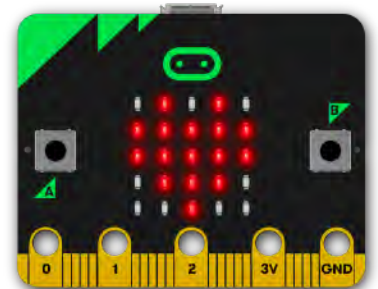
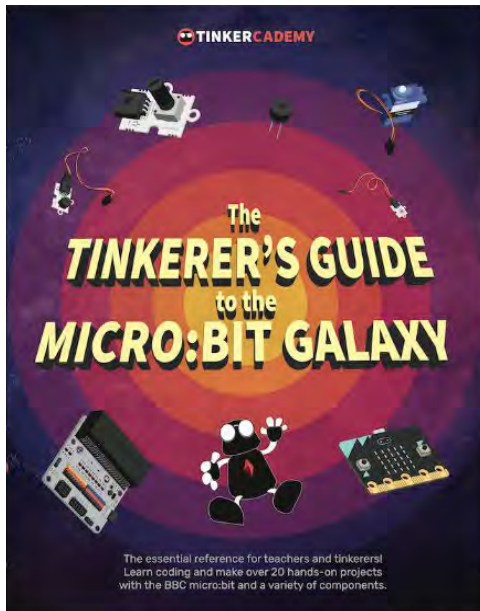




# GET HACKING

CATALOGUE 2022/2023



# NURTURING STEM SKILLS THROUGH APPLIED LEARNING



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hello@gethacking.com



gethacking.com



Discover tech from the Code for Fun programme

**SG:D | GET READY!**

Code@SG



We carry over 30 brands specialising in STEM education and electronics, including a wide range of robots, tools, kits and individual components

## Digital Making



## Robotics



## Electronics



## Engineering / Experiential



# DIGITAL MAKING

## Extend your Digital Making journey

As a launch partner for the nationwide Digital Maker Programme with IMDA in 2017, we've seen digital making tools like the micro:bit grow from niche learning toys to become serious tools for learning, coding, and creating.

We have designed and carry a wide range of kits and components from ELECFREAKS, Kitronik, Hummingbird and DFRobot to power your next digital making idea.



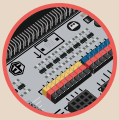
## Tinkercademy Tinker Kit

Ages 6 - 10

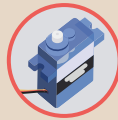
Ages 11+

Adults, too!

### Kit Includes:



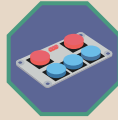
Breakout Board



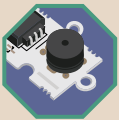
Mini Servo



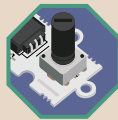
OLED Display



ADKeyboard



Passive Buzzer



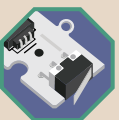
Analog Rotation



Soil Moisture Sensor



PIR Sensor



Crash Sensor



3 x Colour LED

Start your Digital Maker journey with the micro:bit and a variety of easy-to-use components! This kit comes our very own custom Breakout Board, and a variety of modules to help you create dozens of amazing digital maker projects!

- **Perfect for the classroom**  
Expand the possibilities of projects with a wide library of compatible modules.
- **Suitable for beginners**  
Wiring is simplified with colour-coded cables. You won't need a breadboard.
- **Varied**  
Includes 10 different modules to enable a huge range of projects, including an OLED module!
- **Great bang for your buck**  
One of the most value-for-money micro:bit kits.
- **Get inspired with online resources**  
Let's Get Hacking ([lets.gethacking.com](https://lets.gethacking.com)) has a ton of micro:bit projects using the Tinker Kit components and we're adding more all the time!



## The Tinkerer's Guide to the Micro:Bit Galaxy

Ages 6 - 10

Ages 11+

Adults, too!

