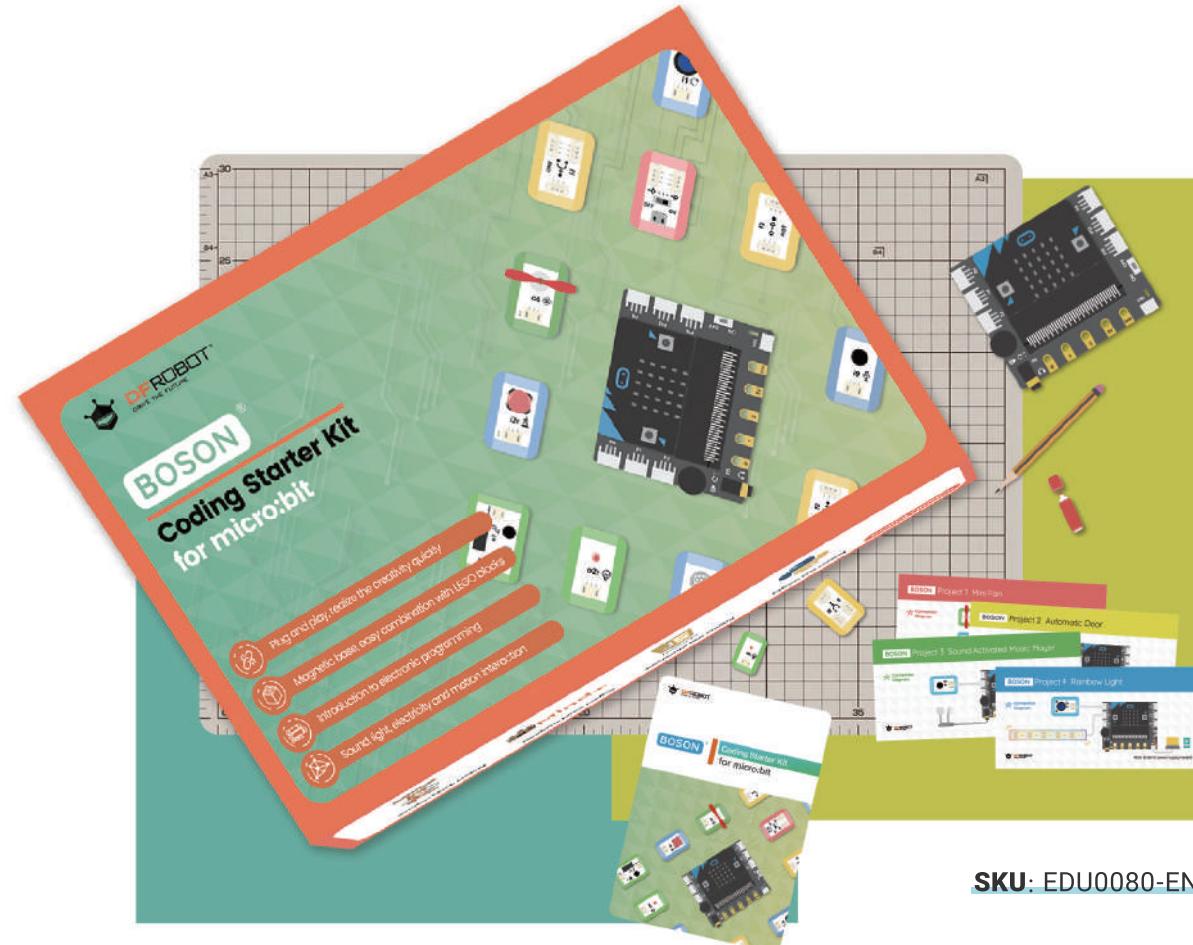
Catalog	Field	Field Distribution Chart
Beginner	Lesson 1 Introduction to Maqueen Plus	Computing System
	Lesson 2 Let's move, Maqueen!	Algorithm & Programming
	Lesson 3 Walking Emoji	
	Lesson 4 City Defender-A Police Car	Computing System
	Lesson 5 Light Sensing Robot	Algorithm & Programming Data Analysis
	Lesson 6 Moth Robot	Algorithm & Programming
	Lesson 7 Little Ranging Expert	
	Lesson 8 Car Reversing Helper	Computing System
	Lesson 9 Line-tracking Robot	Algorithm & Programming
	Lesson 10 Tour of Crossroad	
Advanced	Lesson 11 IR-controlled Robot	
	Lesson 12 Motion Sensing Robot	Network & Internet
	Lesson 13 Firefighting Robot	Computing System
	Lesson 1 Relay Transport	Algorithm & Programming Computing System Network & Internet Data Analysis
	Lesson 2 Vehicle Sharing	Computing System
	Lesson 3 Auto-Tracking Vehicle	Network & Internet
Advanced	Lesson 4 Fixed-Point Transportation	Computing System
	Lesson 5 Self Driving Truck	Algorithm & Programming
	Lesson 6 Out of the Maze	Data Analysis

