DFROBOT®
DRIVE THE FUTURE

DFRobot Education

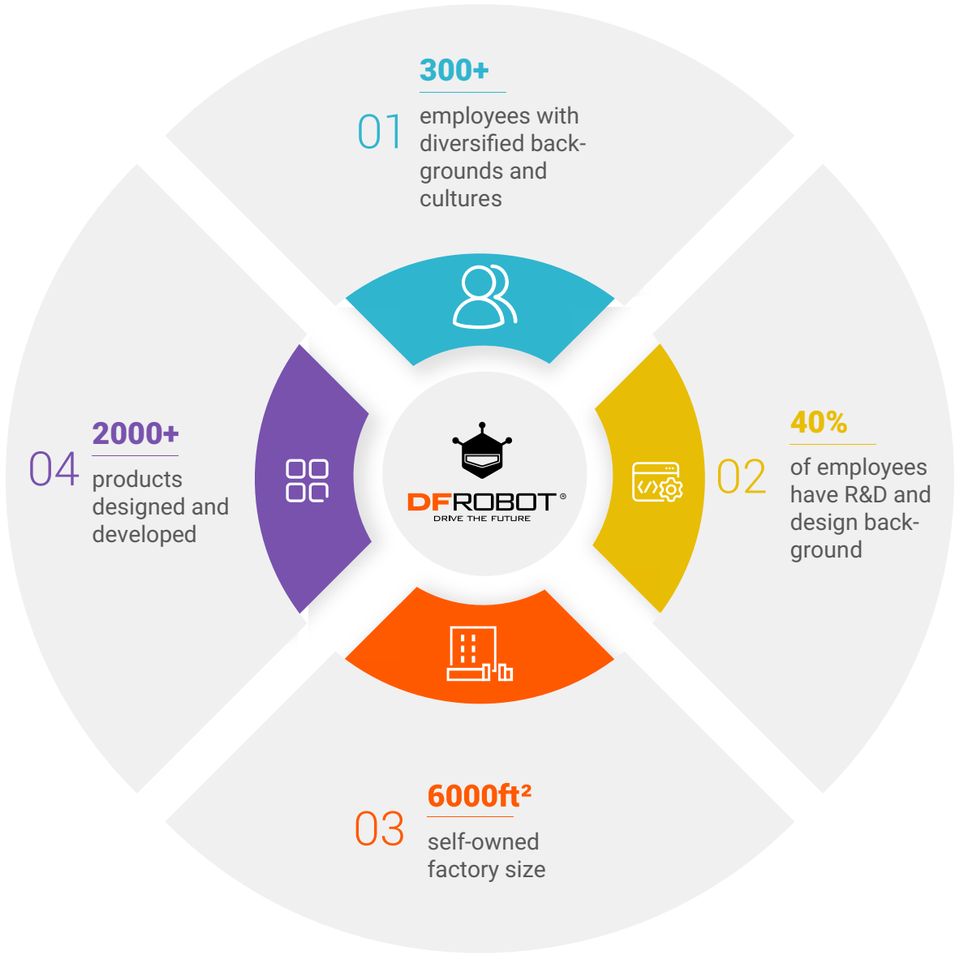
Education

Empowering Creation for Future Innovators

CONTENTS

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, in identifying their own challenges, solving new problems, motivating themselves to working together, inspiring and sharing with others. We believe making and creating 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 age range
- Thousands of open-source electronic modules and components
- Compatible with mainstreaming digitalized STEM educational platforms

Curriculum

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

DFRobot Education

Our Journey

100+ Countries and Areas

10,000+ Schools

5 MM Education Users

800+ Lessons

2008
- Company founded

2010
- Held 1st Maker Carnival in China
- Published China 1st Arduino starter tutorial

2012
- Launched Vortex robotic toy, global 1st Arduino based consumer robot

2013
- Opened the Mushroom Cloud Maker Space in Shanghai, China

2015
- Launched Vortex robotic toy, global 1st Arduino based consumer robot

2017
- Launched Boson Kit on Kickstarter, the world's first coding-free electronic buildingblocks for STEM education
- Promoted STEM education products to over 1000 schools

2018
- Won the 5-Star Award on Teach Primary Resource Awards

2019
- Explored more than 5 million users to use Mind Plus programming editors
- Introduced Education kits to over 10,000 schools

2020
- Launched HUSKYLENS AI camera, an easy-to-use teaching tool that brings AI technology to classrooms.
- Granted micro:Maqueen Plus the Tech & Learning Awards of Excellence

2023
- Launched UNIHIKER, the Python open-source hardware education platform for teenagers
- Launched the 5-in-1 Lark Weather Station capable of measuring outdoor wind speed, wind direction, temperature, humidity, and air pressure for interdisciplinary STEM education.

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

ROBOTICS TOMORROW · Robotic Gizmos · TECH AGE KIDS · Forbes · gadgetify · Geeky Gadgets · The Toy Insider · NHK · jtbc · Discovery Education · The Verge · engadget · NIKKEI · Make: · TechCrunch · STEAM在线 · BBC · CISION · MarketWatch · asia one

Online Learning Resource

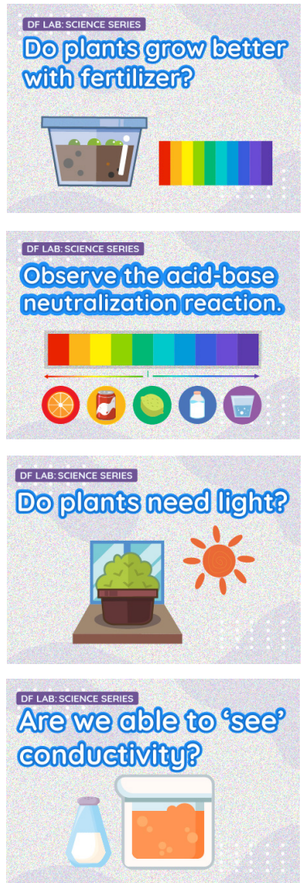
edu.dfrobot.com DFRobotEdu

Get inspired with ideas, projects and tutorials for beginners, quality-assured resources to support the teaching and learning of STEM.

