makeblock

mBot-S Explorer Kits Introduction

2018

Global Trend

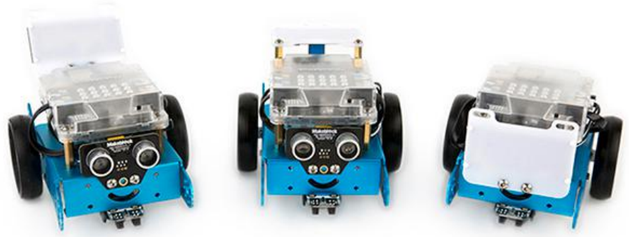
Today, more than 24 developed countries including the United States, France, Britain, Sweden and Japan bring programming education into K12 syllabus and teaching scenarios.

The education program in the UK stipulates that computer programming is compulsory for children aged 5 to 16.

In Japan, programming will become compulsory in primary schools in 2020, secondary schools in 2021, and high schools in 2022.

The U.S. government has invested $4 billion in Programming Education, a program that calls for children to learn programming.

mBot-S Explorer Kits Overview



- mBot-S Explorer Kits is an entry-level educational robot for STEAM education and targeting students above ages 8.
- mBot-S contains many electronic modules such as a LED matrix, sensors, an IR transmitter, an IR receiver.It has the companion programming software mBlock(for PC/mobile) and supports the Makeblock app for 3D construction.

- mBot-S is an updated version of mBot. In addition to the features that mBot provides, mBot-S also comes with an LED matrix display. Children can put the LED display in any position as they please: afront, back, at the top.
- The LED matrix display brings diversity into mBot-S, allowing children to customize images by programming the RBG lights. Children turn the LED display into a board showing scores,weather forecasts or emotions.

Applications

Schools/training institutions

Professional programming education are provided in after-school classes to upgrade children's competence.

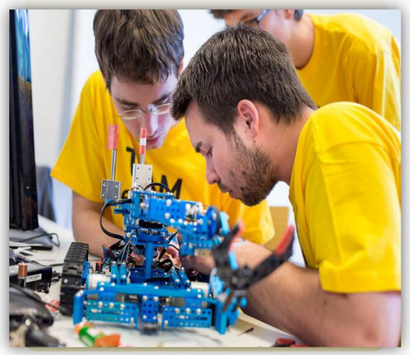
Students in School

Schools/training institutions

Family

Children can play and learn with their parents.

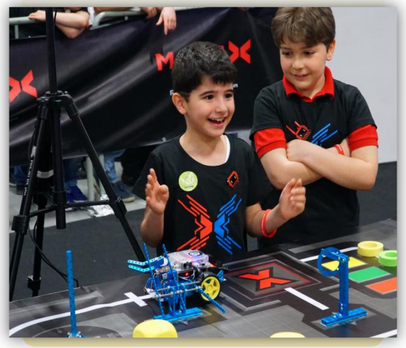
Children at Age 8+



Maker

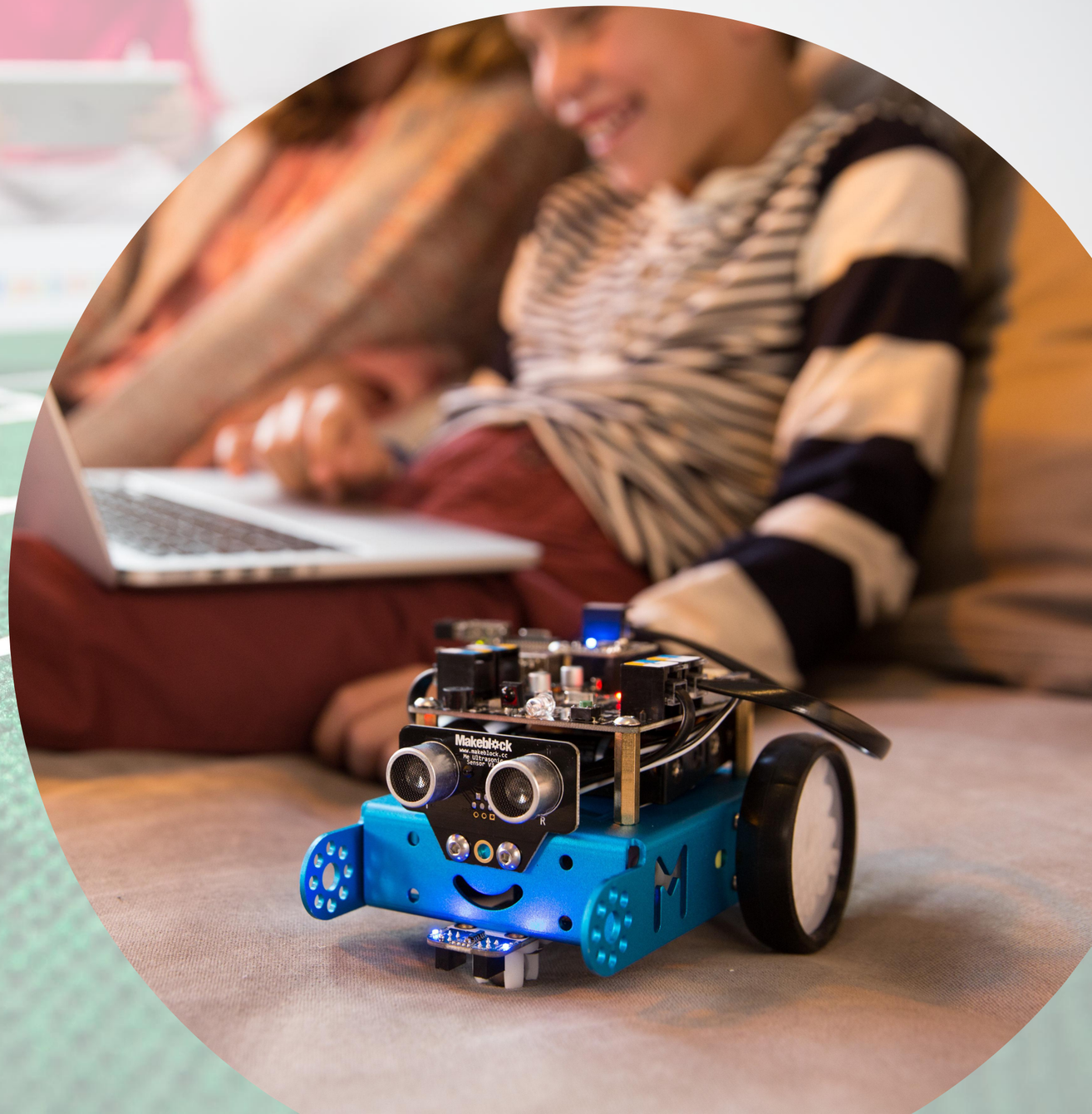
Robotics Events

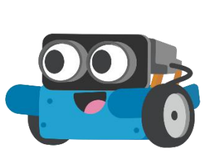
Children can use the robots in international robotics events, like Make X.