Refer to CSTA curriculum standard, the course catalog and field distribution are shown below:

## **BOSON CODING STARTER KIT**

Easily learn coding and electronics from the beginning.

 micro:bit  Age • 6-14  Computer Science  15 • Lessons  15 • Modules



SKU: EDU0080-EN



3 Logic modules, 10 other modules with functions of sound and human detecting



Contents: Algorithm & Programming

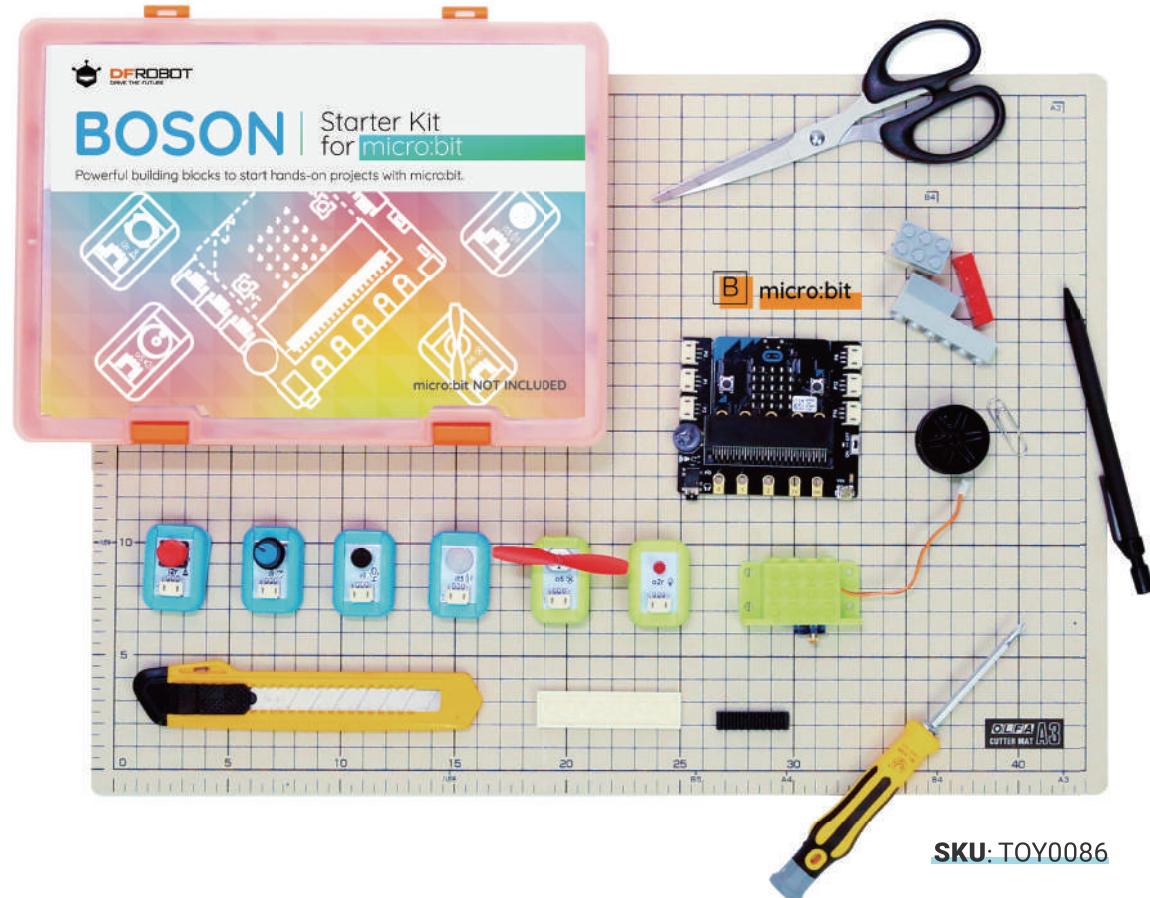


Help students transition from coding theory study to graphical programming practice

## **BOSON STARTER KIT FOR MICRO:BIT**

Learning and building smart device with micro:bit

 micro:bit  Age • 10-14  Computer Science  12 • Lessons  8 • Modules



SKU: TOY0086



Cultivating kid's programming ability



Supporting sound, light and motion interaction



Comes with 8 modules, 4 quick start project cards



12-project tutorial from beginning to advance

This kit includes 15 well selected modules, by which, students can create 3 non-programming projects and 12 programming projects. They can directly use BOSON's logic modules to build up projects without coding, or programming. Meanwhile, they can learn something about algorithms & programming.