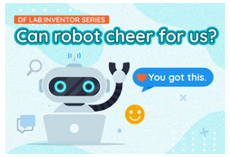
With a mission to teach more people to create, we build an online channel to support communities of educators and partners through providing easy & effective learning materials and projects. Selected tutorials featuring our popular products are updating on this online platform regularly.

Featured Lessons

Science

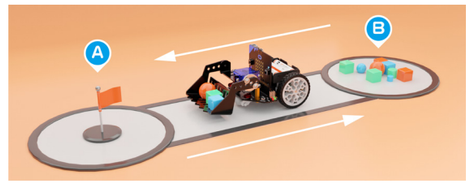


Design & Technology

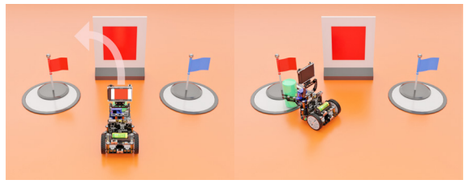


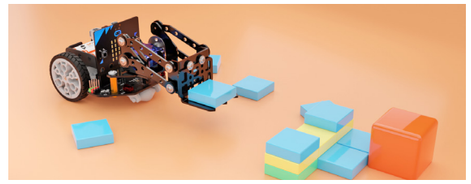
Computer Science & Robotics

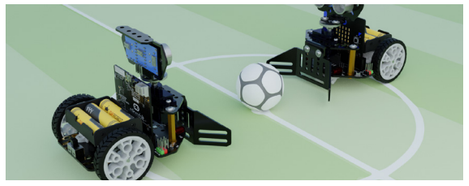
Sorting Manipulator

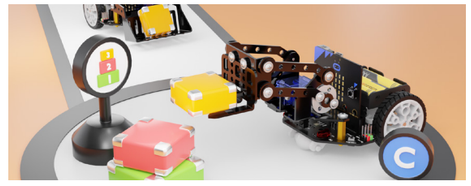


Little Loader Expert


Pitch Cleaner


Forklift Worker


Maqueen Football Cup



Relay Race

01 PRODUCT OVERVIEW

Product System Map

Product Overview

PRODUCT OVERVIEW	Computer Science				Science		Design Challenge	
	Mind+ Mindplus Coding Editor, support for both block and text based programming							
Preschool	★ Boson Coding Starter Kit						Boson Creativity Kit	4-Claying Interactive Kit 4-Soldering Zoo Animal Kit
Primary School	Boson Starter Kit for micro:bit	★ micro:Maqueen Lite	micro:Maqueen Mechanic micro:GamePad	★ MindPlus Coding Kit for Arduino	★ Boson Science Design Kit	Gravity: SCI DAQ Module	Boson Inventor Kit	4-Soldering Light Chaser Beam Robot Kit Insectbot Hexa
Secondary School	Boson Artificial Intelligence Starter KIT	★ micro:Maqueen Plus HUSKYLENS HUSKYLENS Pro	★ IoT Cloud KIT for micro:bit IoT Starter Kit for micro:bit		★ Boson Science Kit UNIHIKER	Lark Weather Station ★ Environment Science Kit		Weather Station Kit with Solar Panel
High School				Intermediate Kit for Arduino				Beginner Kit for Arduino

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	Scratch, Blockly, Python, JavaScript, C	micro:bit, ARDUINO, respberry pi
DFRobot Product Solution	Mind+	BOSON micro:Maqueen Gravity UNIHIKER

Compatible with 3 major programmable electronics platforms

micro:bit

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

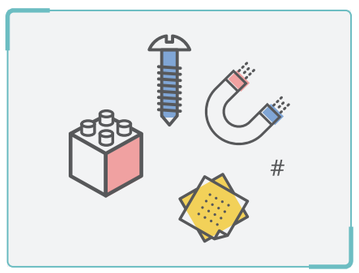
Arduino is an open-source electronic prototyping platform enabling users to create interactive electronic objects.

respberry pi

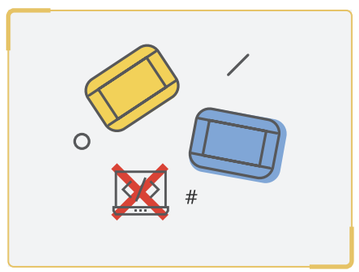
The Raspberry Pi is a series of small single-board computers developed in the United Kingdom by the Raspberry Pi Foundation to promote the teaching of basic computer science in schools.

BOSON PLAY,LEARN,INVENT

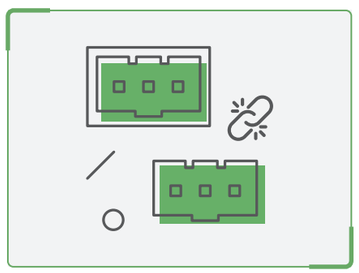
Boson series is a set of modularized electronic building blocks designed for young inventors and STEM educators.