International events for teenagers

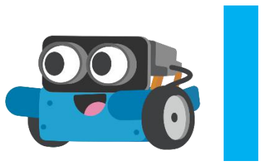
Key Features



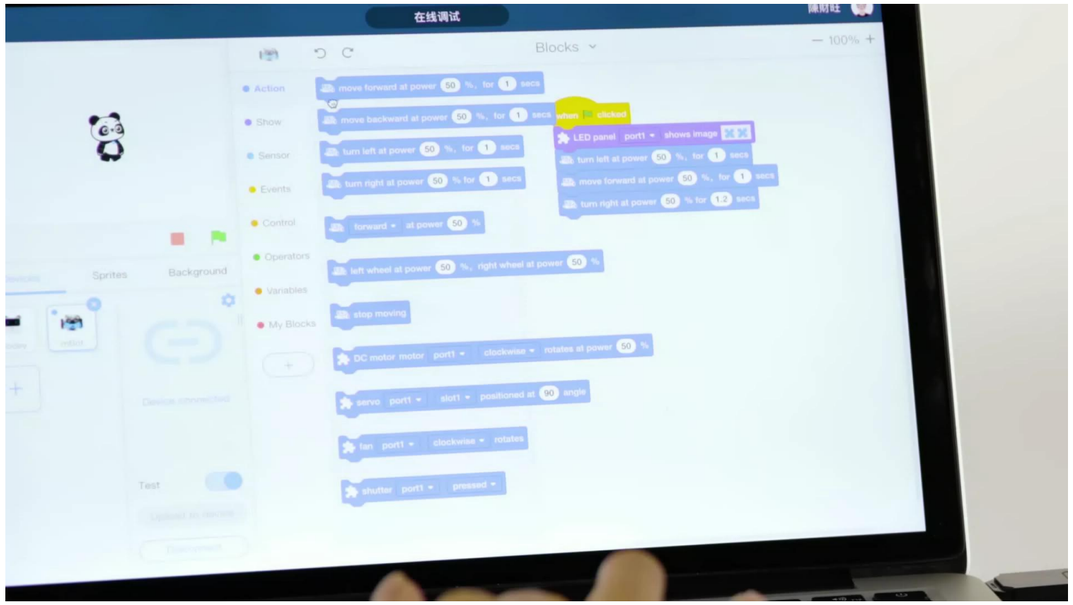


Easy to build, Enable students to understand how robots work

- The integrated chassis, a user-friendly design and clear instructions all work together to make it easy for children to assemble their mBot-S. All you need for building mBot-S is a screwdriver.
- Students acquire a basic concept of robots while building the robots, getting more engaged in learning.
- The product is made of 6061 high-strength aluminum alloys and has an anodized metal surface, which is both safe and durable. Educators and students can use it more than once in the classroom.

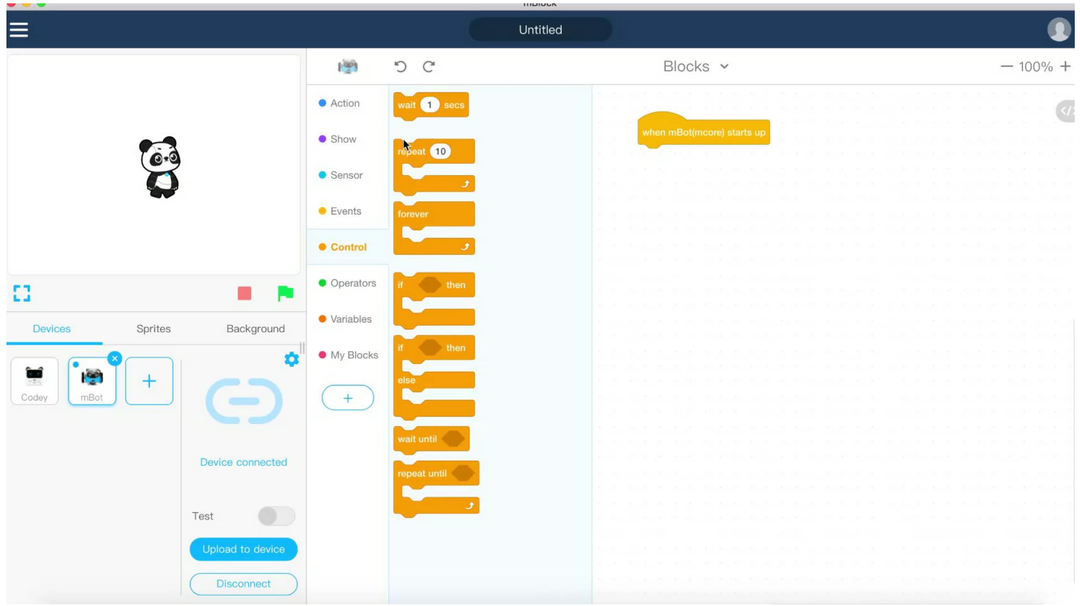


Graphical programming language makes coding as easy as blocks building



△ Click to play the video

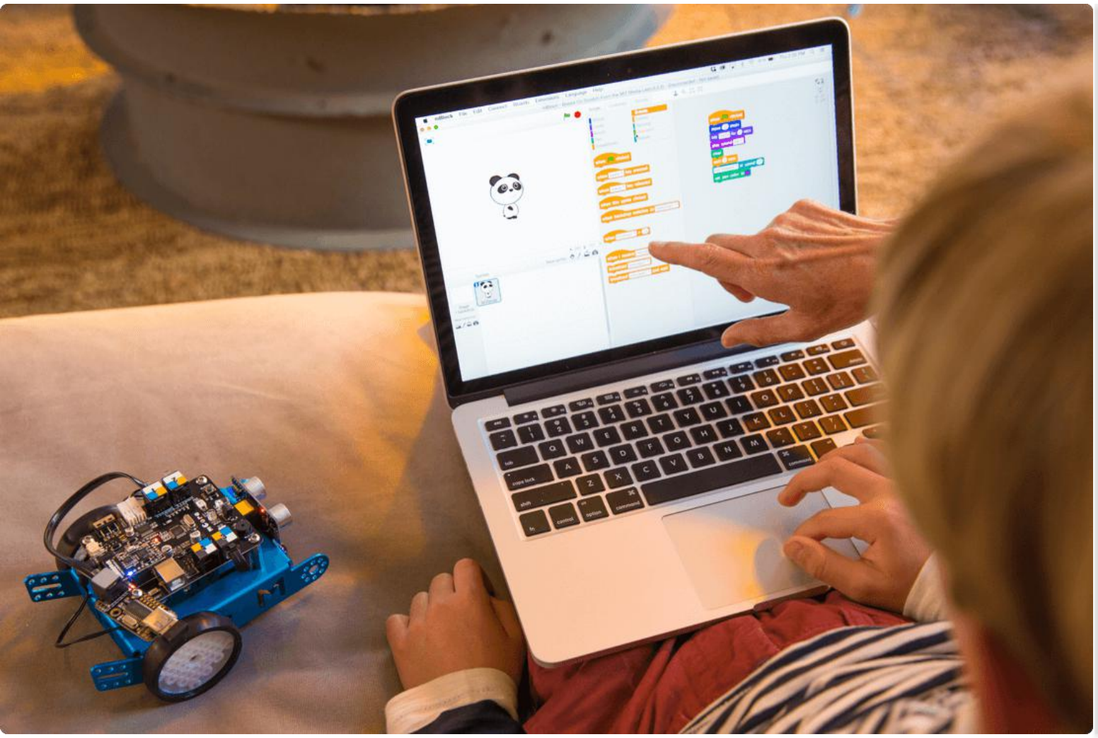
The drag-and-drop software provides an intuitive way for kids to learn to code. Soon enough, kids will be able to control the robot to perform simple tasks. With the built-in sensors, the robots can even do more amazing things, like avoiding obstacles and following lines.



△ Click to play the video

mBlock can switch to ArduinoC programming with one click, allowing teachers to move from beginning to advanced level of teaching without the need to change to other software.