The BOSON starter kit for micro:bit includes 8 well selected modules, covering the most popular digital and analog sensors and actuators, supporting sound, light and motion interaction. High accessibility of free-download tutorial and project cards enables students to learn micro:bit everywhere.

## BOSON Kit Tutorial

Making Difficulty ★ Programming Difficulty ★

Refer to CSTA curriculum standard, the course catalogs and field distributions are shown below:

Catalog	Field	Field Distribution Chart
Lesson 1 Clever LED	Data Analysis	
Lesson 2 DIY Fan	Algorithm & Programming	
Lesson 3 Complex Control	Computing System	
Mind+ Introduction		
Mind+ Interface Brief		
Get Started with Mind+ and micro:bit	Data Analysis	
Lesson 4 The Mysterious micro:bit		
Lesson 5 Flashing LED	Algorithm & Programming	
Lesson 6 Breathing Light		
Lesson 7 Speed Changable Fan	Data Analysis	
Lesson 8 Electronic Candle		
Lesson 9 Automatic Door	Algorithm & Programming	
Lesson 10 Music Box		
Lesson 11 Colorful LED Strip	Computing System	
Lesson 12 Electronic Stabilizer	Data and Analysis	
Lesson 13 DJ Panel	Networks and the Internet	
Lesson 14 Remote Control Doorbell	Impacts of Computing	
Lesson 15 Bomb Escap	Algorithms and Programming	

Coding Start Kit

Starter Kit for micro:bit

## BOSON AI STARTER KIT

An entry-level product for the infinite possibilities of artificial intelligence.

 micro:bit  Age • 7-11  Computer Science  15 • Lessons  15 • Modules

-  Cognitive understanding of the basic principles of AI
-  Experience AI visual recognition and machine learning
-  Easy to learn neural networks concept



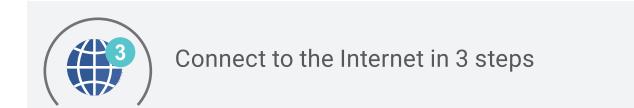
SKU: EDU0057-EN

The AI Starter Kit combines the NeurOne Module, which is specially designed for AI introductory teaching to simulate and experience machine learning principles.

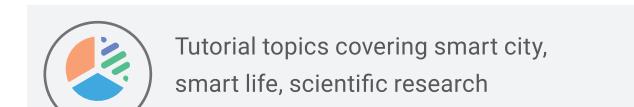
## IoT CLOUD KIT FOR MICRO:BIT

An excellent solution to IoT classroom teaching

 micro:bit  Age • 13-19  Computer Science  15 • Lessons  10 • Modules



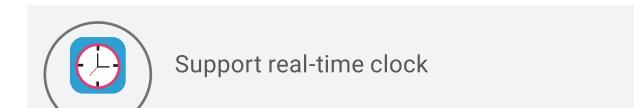
Connect to the Internet in 3 steps



Tutorial topics covering smart city, smart life, scientific research



Support IFTTT, TingSpeak, Easy IoT, etc



Support real-time clock



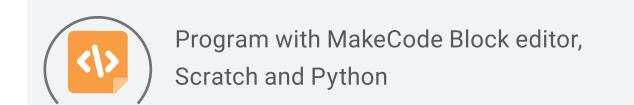
SKU: KIT0161-EN

The provided tutorials for the kit can lead students to learn what the IoT is, and get to know the applications of IoT by building up projects to realize all kinds of functions via IoT, such as clock service, text display, sound playback, light switching, data collection, and so on.

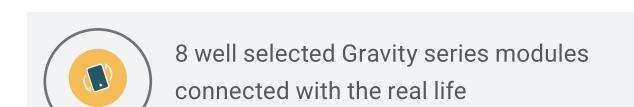
## IoT STARTER KIT FOR MICRO:BIT

All-in-one bundle for micro:bit learners to experience everything about IoT

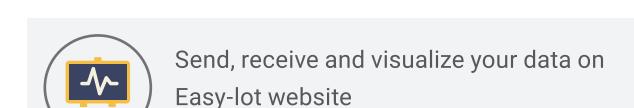
 micro:bit  Age • 12-19  Computer Science  8 • Lessons



Program with MakeCode Block editor, Scratch and Python



8 well selected Gravity series modules connected with the real life



Send, receive and visualize your data on Easy-IoT website



SKU: KIT0138

The kit comes with a micro:bit microcontroller, a Wi-Fi module and 7 sensors/actuators that are widely used in IoT applications. Support HTTP and MQTT protocol, link your social network accounts via IFTTT or even build your own web service.

# MINDPLUS CODING KIT FOR ARDUINO

Get started from Zero to advanced projects, play with Bluetooth and IoT, create more fun in multiple scenarios!