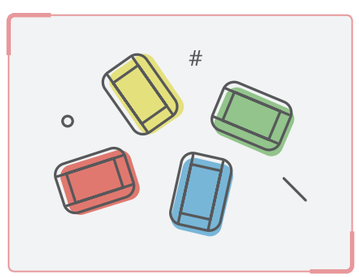
Compatible With LEGOs
Magnets Screws and Velcro



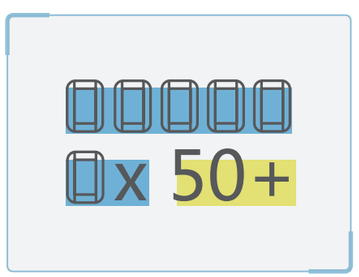
Coding-Free Electronic
Building Blocks



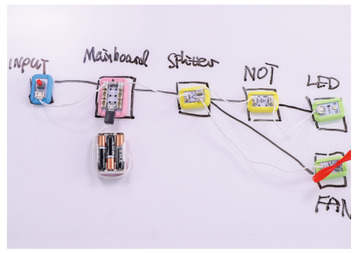
Fool-Proof
Easy to Connect



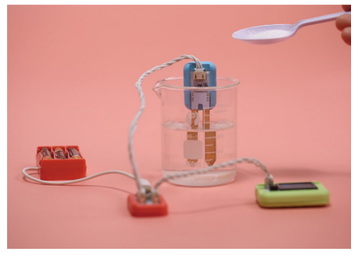
Color-Coded
Easy to Distinguish



50+Different Modules
With Varying Functions

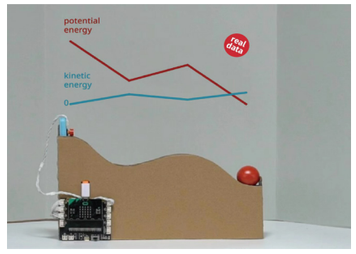


Physically program with BOSON



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 guidebook

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.

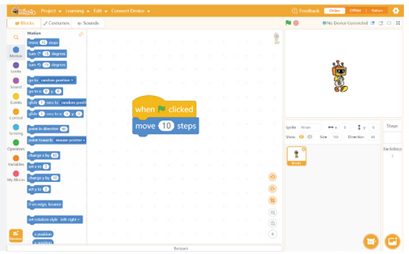
Various professional modules, powerful expansion shields and kits are available.
Total over 250+.

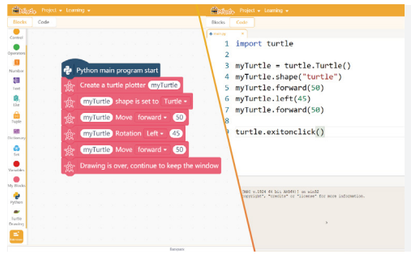
- Standard Interface
- Color coded Pin Headers & Cables
- Professional & Various
- Newbie Friendly
- Detailed Documentation
- Compatible with micro:bit
- Compatible with Arduino

Mind+

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.

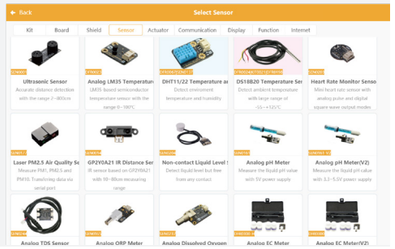
- Build programs by dragging and snapping coding blocks just like Scratch.
- Learn programing with no prior experience.





- Based on Python 3.x, effectively transitioning from block-based coding to text-based coding for a complete programming learning experience.

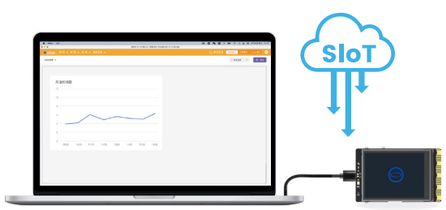
- Create real life projects compatible with a wide range of electronic components .



Mind+ Dashboard

he Mind+ Dashboard has interactive display components that can be personalized by dragging and selecting different themes. It also supports multiple data-sources, enabling intuitive and playful scientific experiments.

Custom interface



Multiple data-sources

Themes color

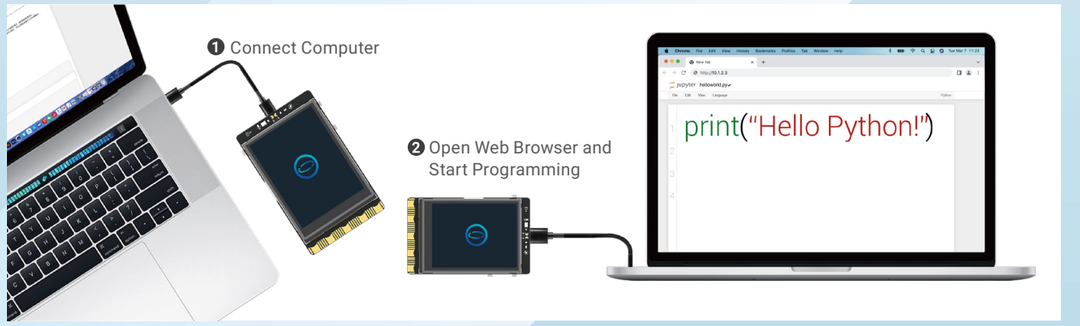
UNIHIKER

The easiest dev computer for Python learning.