A mix of hardware and software brings coding back into the physical world

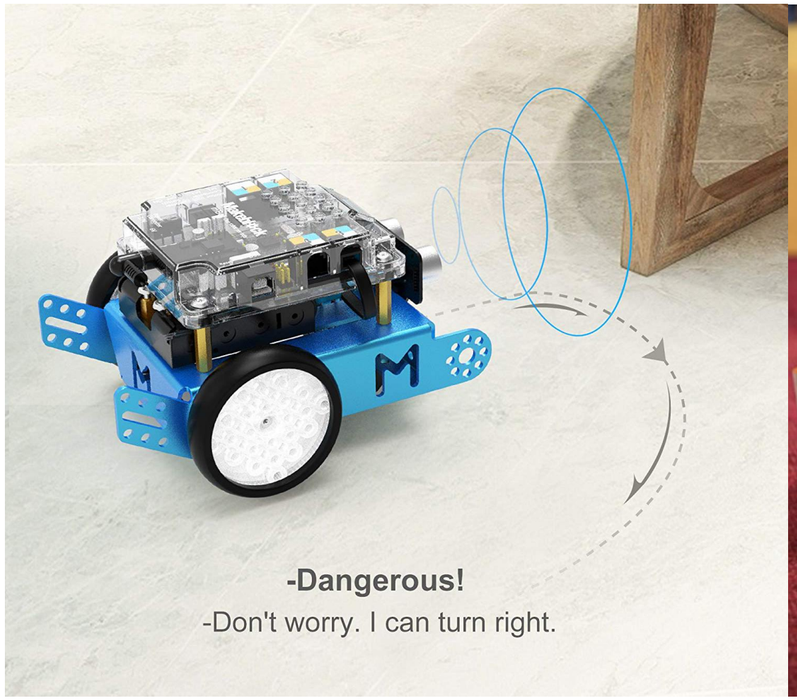


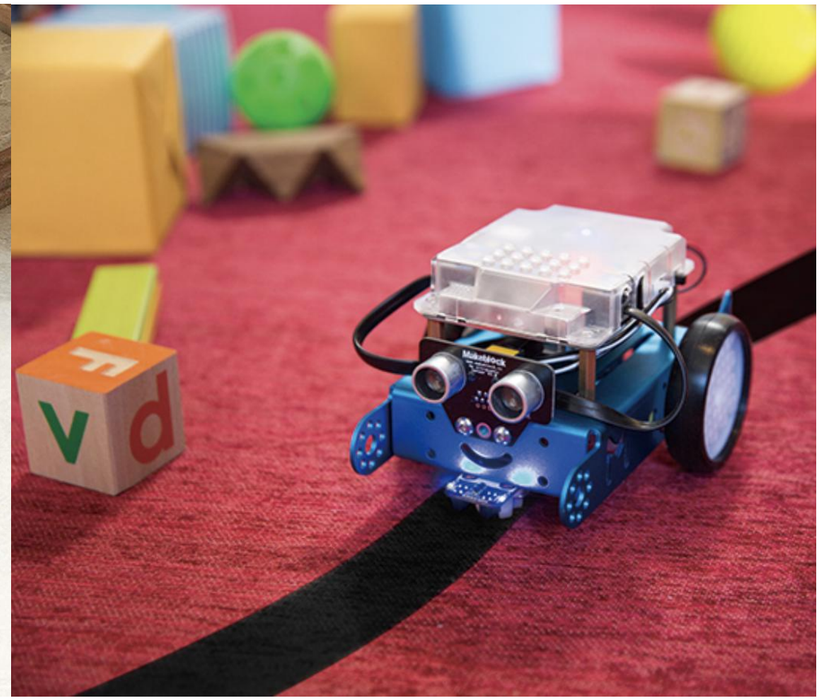
- By programming with mBlock, chidlren can make their programs for the mBot-S visible in the physical world. The real effects of sound, light and electricity in the physical world give students a stronger sense of accomplishment and will greatly inspire their enthusiasm in programming.

- At the same time, the interaction between mBlock as a platform and mBot-S combine the virtual sprites with real objects. In this way, children will be exposed to more fun like designing games of their own, which will bring variety into the classroom.

Intelligently control mBot-S with three preset modes

mBot-S has three preset modes: obstacles avoiding, line-following and manual control. By switching between modes, children can command the robots to automatically avoid obstacles or move along the lines. In the manual mode, children can use the remote controller or companion software to manipulate mBot-S to do things as they like.



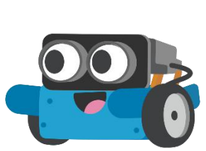


Wireless connection makes classroom efficient

The built-in Bluetooth module of mBot-S, together with Makeblock Bluetooth dongle, can not only achieves auto connection to PC but also gets educators and students rid of entangled wires.

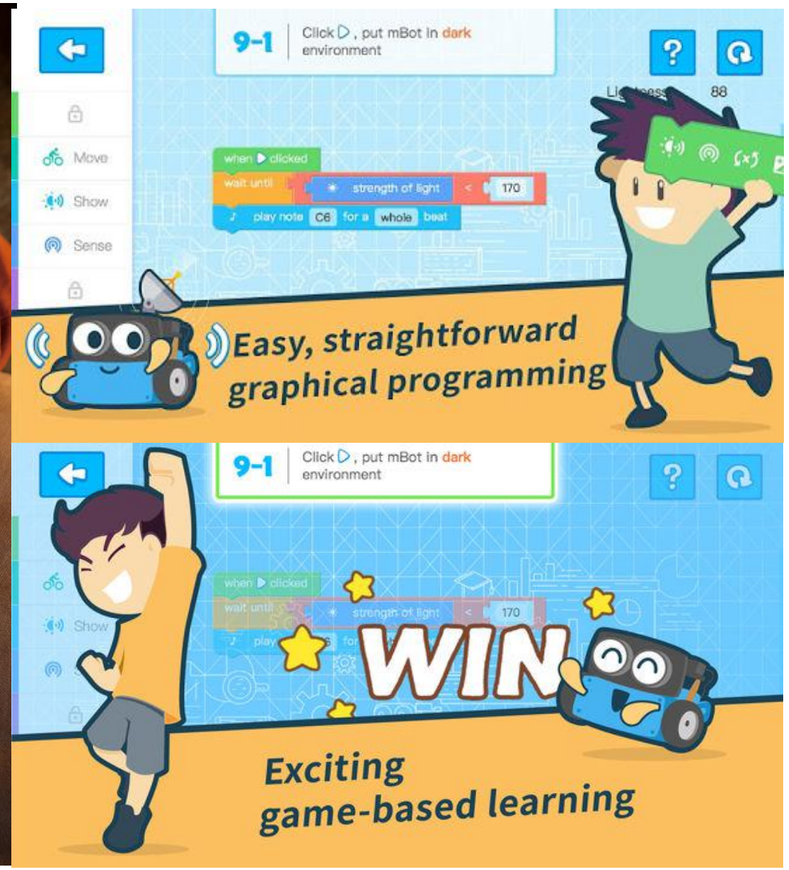
RJ25 ports compatible with different expansions

- With four built-in RJ25 ports, mBot-S can connect to more electronic modules and accomplish a wide range of expanded applications.
- The RJ25 expansion ports do not need soldering. Its plug-in connection design greatly reduces the difficulty for children to connect with wires. It has unique color lebels that enable children to easily identify the correct ports.
- The mechanical body of the mBot-S is compatible with most Lego™ parts, while the electronic sections are based on the Arduino open-source system, setting no limits to students' creativity.



Learn code in fun games by yourself

More than 60 engaging programming tasks allow children to learn code by playing games step by step.

