

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

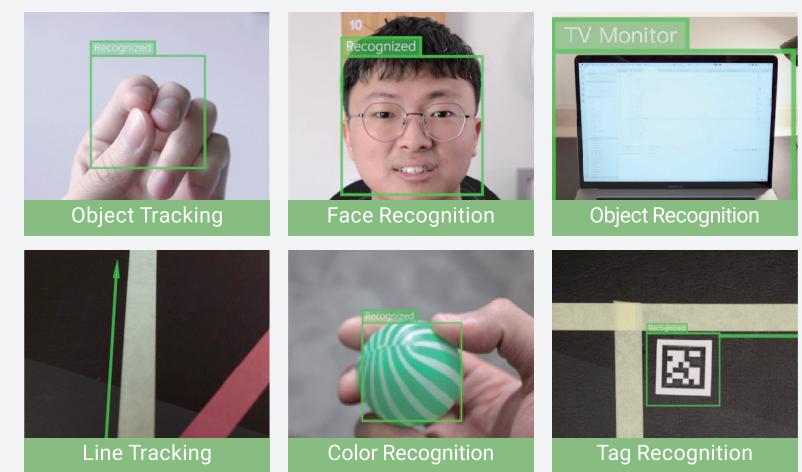
An easy-to-use powerful artificial intelligence vision sensor.

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!

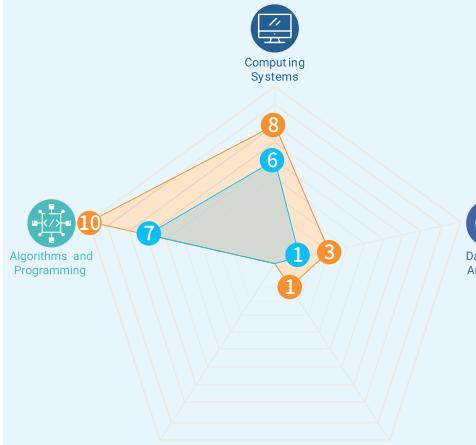
micro: GamePad

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

Maqueen Plus Visual Recognition Tutorial Making Difficulty ★★ Programming Difficulty ★★★

Final Making Difficulty ★★ Programming Difficulty ★★★

	Catalog	Field	Field Distribution Chart
Beginner	Lesson 1 Numbered Musical Notation of Colour	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"		