 Age • 9-14  Computer Science  26 • Projects  18 • Modules



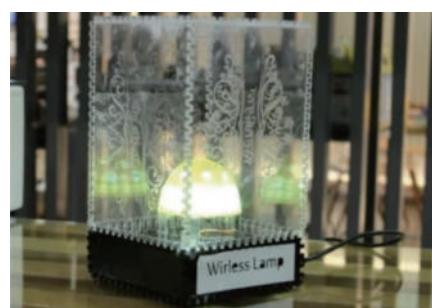
SKU: KIT0152-EN

 18 Modules with functions involving Bluetooth, WiFi, display, etc.

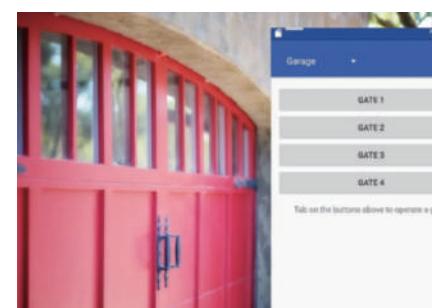
 26 Interesting projects to explore IoT, smart home, etc.

 Contents: computing system, algorithms & programming, data analysis

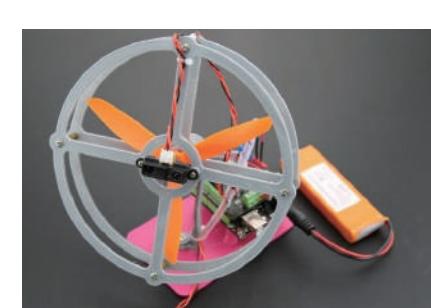
It comes with 15 Arduino basic projects, 5 IoT projects, and 6 Bluetooth communication projects, which allow students to apply the 18 gravity modules into actual life scenarios or smart home projects. The knowledges about computing system, algorithms & programming, and data analysis will be covered during the whole process.



Remote Bluetooth Light



Bluetooth Access Controller



Smart Fan

## MindPlus Coding Kit Tutorial

Making Difficulty ★★★ Programming Difficulty ★★★

Refer to CSTA curriculum standard, the course catalog and field distribution are shown below:

Catalog	Field	Field Distribution Chart
Lesson 1 Light up the Onboard LED	Algorithms & Programming	
Lesson 2 Light up the External LED		
Lesson 3 Control a LED with a button		
Lesson 4 Make a Simple Delay Lamp		
Lesson 5 Make a Push Button Switch		
Lesson 6 Breathing Light		
Lesson 7 3-Gear Adjustable Light		
Lesson 8 Knob-type Adjustable Light		
Lesson 9 Sound-controlled Lamp	Data Analysis	
Lesson 10 Corridor Lighting		
Lesson 11 Electric Candle		
Lesson 12 Make a Sound-producing Device		
Lesson 13 Anti-myopia Alarm	Algorithms & Programming	
Lesson 14 Ultrasonic Range Finder		
Lesson 15 Intruder Detector		
Lesson 16 IoT Communication Tool		
Lesson 17 IoT Temperature Detection	Network & Internet	
Lesson 18 Violent Transportation Monitoring		
Lesson 19 Automatic Clothes Hanger	Algorithms & Programming	
Lesson 20 Intelligent Baby Cradle		
Lesson 21 Bluetooth Configuration		
Lesson 22 Making An APP	Computing System	
Lesson 23 Bluetooth-controlled LED		
Lesson 24 Control A Servo with Your Phone	Data Analysis	
Lesson 25 Special Switch - Relay		
Lesson 26 Palm Smart Home	Algorithms & Programming	

## INTERMEDIATE KIT FOR ARDUINO

 Age • 15+  Computer Science  16 • Projects  17 • Modules



Learning basic electronics theory, physical computing and how to use Arduino. Starting with simple LED project and then moving on to more complicated projects.

## 27 PCS SENSOR SET FOR ARDUINO

 27 • Modules



## 37 PCS SENSOR SET FOR ARDUINO

 37 • Modules



# 04 | SCIENCE

BOSON Science Design Kit I  
BOSON Science Kit I  
Gravity: SCI DAQ Module I  
Lark Weather Station I  
Environment Science Expansion Board I


**BOSON SCIENCE DESIGN KIT**

Explore science and engineering projects in a creative way.