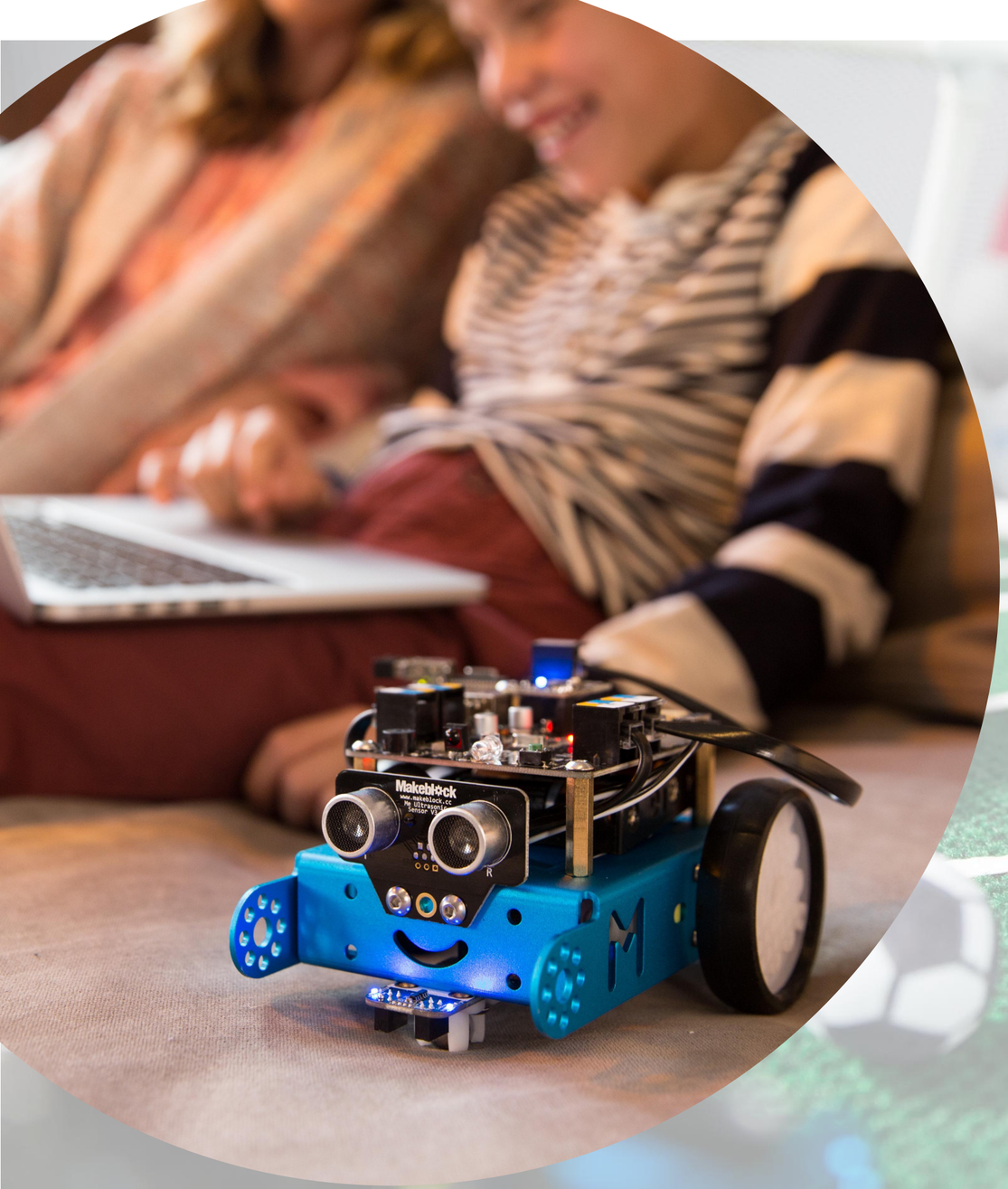


Note: The mBlock 5 app will support mBot-S in Octobor, 2018. The interface screenshot here is for reference only.

Massive educational resources keep coming

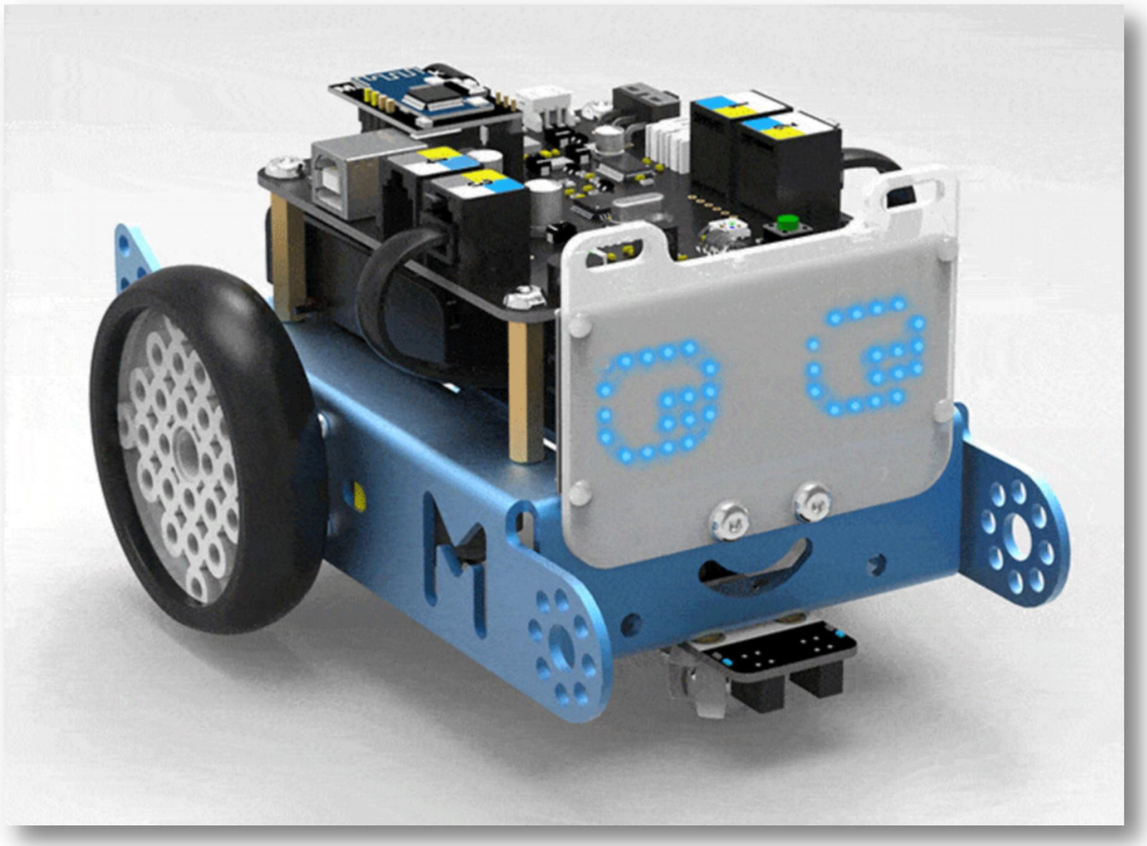
In the Makeblock Education website, you will find massive sample projects and tutorials about mBot. At the same time, teachers from around the world designed textbooks and projects for mBot as well. Up till now, there are 33 textbooks available for mBot and they are translated into 10 different languages, including English, France and German. So, whether you are students, parents, or teachers, you can always access resources you need on the Makeblock platform. Have fun with mBot-S as you please!

Note: mBot shares resources with mBot-S. For more educational resources, please go the makeblock education website: http://education.makeblock.com/resource/



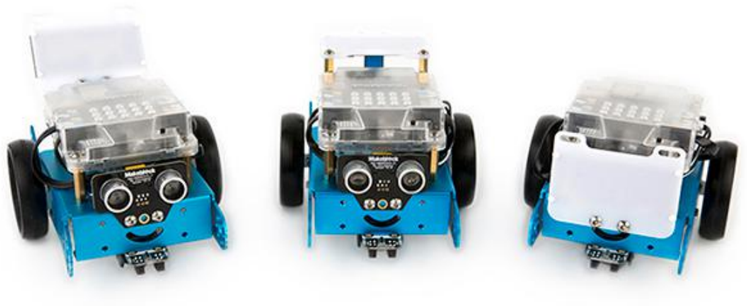
Other Features

LED matrix display



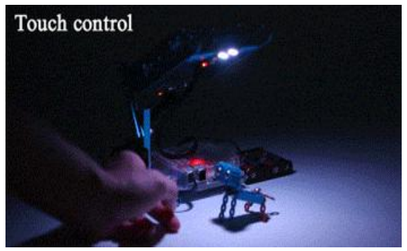
- The LED matrix display is versatile because children can program to customize expressions, texts on it and turn it into a weather forecasting board.

- From graphical to text programming for more complex displays.