Maqueen Plus Tutorial

Making Difficulty ★★★ Programming Difficulty ★★☆

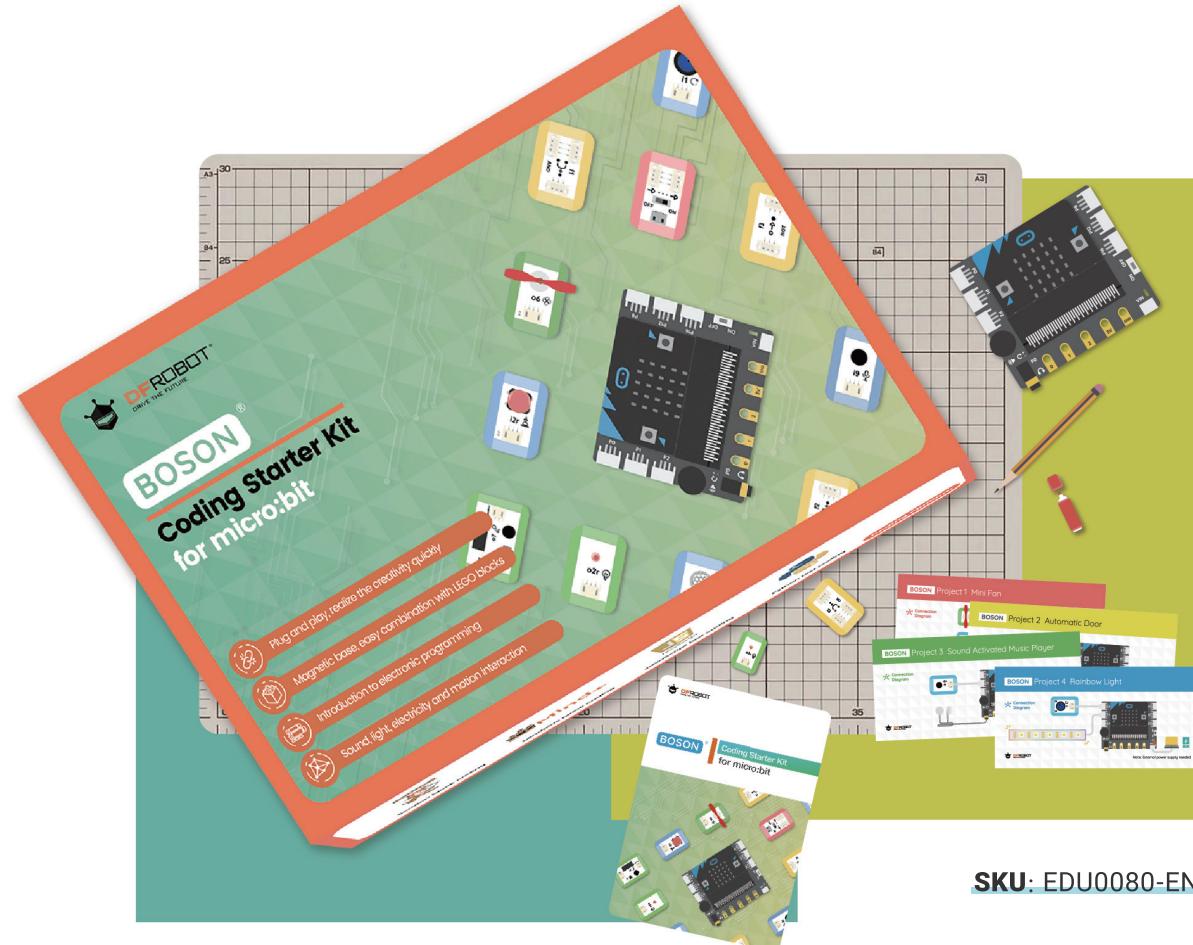
	Catalog	Field	Field Distribution Chart
Beginner	Lesson 1 Introduction to Maqueen Plus	Computing System	
	Lesson 2 Let's move, Maqueen!	Algorithm & Programming	
	Lesson 3 Walking Emoji		
	Lesson 4 City Defender-A Police Car	Computing System Algorithm & Programming	
	Lesson 5 Light Sensing Robot	Data Analysis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



Help students transition from coding theory study to graphical programming practice