The micro:bit has opened up a whole new world of physical computing to everyone.

But how would you learn to use the micro:bit?

Our book provides a full lesson guide from beginner to intermediate, as well as projects that you can try on your own!

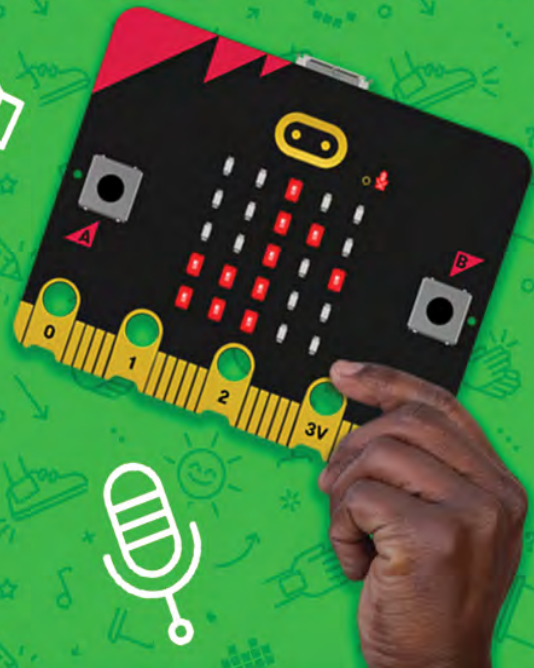
- **12 chapters of lessons and activities**
- **Easy to understand with witty writing**
- **Numerous projects to try out rated by difficulty**

*"Everything is presented in bite-sized chunks, just nice for a beginner like me [...]  
The creative layout and the use of humour sprinkled across the pages kept me going.  
Highly recommended for those who are new at this and hoping to get started on coding and electronics."  
- Cheryl Ng, Head of eero EDUteam, Cytron Technologies*

new

# BBC micro:bit

Get creative with the new micro:bit now with built-in speaker and microphone!



## BBC micro:bit v2.2 Set

Ages 6 - 10

Ages 11+

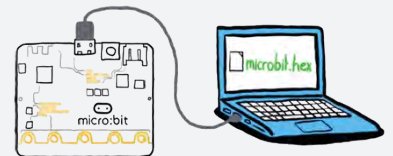
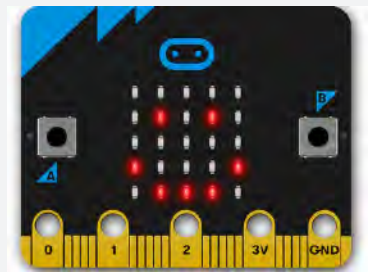
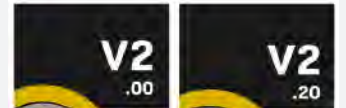
Adults, too!

If you are new to coding and hardware, then the micro:bit v2.2 micro-controller would be a great start. It's incredibly easy to use and a perfect platform to help you move on to other micro-controllers and computers such as Circuit Playground, Arduino, Feather, or Raspberry Pi.

The latest version of the BBC micro:bit is designed to be completely familiar to anyone who has used the original device. It's the same size, shape, looks very similar, and works in the same way.

It builds upon the current micro:bit experience by refining the board and adding widely requested sound making and sensing capabilities. This powerful, pocket-sized computer will be loved by all that use it. Designed to teach kids coding and solve problems using technology.

  
micro:bit



## micro:bit Smart Science IoT Kit

Ages 11+

Adults, too!



The ELEC FREAKS Smart Science IoT (Internet of Things) Kit contains many different sensors and modules to smarten up everyday items. The IoT:bit has an ESP8266 WIFI expansion board and serial port to communicate with micro:bit. An on-board buzzer for sound is included alongside an RTC clock for accurate timing without a power supply connected 24/7.