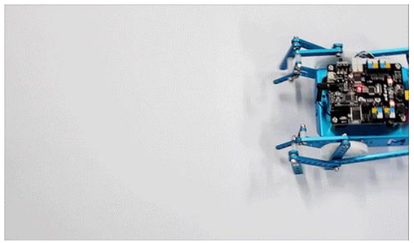


Add-on packs

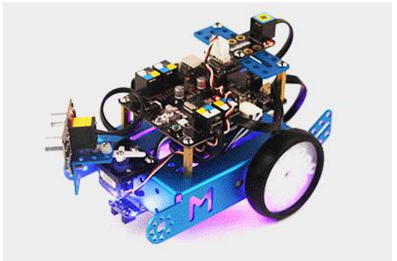
3 shapes in 1 box, support DIY assembly and programming



Scorpion Robot



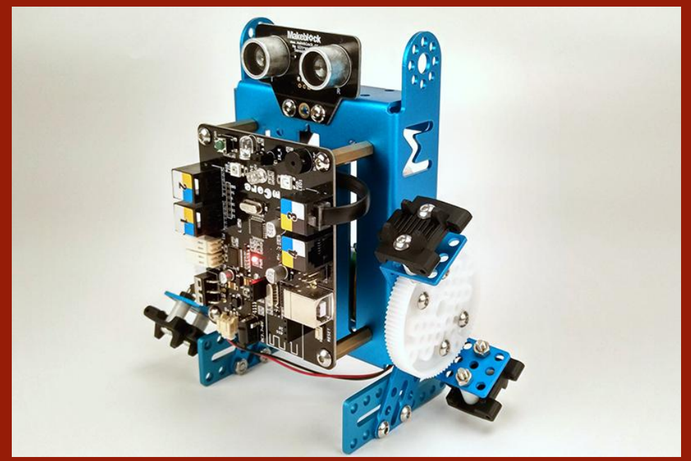
Beetle



Head-Shaking Cat

Dancing Cat

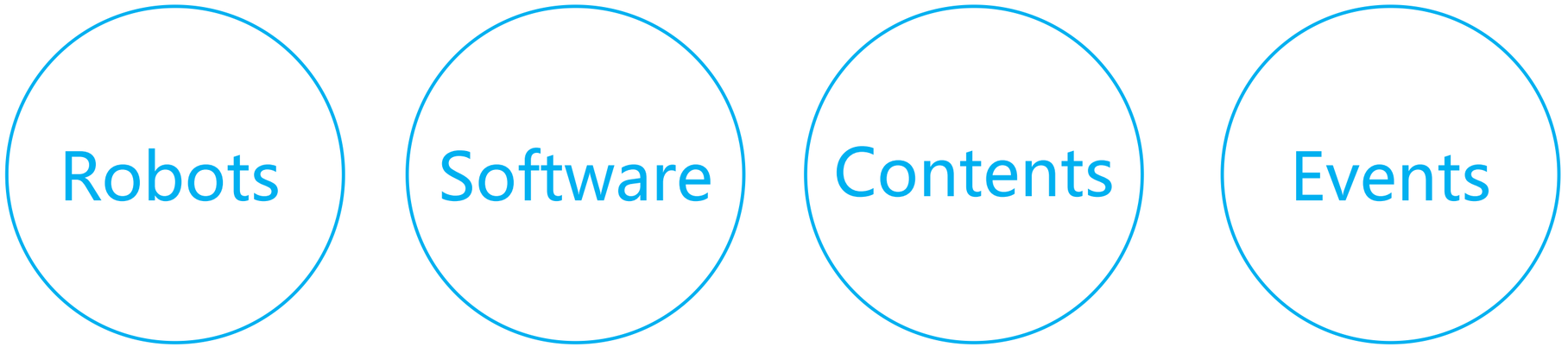
Sample projects



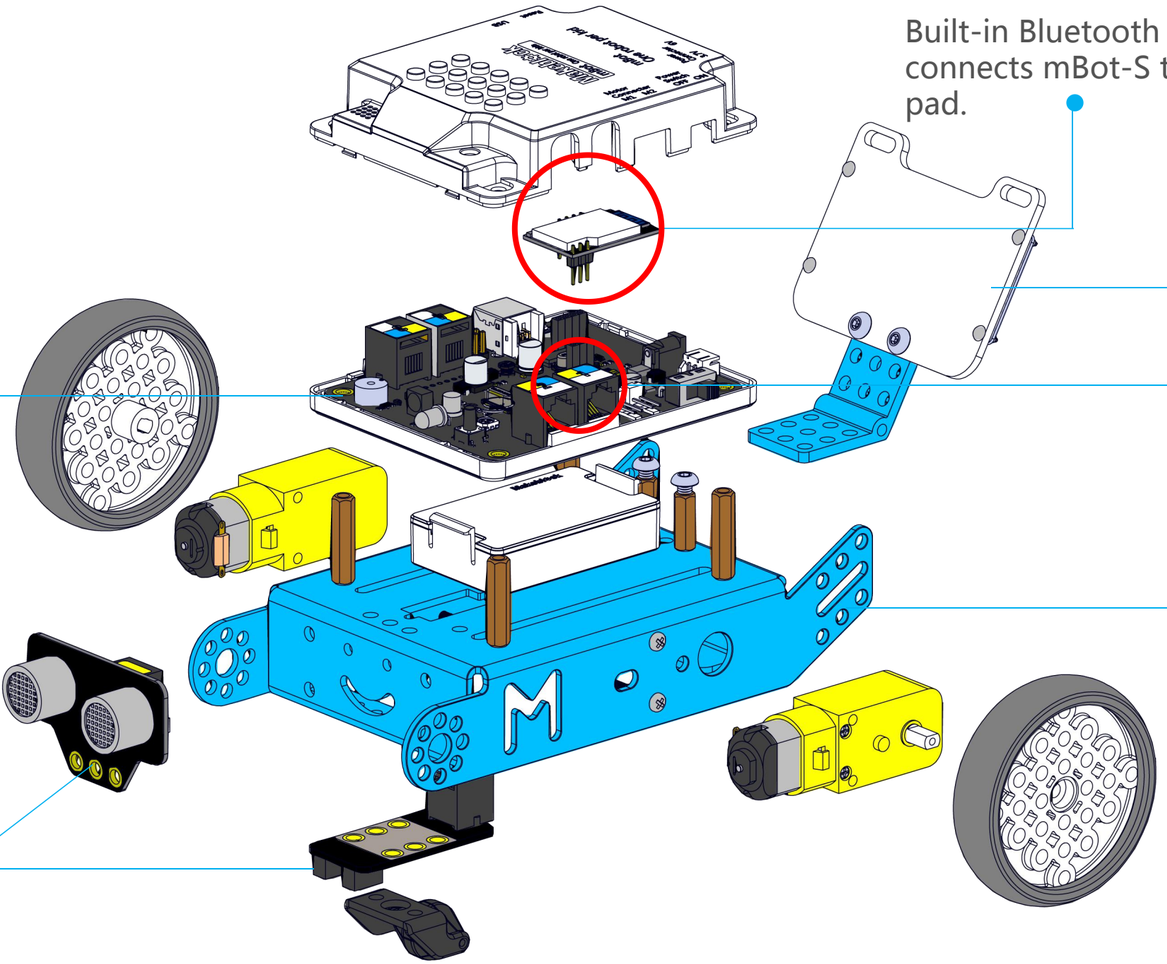
Add-on pack

mBot-S: The All-in-one Educational Solution

- mBot-S comes with a package of resources, from robots packs, expansion packs to powerful companion software. And that's not the end. mBot-S has an ocean of educational resources, including textbooks, online tutorials, sample projects. With the all-in-one solution, you can easily bring mBot-S into full play Meanwhile, mBot-S can work for Make X Blue Planet, an international robotics competition. This gives children a chance to create their own projects and taste the fun of creation.
- mBot-S also provides an all-in-one learning solution to help children at different stages. Whether you are new to STEAM education, or are learning the concepts of robots, or are learng how to code, or participate in competitions, mBot-S can always give you a hand.



A well-arounded mBot-S



Built-in Bluetooth module quickly connects mBot-S to your phone or pad.

The impressive LED matrix display gives real-time feedback.

The mCore main board is developed based on Arduino Uno. The board is equipped with a buzzer, a light sensor and RGB LEDs, giving children an intuitive approach to exploring electronic modules.

4 RJ25 ports with color labels support 100+ electronic modules

Ultrasonic sensor and line-following sensor enable mBot-S to detect obstacles, avoid obstacles, follow lines and protect itself from falling down.

The integrated chassis made of aluminium alloy has holes with a diameter of 4mm and a distance of 16mm between holes. The chassis is compatible with parts from Makeblock and Lego.