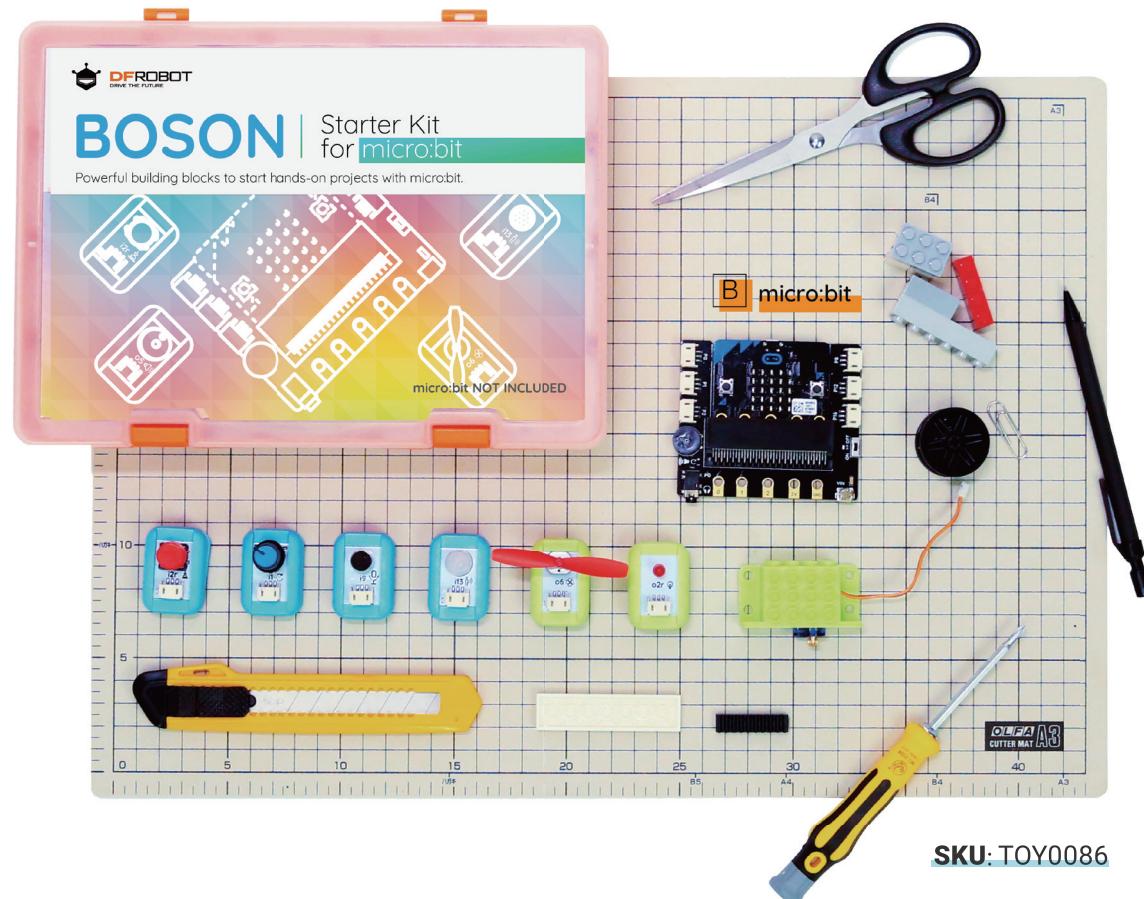


Contents: Algorithm & Programming

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



12-project tutorial from beginning to advance

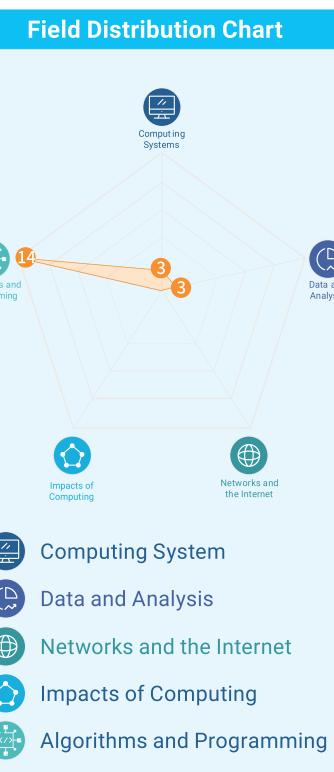
This kit includes 15 well selected modules, by which, students can create 3 non-programming projects and 12 programming projects. They can directly use BOSON's logic modules to build up projects without coding, or programming. Meanwhile, they can learn something about algorithms & programming.

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	Algorithm & Programming	
Lesson 5 Flashing LED	Data Analysis	
Lesson 6 Breathing Light	Algorithm & Programming	
Lesson 7 Speed Changable Fan	Data Analysis	
Lesson 8 Electronic Candle	Algorithm & Programming	
Lesson 9 Automatic Door	Data Analysis	
Lesson 10 Music Box	Algorithm & Programming	
Lesson 11 Colorful LED Strip	Data Analysis	
Lesson 12 Electronic Stabilizer	Algorithm & Programming	
Lesson 13 DJ Panel	Data Analysis	
Lesson 14 Remote Control Doorbell	Algorithm & Programming	
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