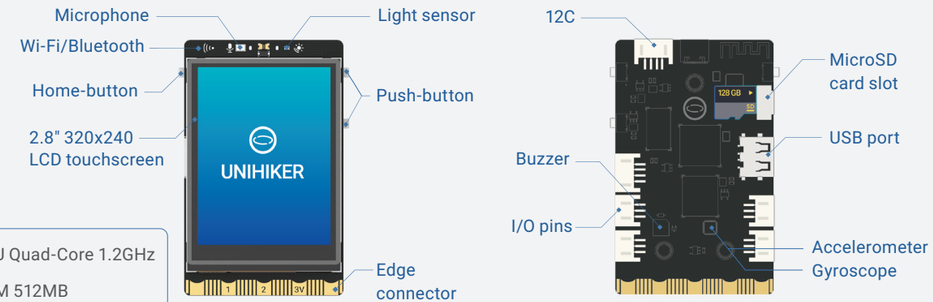
UNIHIKER is an open-source hardware that features a Linux operating system and a Python programming environment with a range of built-in Python libraries. Teachers and students can seamlessly connect it to their computers and instantly begin their Python learning journey without any configurations.

Learn more

https://www.unihiker.com/



Learn Python in two easy steps

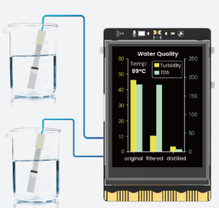


- CPU Quad-Core 1.2GHz
- RAM 512MB
- Hard Disk 16GB

Highly Integrated, intuitive system for teaching

Gaming with Python

Hardware Extension



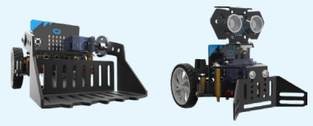
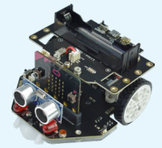
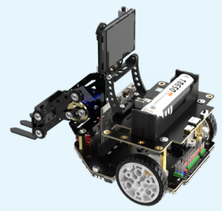
Science Experiment

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

micro:Maqueen LITE

STEM education smart robot for beginners

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

- Small in size, easy to assembly 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.

micro:Maqueen PLUS

Advanced education robot!

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

- Increased in size, power, stability, and functionality
- Compatible with HUSKYLENS, fascinating performance with AI visual capacity
- 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

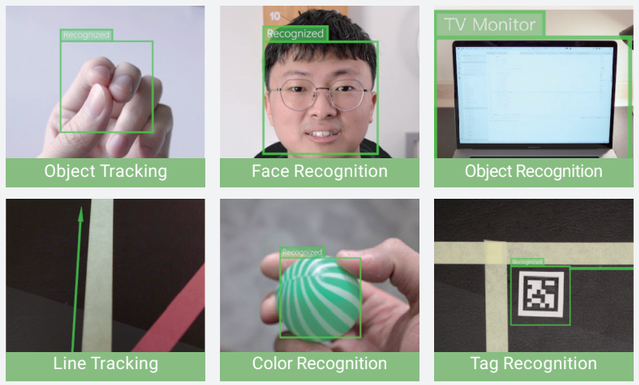
SKU • SEN0305/SEN0336

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. More interesting functions for interactive projects!

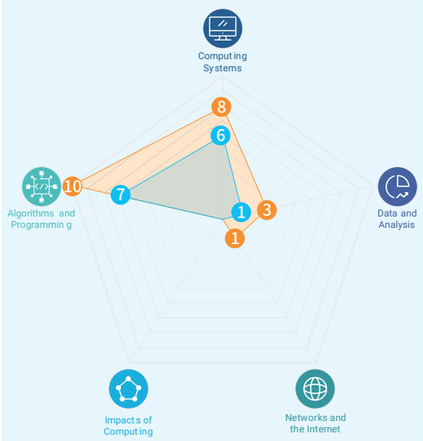
Maqueen Lite Tutorial

Making Difficulty ★★ Programming Difficulty ★★

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

Field Distribution Chart

Maqueen Lite Robot Tutorial for Beginners
Maqueen Lite Robot Advanced Tutorial



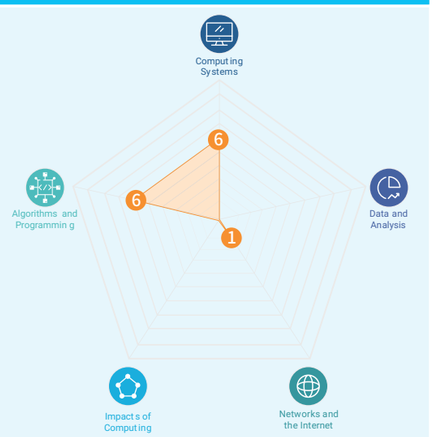
- Computing Systems
- Data and Analysis
- Networks and the Internet
- Impacts of Computing
- Algorithms and Programming