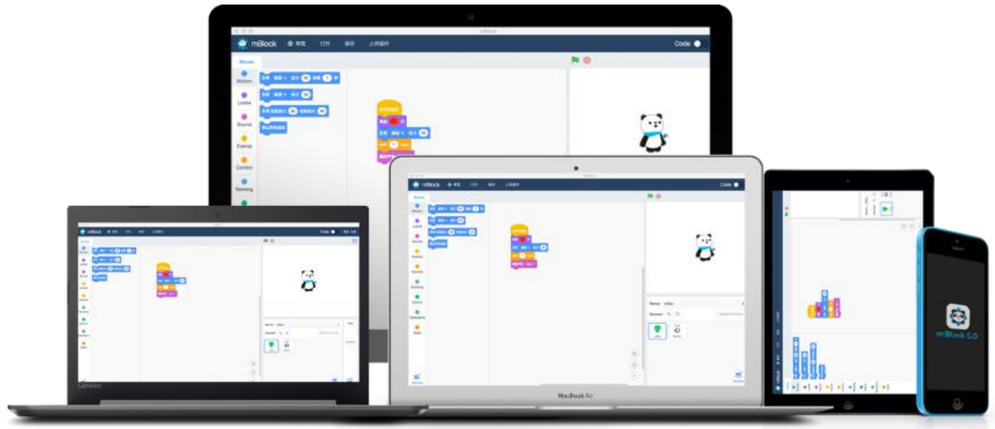
Software

mblock 5
PC

mblock 5
App

Makeblock
App

mblock 3
PC



- Get started in minutes
- Create creative code projects
- No coding experience required
- Free to download

* Both mBlock 3 and mBlock 5 support mBot-S

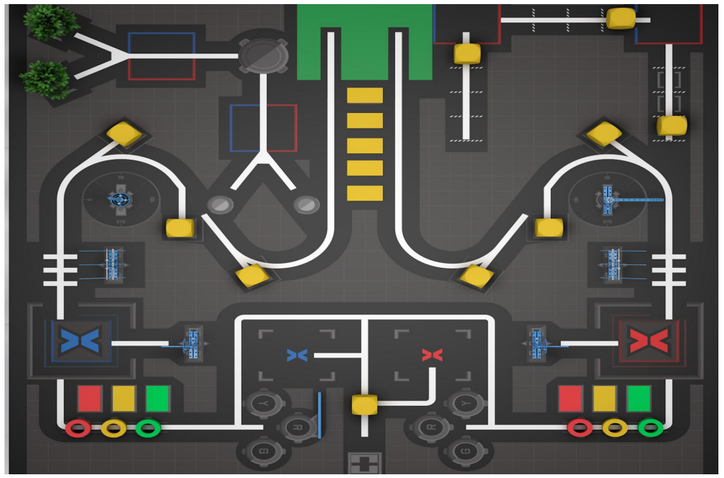
Curriculum

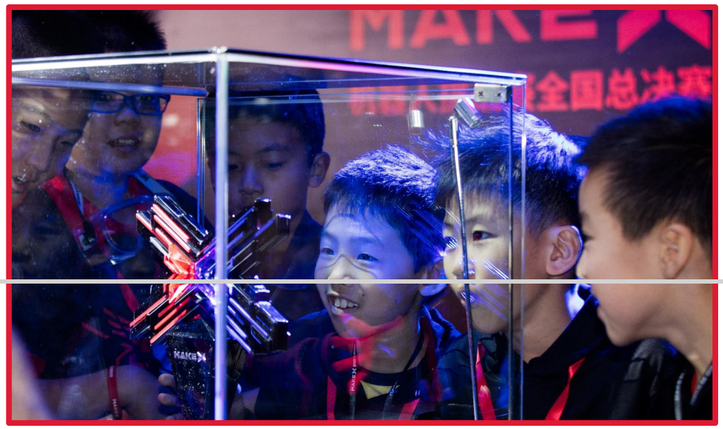
Discover, Learn, Share
Better STEAM Education

http://education.makeblock.com/resource/

MakeX Starter

MakeX Starter is a program designed for primary school students and junior high school students which emphasize program learning.





Specifications

Sensors	Light sensor、IR Receiver、Button、Ultrasonic Sensor、Line-following Sensor
Other electronic modules	Buzzer, RGB LED, IR transmitter, two motors, LED matrix
Chip	ATmega328
Power	3.7V DC Lithium battery (included) or 4 AA batteries (Xt included)
Wireless Communication	Bluetooth
Package Dimension Height/Width/Length	218*180*102 mm (8.46*7.09*3.94 inch)
Product Dimension Height/Width/Length	190*130*130 mm(7.48*5.12*5.12 inch)
Weight	500 grams

Packaging

Part List			
1 ×Mini Wheel	25 ×M4*8 Screw	8 ×M3 Nut	8 ×M4*25+6 Brass Stud
4 ×M2.2*9.5 Screw	3 ×RJ25 Cable 6P6C-20cm	2 ×Motor	2 ×Slick Tire
2 ×Plastic Timing Pulley 90T for Motor	1 ×AA Battery Holder	1 ×Bluetooth Module	2 ×Motor Parts
1 ×Mainboard mCore	1 ×Ultrasonic Sensor	1 ×Me Line Follower	1 ×2.5mm Screwdriver
1 ×USB Cable	2 ×mCore Case	1 ×mCore Shell	1 ×White Acrylic array board
1 ×3*3*120° Bracket	1 ×HOOk&LOOP	1 ×IR Remote Control	6 ×M3*25 Screw
10 ×4*7*10 Plastic Spacer	4 ×M4*16+6 Brass Stud	8 ×R2064 Rivet	1 ×LED Matrix
4 ×M4 Nut	10 ×4*7*3 Plastic Spacer	4 ×M4*14 Screw	

Comparison

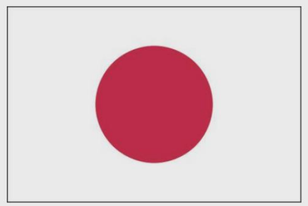
	mBot-S	Blue-Bot - Bluetooth Floor Robot (set of 6) with Charging Station	Dash Educational Robot	Lego WeDo 2.0 Education Core Set and PowerPack	Ozobot EVO Classroom Kit (Includes 10 Ozobots and bulk charger)	Lego EV3 Education Core Set and Charger
Photo						
Retail Price	94.99	$119.99	$149.99	$94.99	$99.99	$229.99
Assemble	Yes	X	X	Yes	X	Yes
multi programable components	LED matrix, RGB, light sensor, ultrosonic sensor, line following sensor, on-board button, infrared transmitter&receiver, 2motors	Indicators, motors, sounds	infrared transmitter&receiver, sound sensor, ultrasonic, speaker, 3 motors.	4 electronic sensor: * Tilt Sensor * Motion Sensor * Medium Motor * Smart Hub	Indicators, motors, sounds	three servo motors, five sensors (Gyro, Ultrasonic, Color and 2x Touch)
moblie device program	Makeblock App, mBlock Go App	Yes	Yes	Yes	Yes	Yes
PC device program	mBlock 3 and mBlock 5 (based on scratch and ArduiX)	Yes	X	Yes	X	Yes
Line Following	Yes	X	X	X	Yes	X
Block-based programming	Based on Scratch 3.0	Blue-Bot App	Based on Blockly	WeDo 2.0 software	Based on Blockly	EV3 software
Support ArduiX	Yes	X	X	X	X	X
Interaction between stage and hardware	Yes	X	X	X	X	X
Support AI TechXlogies	Microsoft Recognizition Service	X	X	X	X	X
extentional sensors	unlimited electronic extensibility. wifi module, sound, color, 7-segment display, temperature, humidity, gyro, flame, sensors, led strip etc.	X	X	Yes	X	Yes
Expansion packs	Great mechaanical extensibility, mBot Add-on Pack :Light-Emitting Cat, Head-Shaking Cat, Dancing Cat; Six Legged Robot , Light Chasing Robot.	X	Yes	Yes	X	Yes
Support bluetooth controller	Makeblock Bluetooth controller	X	X	X	X	X
Support international competition	MakeX	X	X	Yes	X	Yes

mBot goes global

mBot is the Makeblock’ s signature product. Its unique features distinguish itself from the rest products and earns itself a high reputation in the global STEAM market. More than million children starts a STEAM journey because of mBot.

In France, mBot has been part of the textbooks. More than 6000 elementary and secondary schools use mBot as STEAM tools.

In US, AltSchool, one of the most pioneering elementary schools, introduced mBot into their workshops.



In Japan, the non-profit organization CANVAS organized a workshop that attracted at least ten thousand participants. One of the highlights is the mBot coding challenges session.

In Mexico, we've witnessed 971 students from 26 states programming Makeblock robots all together at the same time, which breaks the Guinness World Record.