**Age • 8-10**   **Science**   **12 • Projects**   **13 • Modules**



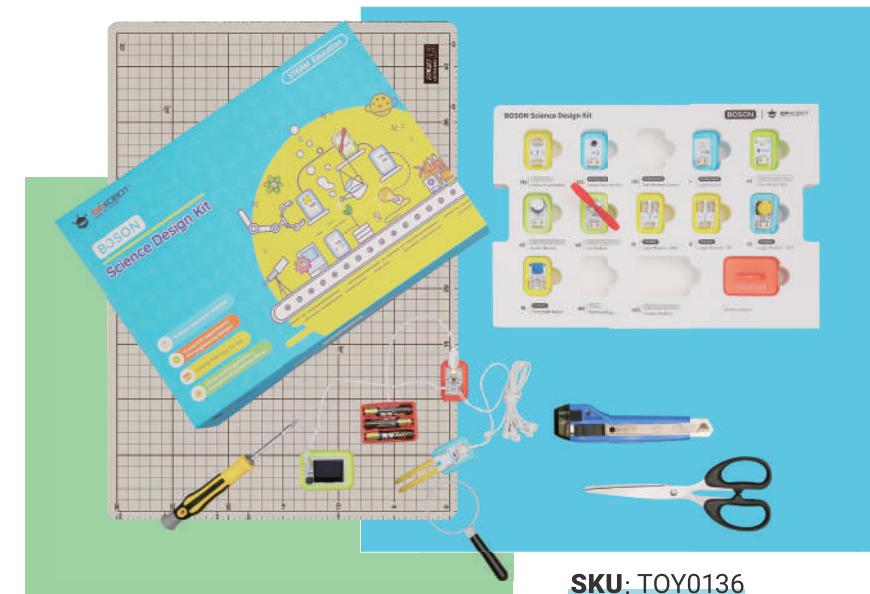
Supports sound, light and motion interaction



Contents: Engineering design and Physical Science



Coding free, simple and easy-to-use



SKU: TOY0136

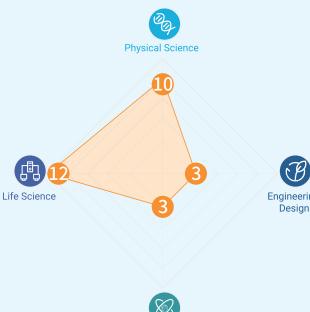
The carefully-designed 7 scientific experiments and 5 engineering projects would let students learn scientific principles in practice by applying BOSON modules into actual applications.

### Boson Science Design Kit Tutorial

Making Difficulty ★ Programming-free

Refer to NGSS curriculum standard, the course catalog and field distribution are shown below:

Catalog	Field	Field Distribution Chart
Lesson 1 Why Are Electrical Wires Covered in Plastic?	Physical Science	
Lesson 2 How to Make Your Living Room Comfortable?	Engineering Design	
Lesson 3 What Is a Car Sunshade?		
Lesson 4 Why Does the Moon Shine at Night?	Earth & Space Science	
Lesson 5 Why Is It Summer After Spring, not Winter?	Engineering Design	
Lesson 6 Why Do Very Few Plants Grow in the Desert?	Life Science	
Lesson 7 How Does the Water Cycle Work?	Engineering Design	
Lesson 8 Solar Oven	Physical Science	
Lesson 9 Fridge Door-closing Reminder	Engineering Design	
Lesson 10 Automatic Plants Fill Light	Physical Science	
Lesson 11 Automatic Watering System	Life Science	
Lesson 12 Anti-Theft Alarm	Engineering Design	



- Physical Science
- Engineering Design
- Earth & Space Science
- Life Science


**BOSON SCIENCE KIT**

Explore science in an easy and digitalized way.

**Age • 11-14**   **Science**   **12 • Projects**   **11 • Modules**



8 scientific sensors for physics, chemistry and biology exploration



Contents: Life Science and Physical Science



Coding free, simple and easy-to-use



SKU: TOY0084

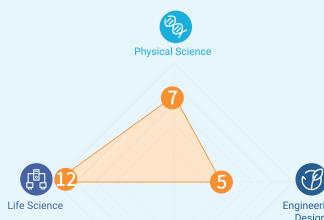
The 12 experiments designed for this kit gives kids an excellent intro to science exploration. When graphing data from the experiments with BOSON sensors, students can also learn chemistry and biology in practice.

### BOSON Science Kit Tutorial

Making Difficulty ★ Programming-free

Refer to NGSS curriculum standard, the course catalog and field distribution are shown below:

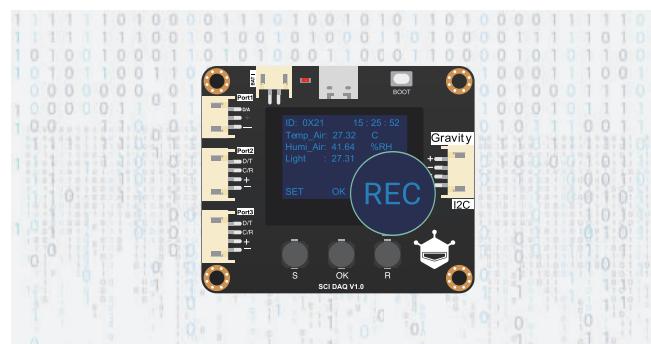
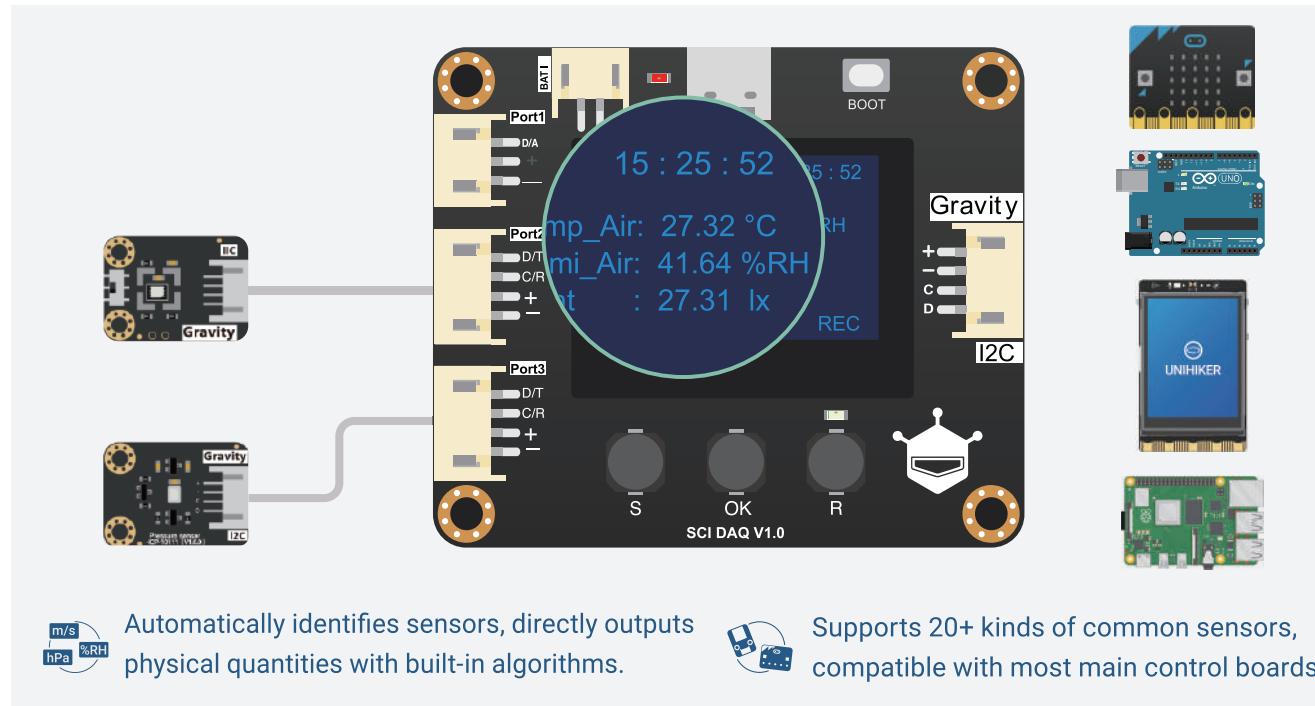
Catalog	Field	Field Distribution Chart
Lesson 1 What Color Absorbs Heat Best?	Physical Science	
Lesson 2 Which Coffee Cup is Best?		
Lesson 3 What's the pH Value for Various Liquids?	Physical Science	
Lesson 4 What Happens When Acid Meets Base?	Engineering Design	
Lesson 5 Why Is the Water Changing Its Color?		
Lesson 6 Do Plants Grow Better with Fertilizer?	Life Science	
Lesson 7 Do Plants Need Light?	Engineering Design	
Lesson 8 Do Plants Grow Better with More Water?		
Lesson 9 What's the Best Environment for a Plant?	Life Science	
Lesson 10 Can Pure Water Conduct Electricity	Physical Science	
Lesson 11 Are We Able to 'see' Conductivity?	Engineering Design	
Lesson 12 What Happens to Your Body During a Workout?	Life Science	



- Physical Science
- Engineering Design
- Earth & Space Science
- Life Science

## SCI DAQ MODULE

A multi-functional data acquisition module, get sensor data in a simpler way, ideal for exploratory experiments and interdisciplinary teachings.



16M storage for storing real-time data with accurate time tags, with the capacity of 400,000 pieces of data.



Generate CSV files, easy for data analysis.