### Features:

- IoT:bit
- OLED
- Sonar:bit
- 180 Servo
- PIR Sensor
- Dust Sensor
- Light Sensor
- Noise Sensor
- Water Level Sensor
- Soil Moisture Sensor
- BME280 Pressure Sensor

## micro:bit Smart Home IoT Kit

Ages 11+

Adults, too!

The ELEC FREAKS Smart Home Kit transforms everyday products into smart home projects. Control your lights with your voice, or create a fan that turns itself on when it's too hot!

### Features:

- Relay
- DC Motor
- 180 Servo
- USB Cable
- Screwdriver
- 3V Sensor Bit
- OLED Screen
- Crash Sensor
- Light Sensor
- Rainbow LED
- Submersible Pump
- Soil Moisture Sensor
- Noise Sensor
- TMP36 Temperature Sensor



## ElecFreaks micro:bit Smart City Kit

Ages 11+

Adults, too!

The Smart City Kit has a well-rounded selection of IoT:bit, DHT11 sensor, soil moisture sensor, water level sensor, sonar:bit, servos and etc. We could explore themes like the smart parking lot, transportation network and river level monitoring. We can also use it to learn more about the IoT, its programming and more possibilities of the future city scenes which are able to be constructed with this kit.

### Features:

- IoT:bit Internet WIFI extension board for micro:bit
- 1 x LED-Green
- 1 x LED-Yellow
- 1 x LED-Red
- 1 x DHT11 sensor
- 1 x Sonar:bit
- 1 x Soil moisture sensor
- 1 x Water level sensor
- 1 x OLED screen
- 1 x EF92A 180° servo
- 1 x micro USB cable
- 1 x Jumper wires

## micro:bit Basic Kit

Ages 6 - 10

Ages 11+

Adults, too!

This kit from ELEC FREAKS is an entry-level kit, containing 5 common electronic modules in their easy-to-use Octopus form factor.



### Includes:

- 1 x basic:bit
- 1 x LED Module
- 1 x Crash Sensor
- 1 x Potentiometer
- 1 x Servo
- 1 x ADKeypad
- 1 x USB Cable
- 1 x Battery Box
- 1 x Guidebook

## micro:bit Starter Kit

Ages 6 - 10

Ages 11+

Adults, too!

The micro:bit Starter Kit is designed for people who are at the door step of learning electric circuit and programming knowledge. The kit provides some basic electronic components like LED, button, buzzer, temperature sensor, steering engine and motor etc. You can not only learn basic knowledge of these elements, but also use it to design circuits. With the help of micro:bit programming technique, your circuit becomes more animated. Micro:bit Starter kit can help you enter a wonderful of electronic world.

### Features:

- Servo
- Adapter
- Breadboard
- Battery Holder
- Transistor
- Temperature
- Sensor
- Photocell
- Diode
- Rainbow LED Ring
- RGB LED
- Red LED
- Blue LED
- Yellow LED
- Green LED
- 10k Trimpot
- Pushbutton Switch
- Self-lock Switch
- Mini Speaker
- 10K Ohm Resistors
- 100 Ohm Resistors
- 5V Motors
- Mini Fan
- USB Cable
- Jumper Wire
- Clip Wire



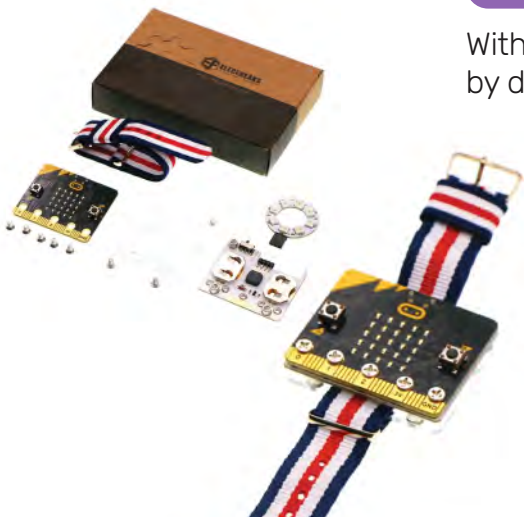
## ElecFreaks micro:bit Smart Coding Kit

Ages 6 - 10

Ages 11+

Adults, too!