In Croatia, mBot competitions are held by Makers Alliance monthly, attracting more than 8000 children to participate.

mBot goes global

mBot certified by Kokoa

- Kokoa Standard is a science-based quality certificate, with the aim of helping educators, students and parents find quality learning solutions.
- KoKoa tested the programmable robots mBot series against the UK curriculums to see whether they were effectively aligned with its learning objectives, pedagogical methods and learning engagements. And according to Kokoa's 60-page evaluation report, mBot series represent high educational quality and prove to promote learning efficiently, with their Pedagogical Approach scored a 98/100.”

mBot win Family Choice Awards

- The Family Choice Awards is a division of Family Magazines, initiated to recognize the best products, services and resources for all members of a family including cherished pets. For 22 years the Family Choice Awards is one of the most coveted, family friendly consumer award programs in the United States.

- http://www.familychoiceawards.com/family-choice-awards-winners/mbot/

Makeblock Worldwide

Forbes JAPAN

朝日小学生新聞

Global Media

rbb

ITmedia NEWS

プログラミング学べる“知育ドローン”「Airblock」発売　ホーバークラフトにも変形（動画あり）

スマホなどでプログラミングした通りに飛ばせるドローン「Airblock」が日本国内で発売。パーツを組み替えると、水陸両用のホーバークラフトにもなる。

[村田朱梨，ITmedia]

PR パスワードのいらない世界へ 注目の「FIDO」とは？

ソフトバンクコマース＆サービスは7月6日、スマートフォンやタブレットを使ってプログラPDFグした通りに飛ばせる、子供向けの“知育ドローン”「Airblock」（中国Makeblock製）を、日本国内で14日に発売すると発表した。プロペラの位置を組み替え、水陸両用のホーバークラフトなどにも変形する。実売予想価格は2万2000円（税別）。

「Airblock」

You did what I was looking for so many months: the best of two world, graphical and code.

—— Cant Sébastien, STEM teacher in France

On its board you can see that this one has all of the sensors already on its Arduino board and you can actually drive it and remote control it with your smartphone. This is really fun!

——Francie Black

mBot in combination with mBlock is probably the best thing you and your team have done. With mBlock you can look at the code, which is very important for us teachers.

—— Christian Prim from Switzerland High School Zurich North

This little robot has a lot of features to use: leds, IR, buzzer, and so on... I would like to use it more and more. I want two for my daughters rstly!!!

—— Cant Sébastien, STEM teacher in France

Makeblock in Global

4,500,000+
Users

20,000+
Schools

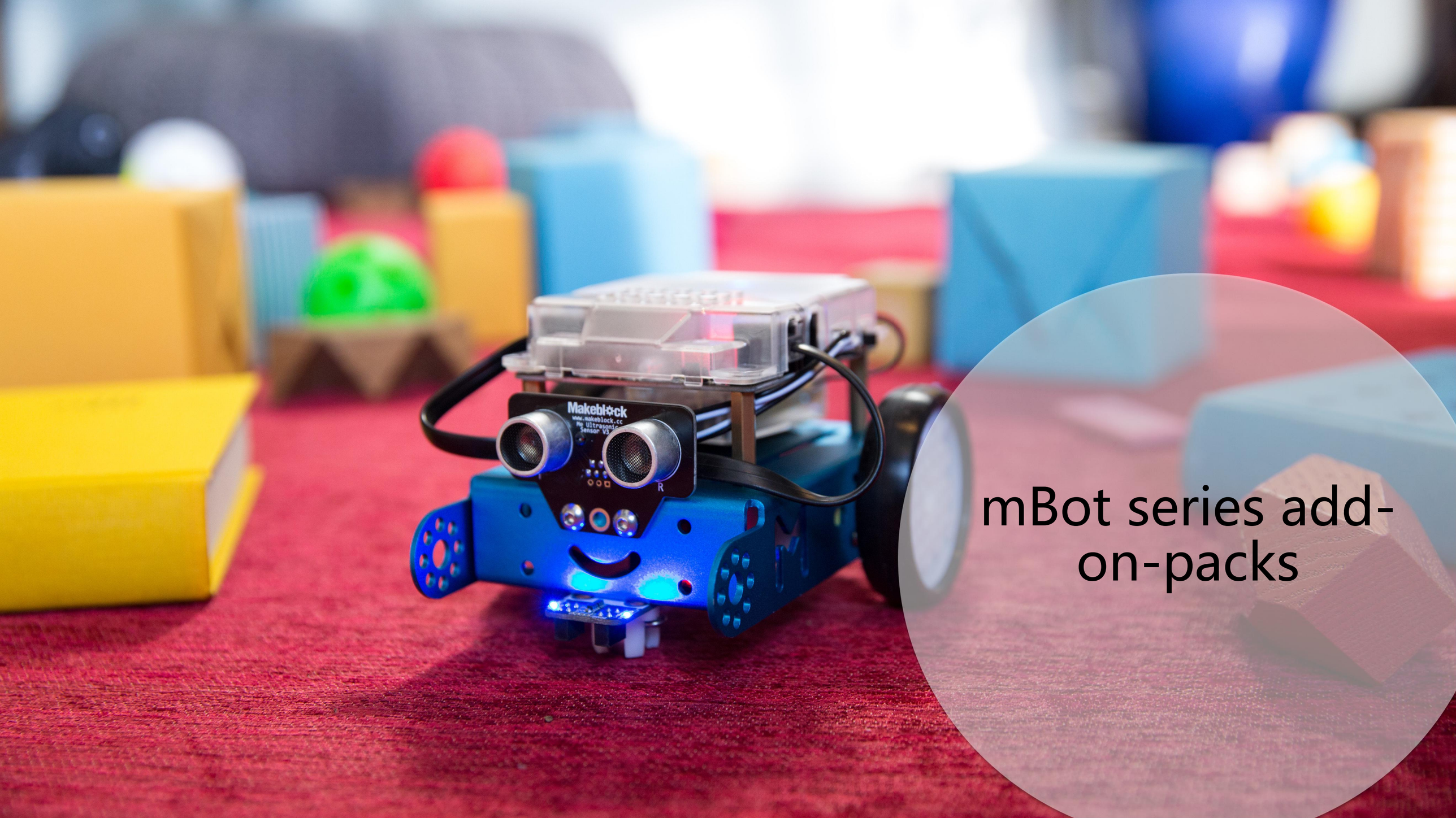
7
International top awards

1000+
Chinese and overseas media

Makeblock’s products have entered 140+ countries and have 1000+ channel partners. The number of users exceeds 4.5 million and continues to grow.

Makeblock's products are used in more than 20,000 schools around the world, as well as by families, for STEAM education.

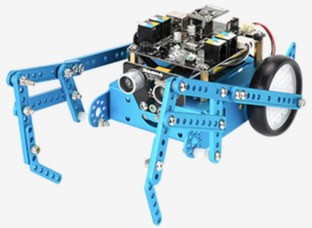
* Makeblock has received the investments from top investment institutions, such as Sequoia Capital and Shenzhen Capital Group

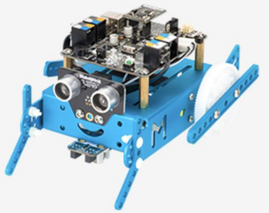


mBot series add-on-packs

Add-on packs

Six-legged Robot： With this add-on pack you can build your own “Beetle”, “Mantis” and “Crazy Frog”. Let’s get your six-legged robot moving!



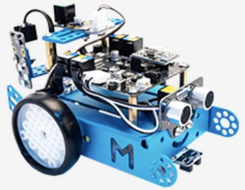
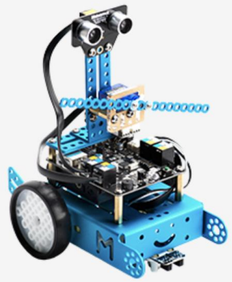
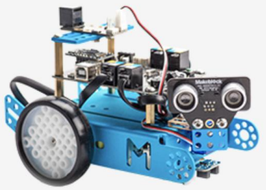


$24.99


$24.99

Interactive Light & Sound： Experience the magic of light and sound by constructing your own “Lighting Chasing Robot”, “Scorpion Robot” and “Intelligent Desk Light” with mBot and the components in this pack.