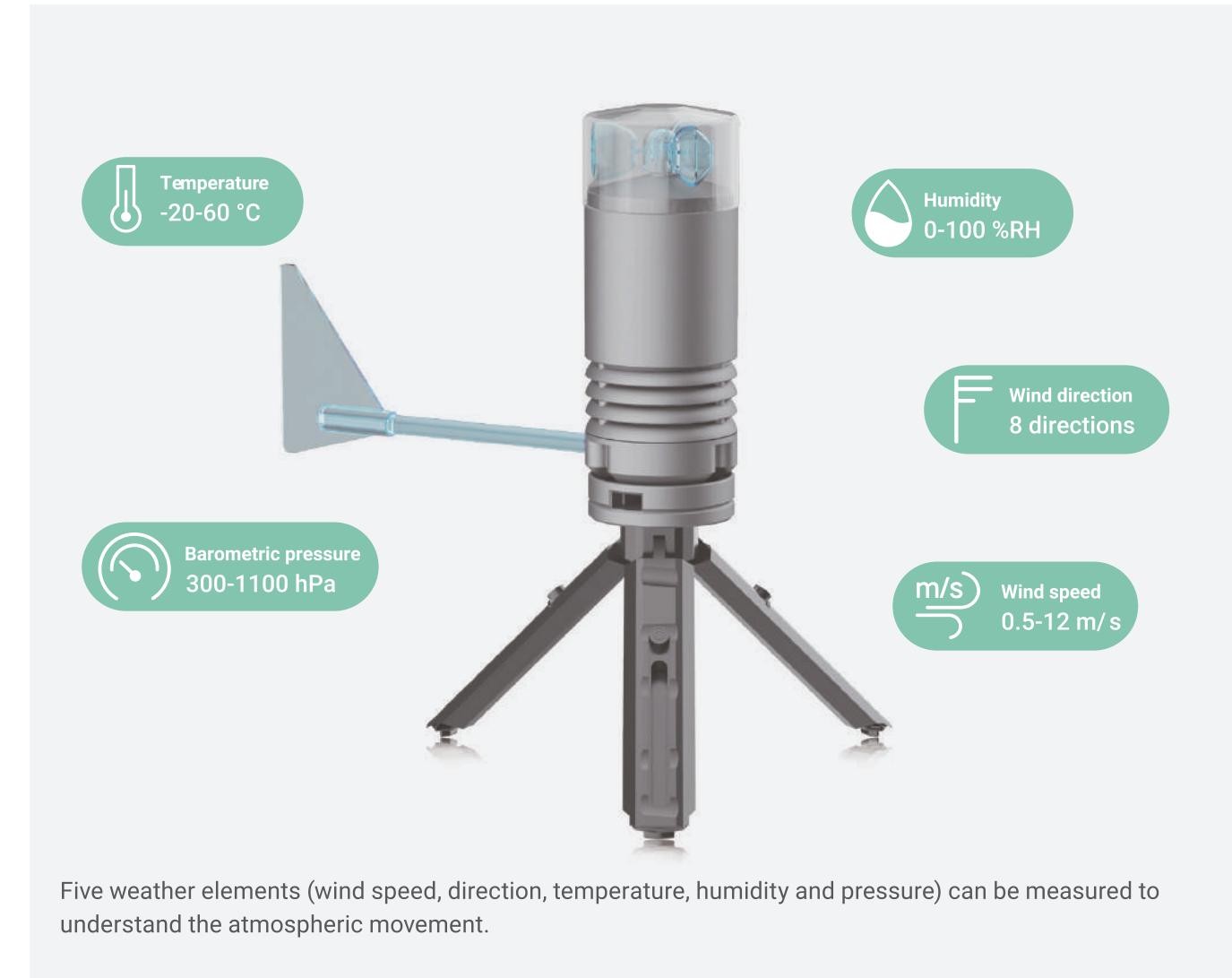
Plant monitoring system



Pollutant monitoring in laser cutting process

## LARK WEATHER STATION

A small and portable weather station that takes you to experience real-time weather data wherever you go.



Five weather elements (wind speed, direction, temperature, humidity and pressure) can be measured to understand the atmospheric movement.

The device can collect a wide range of weather data and is compatible with various open-source hardware controllers. It also includes built-in storage for exporting data for analysis and supports extended sensors.



Built-in 16M storage space.



Small size, easy to store and more suitable for classroom teaching



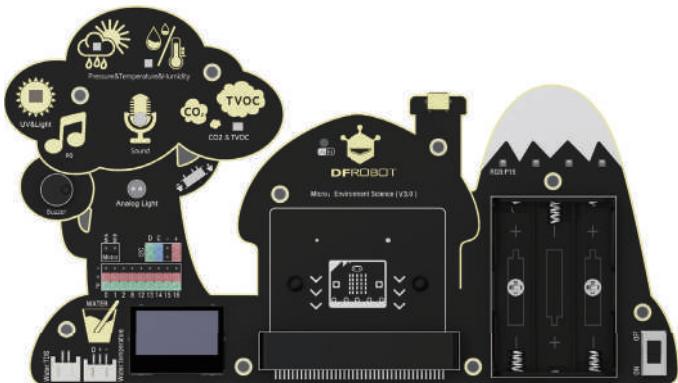
Flexible Expandability. Support UART and I2C communication modes and various microcontrollers.