Maqueen Plus Visual Recognition Tutorial

Making Difficulty ★★ Programming Difficulty ★★

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

Field Distribution Chart



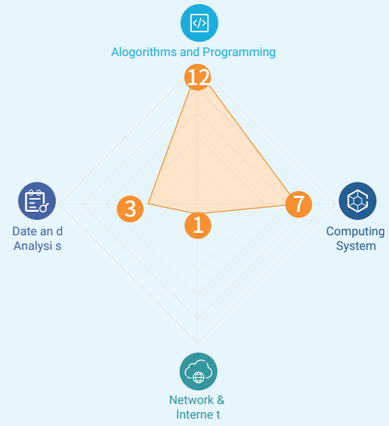
Maqueen Plus Tutorial

Making Difficulty ★★★ Programming Difficulty ★★★

	Catalog	Field
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 Algorithm & Programming Data Analysis
	Lesson 5 Light Sensing Robot	
	Lesson 6 Moth Robot	Algorithm & Programming
	Lesson 7 Little Ranging Expert	Computing System Algorithm & Programming
	Lesson 8 Car Reversing Helper	
	Lesson 9 Line-tracking Robot	
	Lesson 10 Tour of Crossroad	
	Lesson 11 IR-controlled Robot	
	Lesson 12 Motion Sensing Robot	Network & Internet Algorithm & Programming
	Lesson 13 Firefighting Robot	Computing System Data Analysis Algorithm & Programming
Advanced	Lesson 1 Relay Transport	Algorithm & Programming Computing System Network & Internet Data Analysis
	Lesson 2 Vehicle Sharing	Computing System Algorithm & Programming Data Analysis
	Lesson 3 Auto-Tracking Vehicle	Network & Internet Computing System Algorithm & Programming
	Lesson 4 Fixed-Point Transportation	Computing System Algorithm & Programming
	Lesson 5 Self Driving Truck	
	Lesson 6 Out of the Maze	Data Analysis Algorithm & Programming

Field Distribution Chart

Maqueen Plus Robot Tutorial for Beginner
Maqueen Plus Robot Advanced Tutorial



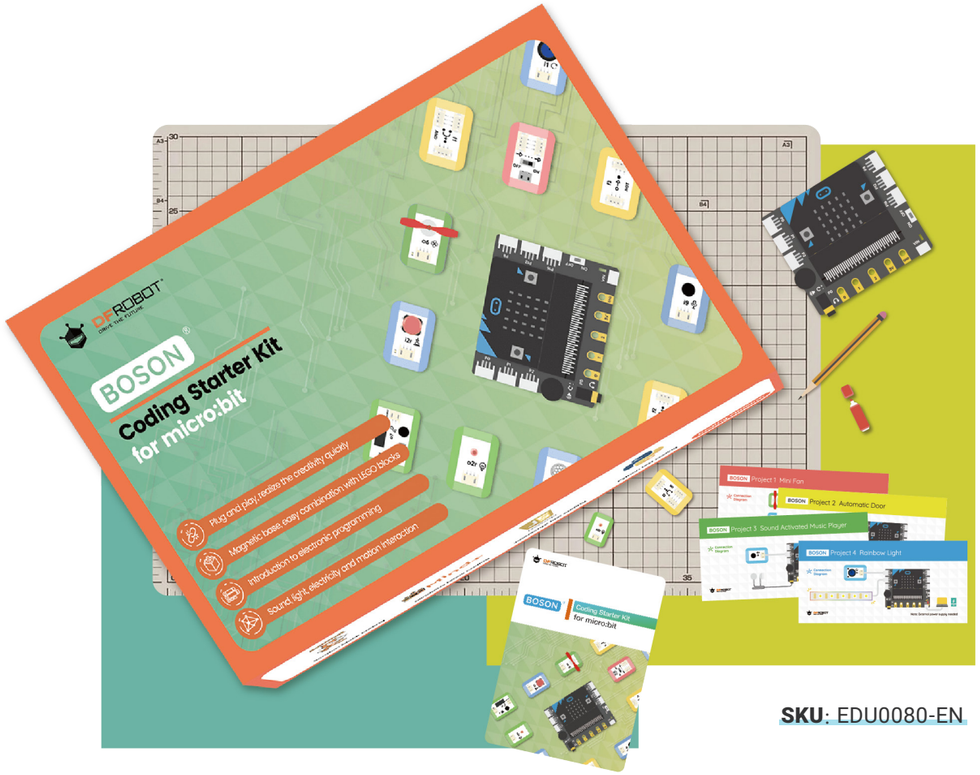
- Computing Systems
- Data and Analysis
- Networks and the Internet
- Impacts of Computing
- Algorithms and Programming

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

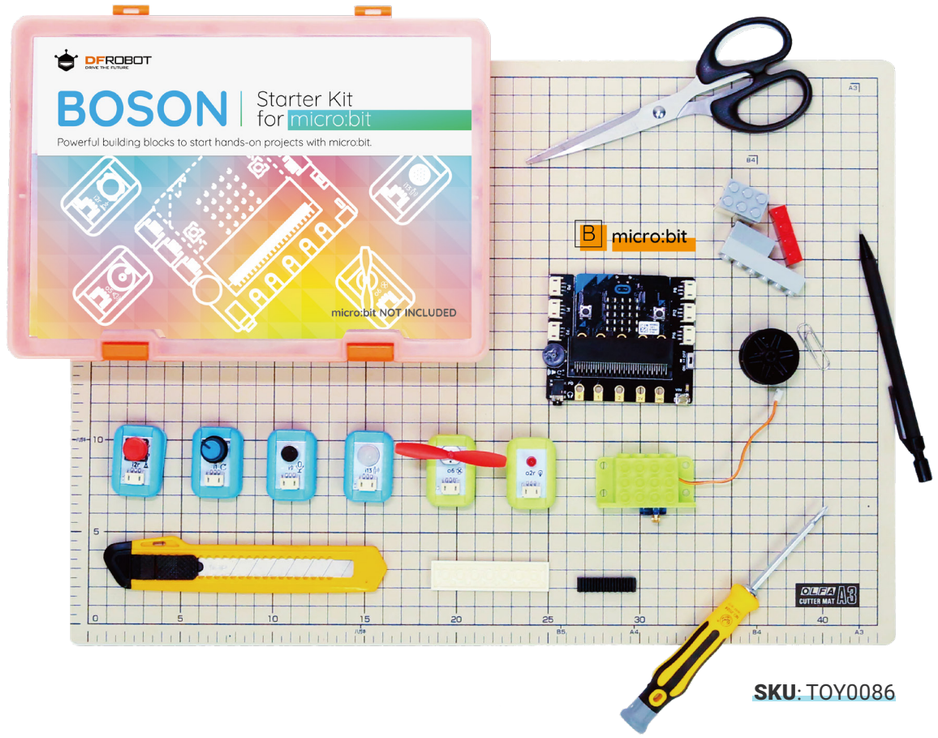
- 3 Logic modules, 10 other modules with functions of sound, human detecting
- Contents: Algorithm & Programming
- Help students transition from coding theory study to graphical programming practice

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 program other modules to realize more intelligent and complicated ideas. Meanwhile, they can learn something about algorithms & programming.