With the micro:bit Smart Coding kit, you can create wearable devices. Just by doing some simple assembly, you can DIY a micro:bit watch!



### Includes:

- 1 x Power:bit
- 1 x Nylon watch strap
- 1 x micro USB wire
- 5 x M3x5 Inner cross screws
- 1 x Mini Screwdriver
- 1 x Guidebook

## micro:bit Smart Cutebot

Ages 6 – 10

Ages 11+

Adults, too!



The micro:bit Smart Cutebot is a rear-drive smart car driven by dual high speed motors. There are many on-board sensors on the Cutebot including ultrasonic sensor, distance sensor, two RGB LED headlights, as well as clearance lamps on the bottom, two line-tracking probes, an active buzzer as the horn and so on!

## micro:bit Wonder Rugged Car kit

Ages 6 – 10

Ages 11+

Adults, too!

The Wonder Rugged Kit is a omnidirectional mobile car based on Wukong multifunctional expansion board. It can perfectly achieve 360° omnidirectional movement, and can also complete difficult movements such as left and right drift. 8CM diameter super-large tires are wildly shaped. The full-time four-wheel drive is powerful, and all four wheels can be independently controlled. The car uses compatible bricks, which is super scalable. Comes with 400mAh lithium battery pack, onboard power management system, supports fast charging, only 20 minutes to full charge, full load running time can reach more than 30 minutes.



### 80MM big wheels

Quick movement with high flexibility

It is in wild outlook and could go through obstacles easily.



## 6-in-1 Ring:bit Bricks Pack: Lego-compatible building and coding kit for micro:bit

Ages 6 – 10

Ages 11+

Adults, too!



**Ring:bit Expansion Board:** A simple PCB for the micro:bit

1. Extends the micro:bit's 3 GPIO ports
2. Converts the P0/P1/P2 port to the common GVS port

**Six Fun Cases In One Kit:** Kids can build 6 shapes, including traffic lights, bricks car, temperature-controlled fans, smart desk lamp, wipers and trebuchet.

**Well-designed Assembly Instructions and Courses:** It makes the kids learn the coding easily as well as how to build blocks in an interesting way.

**Almost 200 Pieces Bricks:** In fact, children can use these rich building blocks to build more favorite shapes



## ElecFreaks Ring:bit Car V2 Kit

Ages 6 - 10

Ages 11+

Adults, too!



The Ring:bit Car is a programmable smart car for the BBC micro:bit, based on the ElecFreaks ring:bit breakout board (available for sale separately).

### Includes:

- (Optional) BBC micro:bit
- Ring:bit breakout board
- Two servo motors
- Chassis (acrylic pieces)
- Easy-to-use rivets
- Wheels

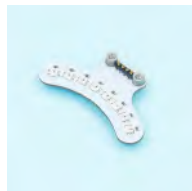
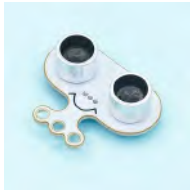
## ElecFreaks Ring:bit Car Accessories

Ages 6 - 10

Ages 11+

Adults, too!

The tracking module, LED light-bar module and Sonar:bit are dedicated modules designed for the Ring:bit car V2.



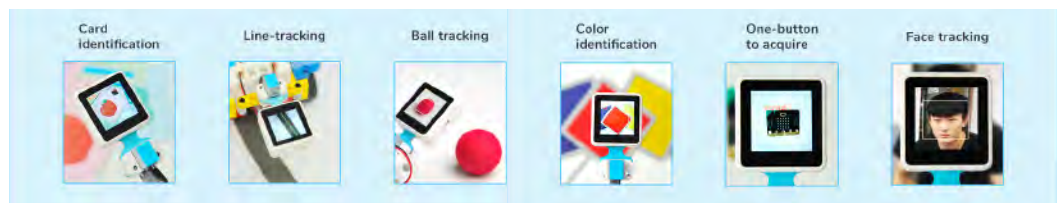
## ElecFreaks Smart AI Lens Kit

Ages 11+

Adults, too!