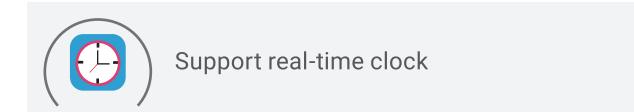
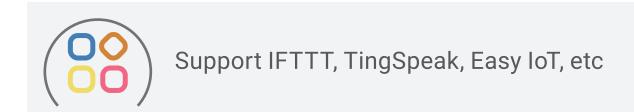
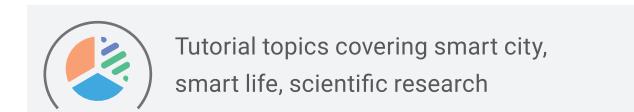
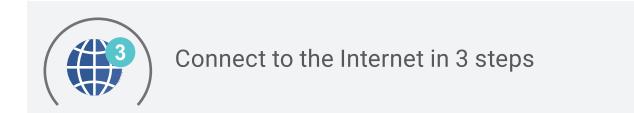
SKU: EDU0057-EN

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



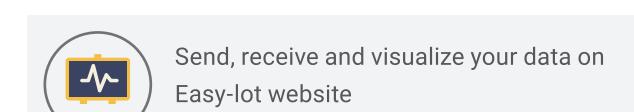
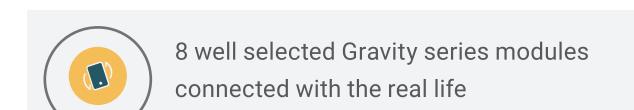
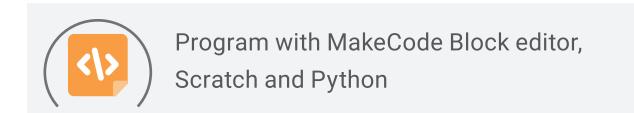
SKU: KIT0161-EN

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



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



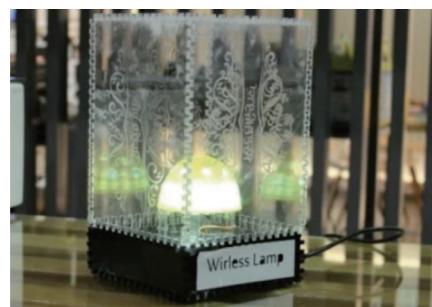
SKU: KIT0152-EN

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

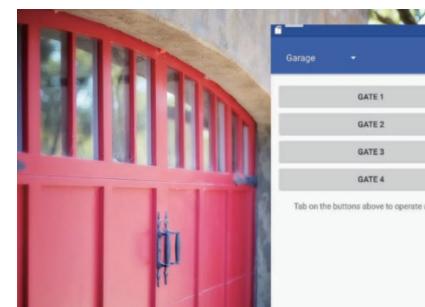
 26 Interesting projects to explore IoT, smart home, etc.

 Contents: computing system, algorithms & programming, data analysis

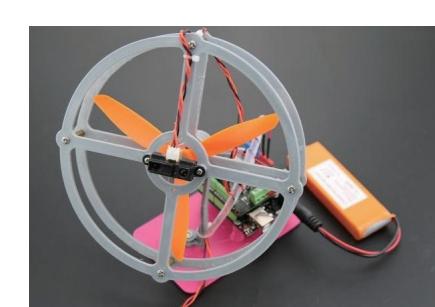
It comes with 15 Arduino basic projects, 5 IoT projects, and 6 Bluetooth communication projects, which allow students to apply the 18 gravity modules into actual life scenarios or smart home projects. The knowledges about computing system, algorithms & programming, and data analysis will be covered during 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 Data Analysis	
Lesson 23 Bluetooth-controlled LED		
Lesson 24 Control A Servo with Your Phone	Computing System	
Lesson 25 Special Switch - Relay		
Lesson 26 Palm Smart Home	Algorithms & Programming	



INTERMEDIATE KIT FOR ARDUINO

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

The image shows the DFRobot Intermediate Kit for Arduino. It includes a red carrying case with an orange label featuring the DFRobot logo and a list of included components. To the right, there are several electronic components: a breadboard, an Arduino Uno R3 board, a servo motor, a DC motor, a LDR sensor, a temperature sensor, a gyroscope, a ultrasonic sensor, a relay module, and a push button. Below the components is the SKU: KIT0018.