BOSON STARTER KIT FOR MICRO:BIT

Learning and build smart device with micro:bit

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



SKU: TOY0086

- Cultivates kid's programming ability
- Supports sound, light and motion interaction
- Comes with 8 modules, 4 quick start project cards
- 12-project tutorial from beginning to advance

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.

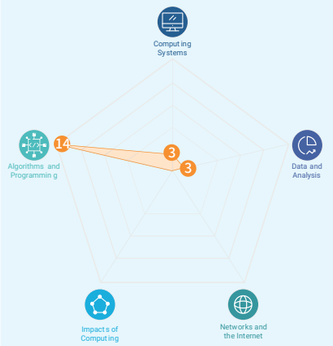
Boson Kit Tutorial

Making Difficulty ★ Programming Difficulty ★

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

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

Field Distribution Chart



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

Combine the NeurOne Module 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, can be used in application requiring timing

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 • Modules

- Program with Make Code Block editor, Scratch and Python
- 8 well selected Gravity series modules connected with 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 real-life IoT applications. Support HTTP and MQTT protocol, link your social network account 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

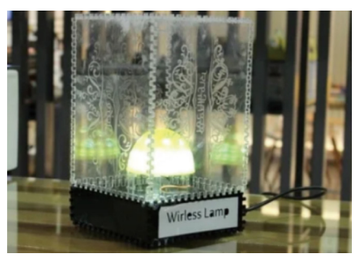
SKU: KIT0152-EN

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

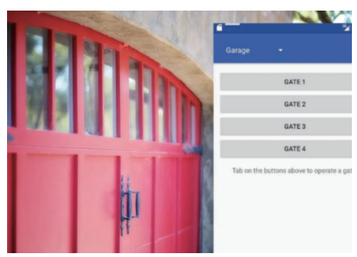
26 Interesting projects to explore IoT, smart home, etc.

Contents: computing system, algorithms & programming, data analysis

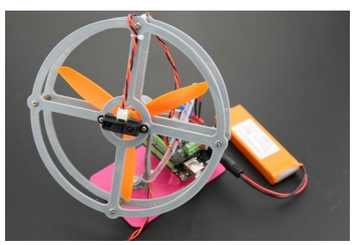
It comes with 15 Arduino basic projects, 5 IoT projects, and 6 Bluetooth communication projects, which allow students to apply the 18 gravity modules into actual life scenarios or smart home projects. The knowledges about computing system, algorithms & programming, and data analysis will be covered during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



Remote Bluetooth Light



Bluetooth Access Controller



Smart Fan

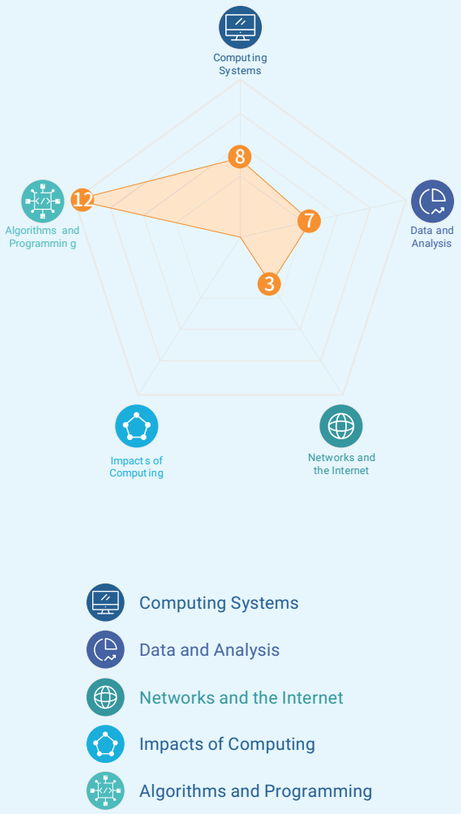
MindPlus Coding Kit Tutorial

Making Difficulty ★★★ Programming Difficulty ★★★

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

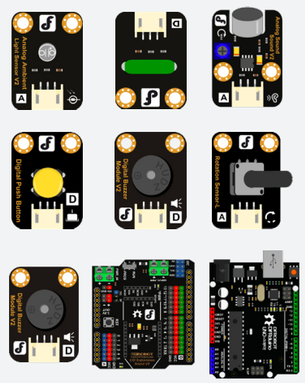
Catalog	Field
Lesson 1 Light up the Onboard LED	Algorithms &Programming
Lesson 2 Light up the External LED	
Lesson 3 Control a LED with a button	
Lesson 4 Make a Simple Delay Lamp	
Lesson 5 Make a Push Button Switch	
Lesson 6 Breathing Light	
Lesson 7 3-Gear Adjustable Light	
Lesson 8 Knob-type Adjustable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