## ENVIRONMENT SCIENCE EXPANSION BOARD FOR MICRO:BIT

A set of mobile scientific tools for exploring the mysteries of nature in the simplest way.

micro:bit Age • 10-16 Science 15 • Projects



- Combination of natural environment and scientific experiments
- Analysis of scientific experimental data using IoT technology
- Access to Physical science, Life science, and Engineering Design

SKU: MBT0034

## ECODUINO - AN AUTO PLANTING KIT

The EcoDuino system makes your efforts to grow plants much easier.

Age • 16-19 Science

- Wireless communications
- Remote control
- Plant monitoring



SKU: KIT0003

## 05 | Design Challenge

BOSON Creativity Kit I  
BOSON Inventor Kit I  
DIY Electronics I


**BOSON CREATIVITY KIT**

Inspire creativity through crafts.

**Coding-free**   **Age • 5-8**   **Design Challenge**   **17 • Lessons**   **37 • Modules**



**SKU:** EDU0085-EN



Combine with Cubee cardboard sheets to quickly build up fun projects



Plug and play without a computer.



Learn together with 17 hands-on projects



A set of various sensors including temperature, light, motion, humidity, sound, etc.



Combine with Cubee cardboard sheets to quickly build up fun projects.



Plug and play without computer.



Learn together with 17 hands-on projects.


**BOSON BOSON INVENTOR KIT**

Electronic blocks that develop logical & creative skills.

**Coding-free**   **Age • 6-12**   **Design Challenge**   **20 • Lessons**   **36 • Modules**



**SKU:** TOY0083



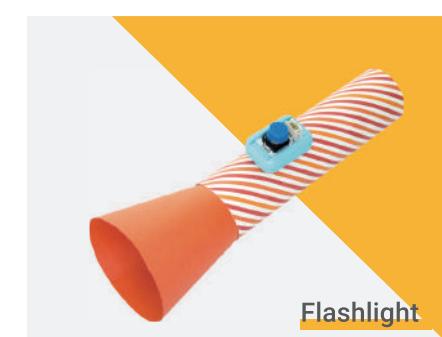
36 Boson modules(including 9 input modules, 7 actuators, 20 function and power modules)



13 activity cards and 5 paper sheets that teach kids how to build interactive projects with LEGO blocks, wearable materials



Provides 20 online lessons, covering dexterous tools design, fun games, and creative Invention



Flashlight



Walking Robot



Night Light

## 4-CLAYING INTERACTIVE KIT

A fun-to-play kit that makes your sculptures "alive".

Age • 5-8    45 mins to assemble



SKU: TOY0057

-  Vibrant colored, toxic free lightweight modeling clay
-  High quality color LEDs and motion sensors

## 4-SOLDERING ZOO ANIMAL KIT

The first kit for kids to learn soldering.

Age • 6+    1 hour to assemble

-  Customizable animal characters and scenes
-  Soft light RGB LED with nice transitions
-  RoHs-free, smooth PCB with immersion-gold, environment-friendly



SKU: TOY0055

## 4-SOLDERING LIGHT CHASER BEAM ROBOT KIT

Make your own BEAM robot in an easy way.

Age • 8+    1.5 hours to assemble



SKU: TOY0060

-  Interactive with light without programming
-  Easy to assemble and solder, coding-free
-  RoHs-free, smooth PCB with immersion-gold, environment-friendly

## INSECTBOT HEXA

An Arduino Based Walking Robot Kit For Kids.

Age • 11-14    2 hours to assemble

-  Walks steadfast everywhere
-  Can be programmed with graphical language Ardublock
-  Can be controlled by Bluetooth



SKU: KIT0090

## WEATHER STATION KIT WITH SOLAR PANEL

Develop kids' interest in natural science.

Age • 15-17    Science    2.5 hours to assemble



SKU: KIT0094

-  Measures the data of concerning temperature, humidity and barometric pressure

-  With a solar panel to provides auxiliary power supply

## BEGINNER KIT FOR ARDUINO

For electronic circuit learning.

Age • 15+    15 Projects    Teaching hours • 12-16

-  Includes common electronic components, e.g. resistors with different resistance values, LED and photosensitive diode
-  Supports mobile APP to view the learning course and download the code
-  15 project cards suitable for diversified and flexible use in classroom



SKU: DFR0100

Please feel free to contact us if you have any queries

**Business Contact:** BD@dfrobot.com

**Marketing Cooperation:** marketing@dfrobot.com

**Website:** www.dfrobot.com

edu.dfrobot.com



@dfrobot



@dfrobotcn



@DFRobotEdu



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