Servo Pack： “Make your mBot move with the Servo Pack. Put together a “Dancing Cat”, “Head-Shaking Cat”, or “Light-Emitting Cat” with your mBot and the components in this pack.

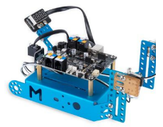
$24.99

Add-on packs

Variety gizmos add-on pack : The pack includes six instructive extension projects for the mBot and two mBot Ranger extension projects, enabling children to expand mBot’ s motions and shapes. mBot projects: Antenna Car, Traffic Gate, Dancing Cat, Head Shaking Cat, Light-Emitting Cat and Timer. mBot Ranger cases: Sunflower, Magic Stick.

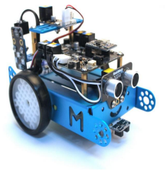
$39.99

Antenna Car

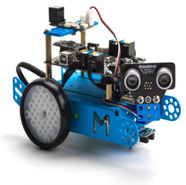


Timer

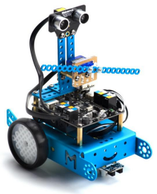
Traffic Gate



Light-Emitting cat



Head Shaking cat



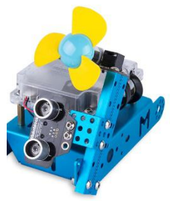
Dancing cat

$49.99

Weather Station

Ringe-Finder

Sound Control Lamp



Energy-saving Fan

Knob Robot

Perception gizmos add-on pack: The pack includes five mBot add-on prpjects and two mBot Ranger add-on projects, allowing children to have a better understanding of electronics. mBot projects: Ringe-Finder, Sound Control Lamp, Weather Station, Knob Robot, Energy-saving Fan. mBot Ranger cases: Roly-Poly, Music Box.

Note: mBot Ranger is one model of mBot lineup. For more information, please go to the website: www.makeblock.com/cn/

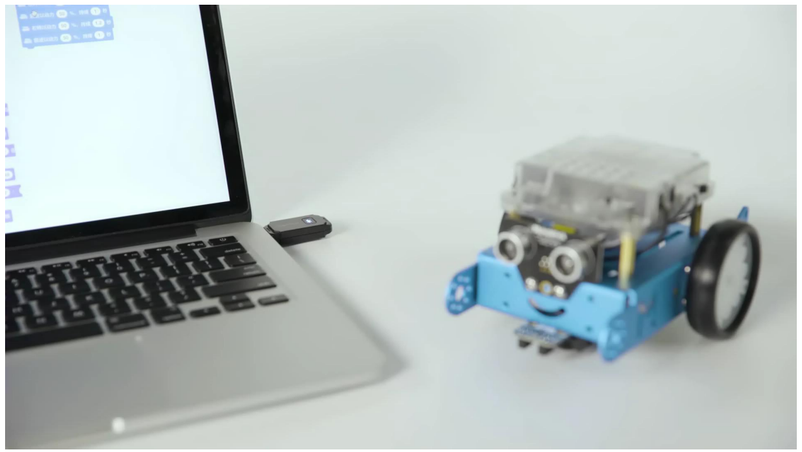
Bluetooth controller

$39.99

Makeblock Controller is a wireless Bluetooth controller suitable for children of ages 6+.

- One-button start and quick pairing
- Programmable and customizable buttons
- ABS-surface for impressive touch
- Powerful anti-interference makes it perfect for complex applications : Impervious to interference with 60+ simultaneously-working controllers within a distance of 10m
- The Bluetooth Controller supports all the Makeblock Bluetooth products : mBot, mBot Ranger etc.

Bluetooth Dongle



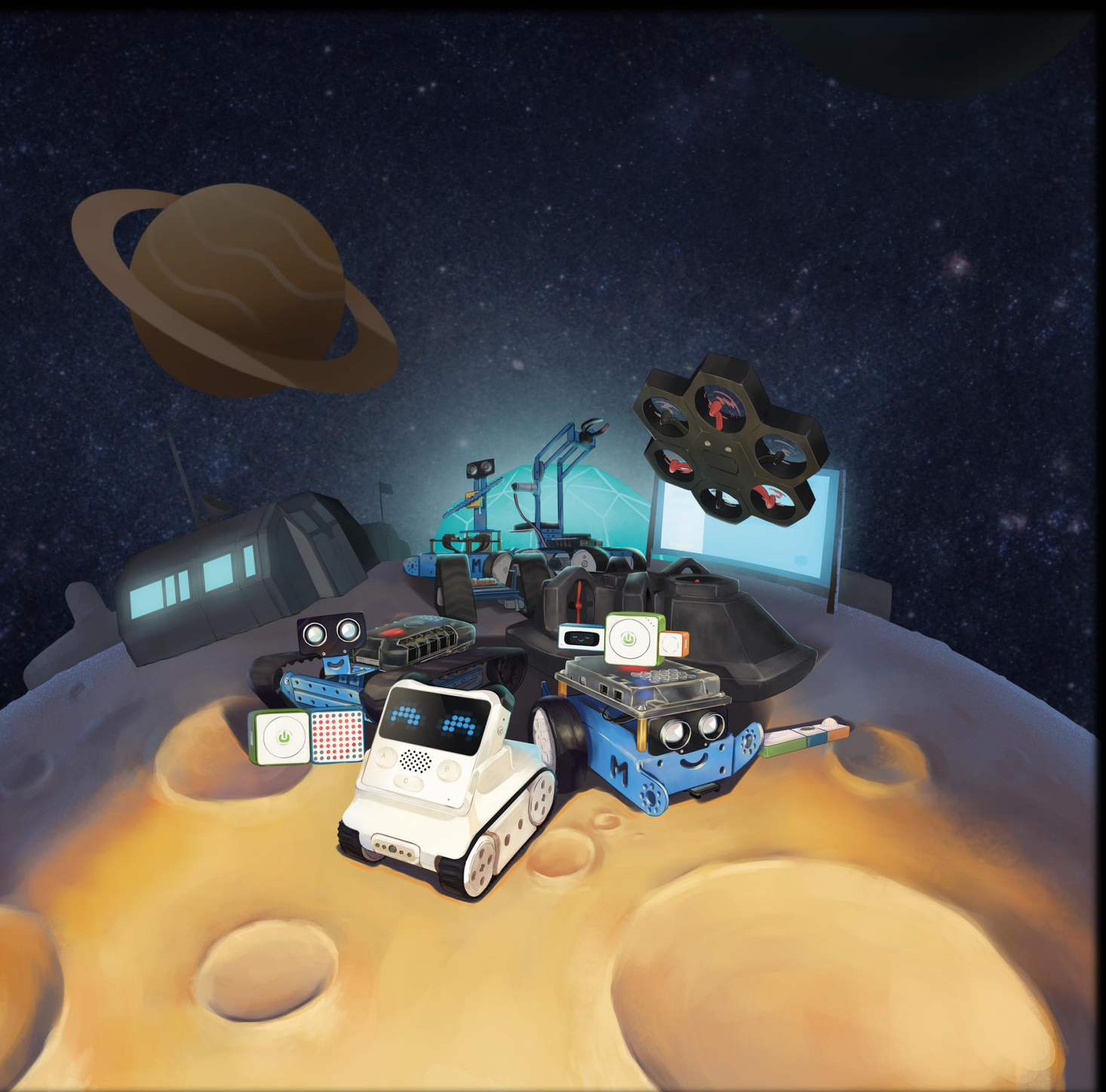
△ Click to play the video

Makeblock Bluetooth dongle is a BT4.0 (low power consumption) interface converter for Bluetooth devices that is designed mainly for short-distance wireless data transmission. The dongle can pair with any Makeblock devices with built-in Bluetooth modules, which offers users a smoother wireless experience.

$14.99

- Wireless and quicker upload
- Device connection with one-button and easy-to-pair
- Cost-effective for its compatibility with all Makeblock Bluetooth products
- Wires-free
- A solution for schools where computers don’ t support Bluetooth
- No need for drivers. You can just plug in and play.


Thanks



STEAM Education
Science | Technology
Engineering | Art
Mathematics

Science

Technlogy

Engineering

Art

Mathematics