Field Distribution Chart



INTERMEDIATE KIT FOR ARDUINO

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



SKU: KIT0018

Learn 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

SKU: KIT0011

37 PCS SENSOR SET FOR ARDUINO

37 • Modules

SKU: KIT0150

04 | SCIENCE

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

BOSON SCIENCE DESIGN KIT

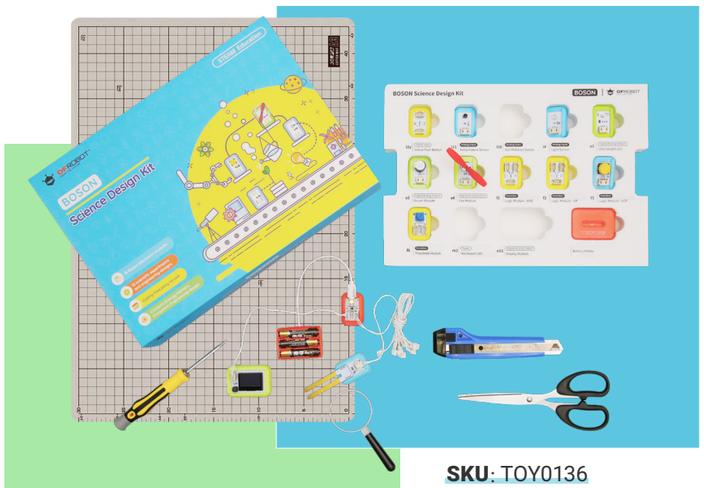
Explore science and engineering projects in a creative way.

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.

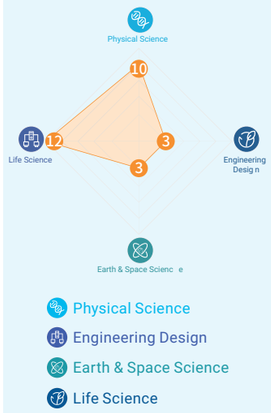
Boson Science Design Kit Tutorial

Making Difficulty ★ Programming-free

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

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

Field Distribution Chart



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.

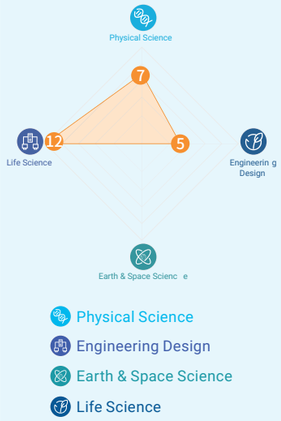
Boson Science Kit Tutorial

Making Difficulty ★ Programming-free

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

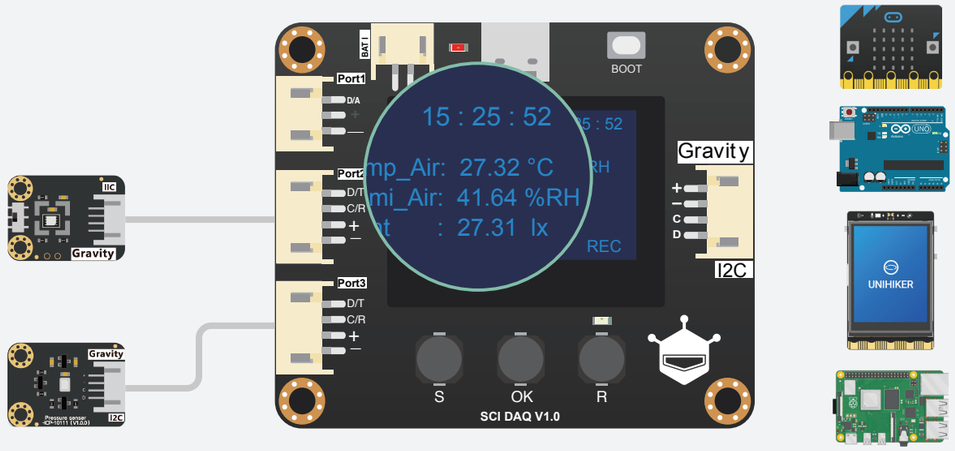
Catalog	Field
Lesson 1 What Color Absorbs Heat Best?	Physical Science Engineering Design
Lesson 2 Which Coffee Cup is Best?	
Lesson 3 What's the pH Value for Various Liquids?	
Lesson 4 What Happens When Acid Meets Base?	
Lesson 5 Why Is the Water Changing Its Color?	
Lesson 6 Do Plants Grow Better with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

Field Distribution Chart



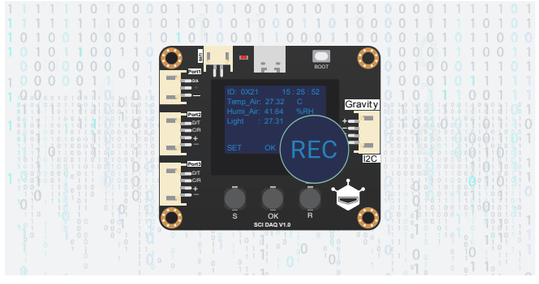
SCI DAQ MODULE

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

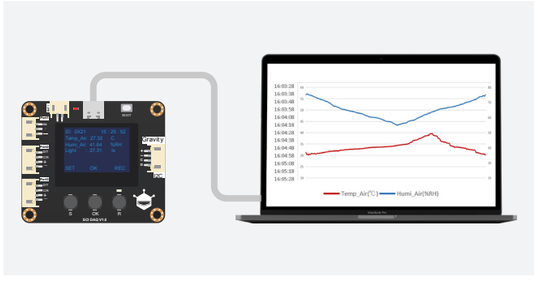


Automatically identifies sensors, directly outputs physical quantities with built-in algorithms.

Supports 20+ kinds of common sensors, compatible with most main control boards.