SKU: KIT0018

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

04 | SCIENCE

27 PCS SENSOR SET FOR ARDUINO

27 • Modules



37 PCS SENSOR SET FOR ARDUINO

37 • Modules



SKU: KIT0011

SKU: KIT0150

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	



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

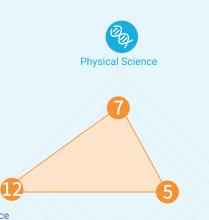
The 12 experiments designed for this kit gives kids an excellent intro to science exploration. When graphing data from the experiments with BOSON sensors, students can also learn chemistry and biology in practice.

BOSON Science Kit Tutorial

Making Difficulty ★ Programming-free

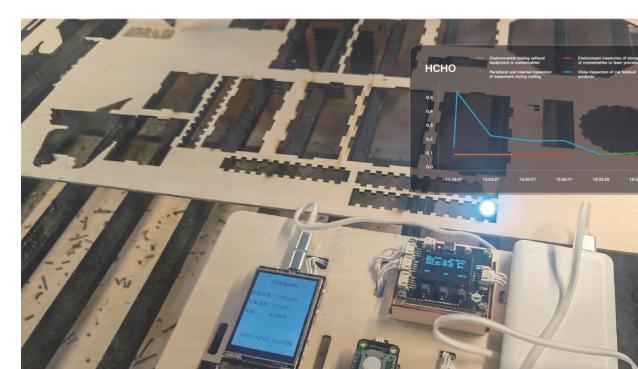
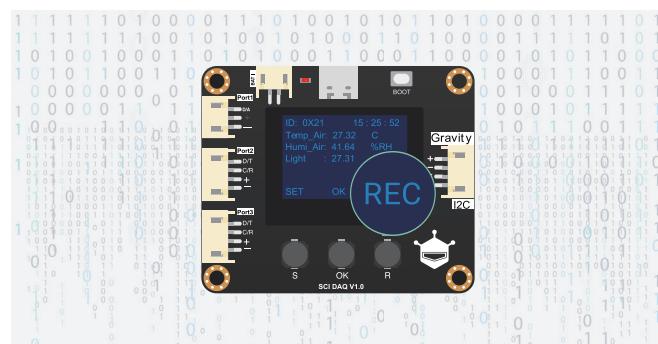
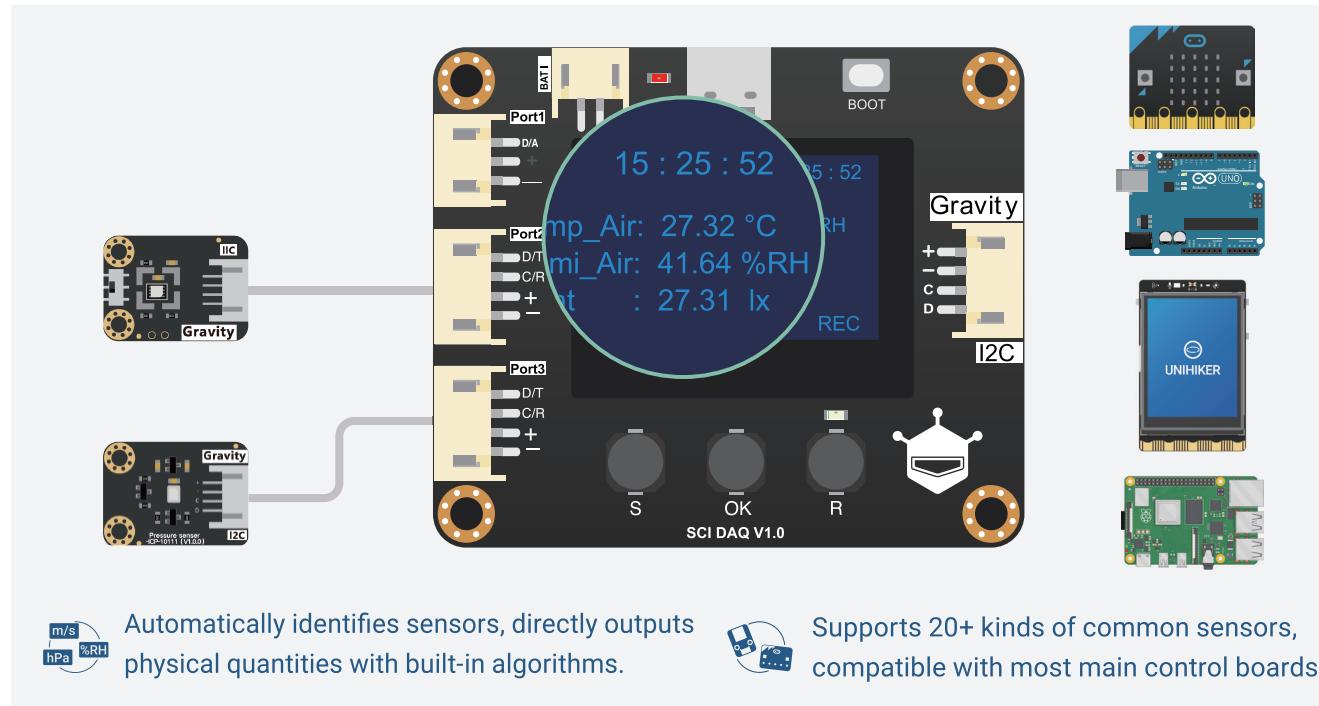
Refer to NGSS curriculum standard, the course catalog and field distribution are shown below:

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	



SCI DAQ MODULE

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



LARK WEATHER STATION

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



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

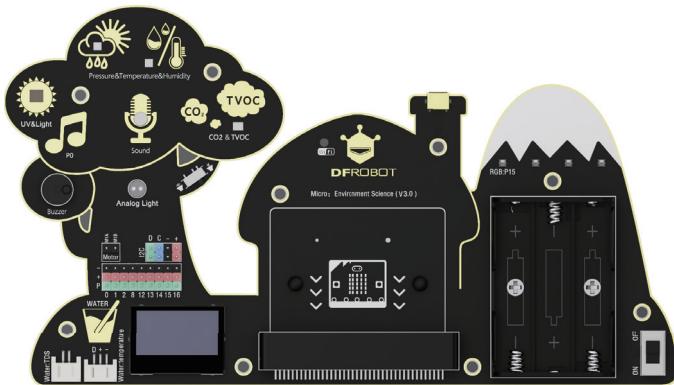




ENVIRONMENT SCIENCE EXPANSION BOARD FOR MICRO:BIT

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

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



SKU: MBT0034

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

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

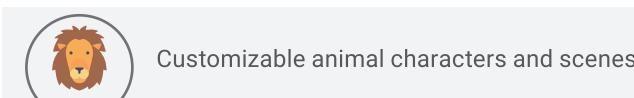


High quality color LEDs and motion sensors

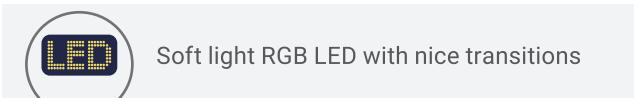
4-SOLDERING ZOO ANIMAL KIT

The first kit for kids to learn soldering.

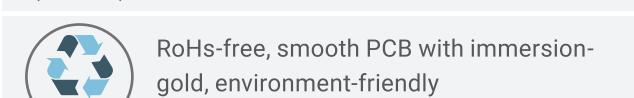
Age • 6+ 1 hour to assemble



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

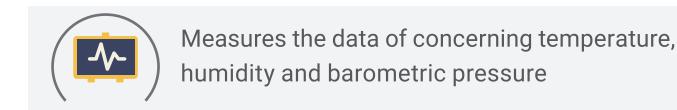
WEATHER STATION KIT WITH SOLAR PANEL

Develop kids' interest in natural science.

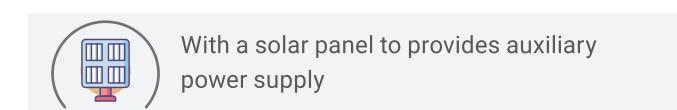
Age • 15-17 Science 2.5 hours to assemble



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

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edu.dfrobot.com



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@dfrobotcn



@DFRobotEdu



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