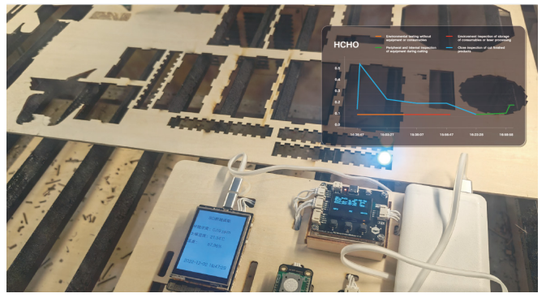


16M storage for storing data in real-time with accurate time tags, can store 400000 pieces of data.



Generate CSV files, easy for data analysis.

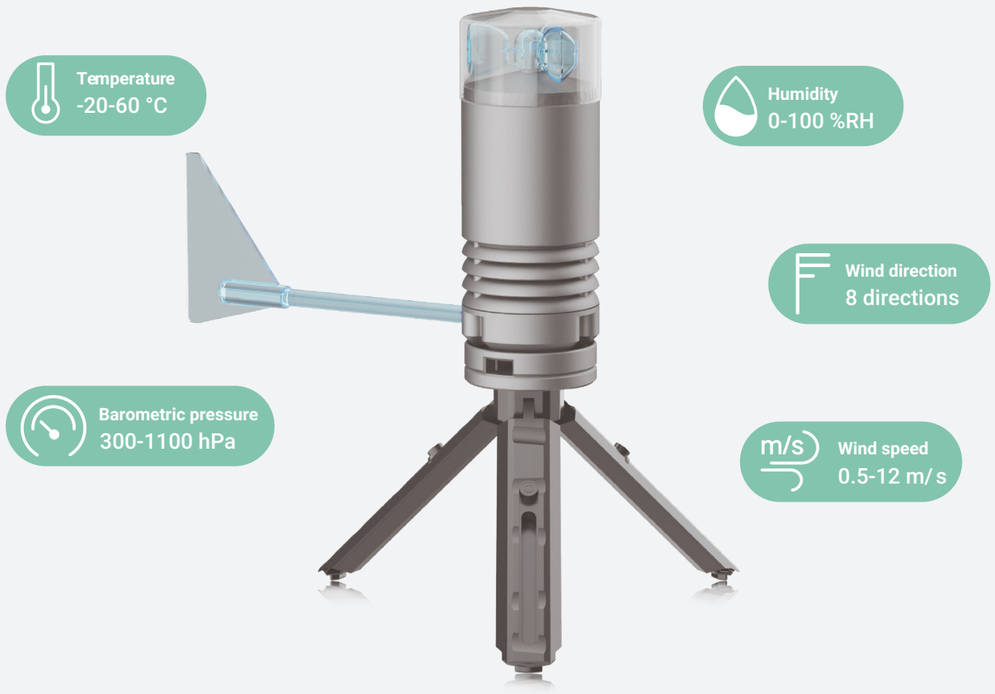
Plant monitoring system



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.

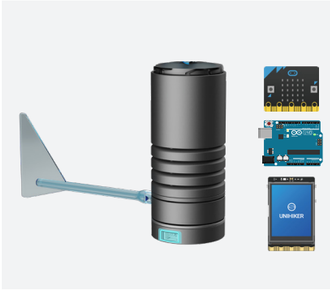


Five weather elements (wind speed, direction, temperature, humidity and pressure) can be measured to understand the atmospheric movement.

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

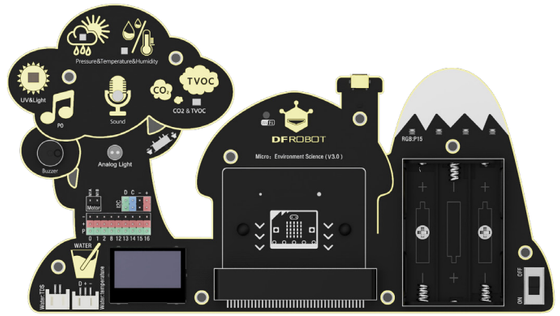


Flexible Expandability. Support UART and I2C communication modes and various main control boards.

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 |
BOSON Inventor Kit |
DIY Electronics |

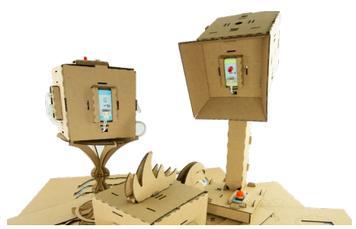
BOSON CREATIVITY KIT

Inspire creativity through crafts with little hands.

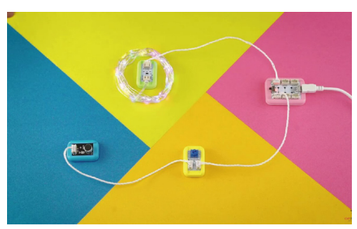
Coding-free | Age • 5-8 | Design Challenge | 17 • Lessons | 37 • Modules

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 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
- Provided 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 make your sculptures "alive".

Age • 5-8 | 45 mins to assemble

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

SKU: TOY0057

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, soft edge PCB with immersion-gold, environment-friendly

SKU: TOY0055

4-SOLDERING LIGHT CHASER BEAM ROBOT KIT

Make your own BEAM robot with an easy way.

Age • 8+ | 1.5 hours to assemble

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

SKU: TOY0060

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

- Measure data concerning temperature, humidity and barometric pressure
- With a solar panel to provides auxiliary power supply to the system

SKU: KIT0094

BEGINNER KIT FOR ARDUINO

The only type of learning kit focusing on electronic circuit learning.

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

- Including 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

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