The ElecFreaks AI Smart Lens is able to achieve the functions of face recognition, balls tracking, cards recognition and characteristics acquisition. It is designed with RJ11 connection and easy to plug.



## ElecFreaks Joystick:bit V2 Kit

Ages 11+

Adults, too!

Joystick:bit v2 is a game board based on micro:bit. It contains a 4-direction joystick and 4 undefined buttons. At the same time, it enhances the game experience with its on-board buzzer and vibration motor. Joystick:bit v2 can also be used as a remote control looks good and feels good.



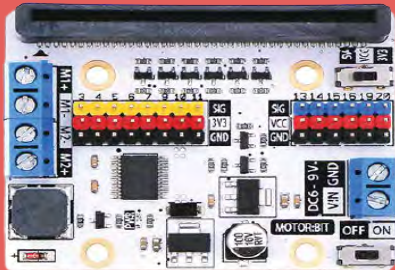
# micro:bit Boards

Works with micro:bit V1 & V2

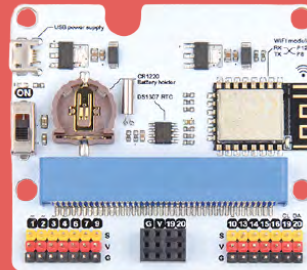


Ages 11+

Adults, too!



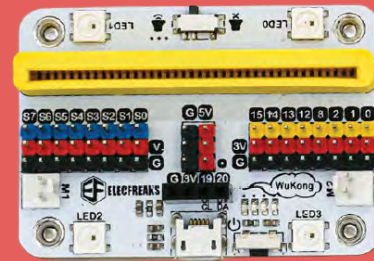
Motor:bit Breakout Board



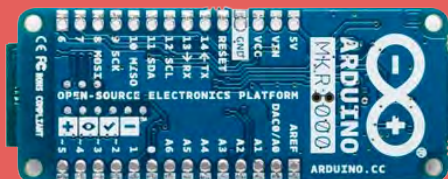
IoT:bit Breakout Board



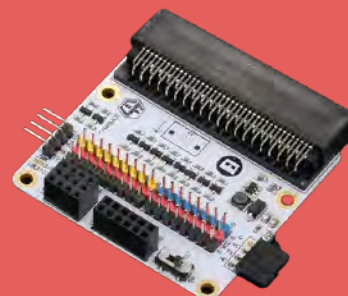
Basic:bit Breakout Board



Wukong Breakout Board



Arduino MKR1000



Tinkercademy GVS micro:bit Breakout Board

# micro:bit Components

Ages 11+

Adults, too!



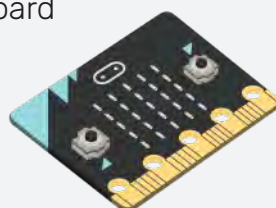
## Input

- 5-button ADKeypad (Octopus)
- Analog noise sensor (Octopus)
- Analog light sensor (Octopus)
- Analog rotation potentiometer (Octopus)
- Digital humidity, pressure and temperature sensor (BME280; Octopus)
- Digital push button (Octopus)
- Contactless infrared temperature sensor (GY-906)
- Ultrasonic rangefinder (HC-SR04P)
- Infrared receiver sensor (Octopus)
- Limit switch crash sensor (Octopus)
- Gas sensor (MQ3; Octopus)
- PIR motion sensor (Octopus)
- Pressure-sensitive conductive sheet (Velostat/Linqstat)
- Rain/Steam sensor (Octopus)
- Smoke sensor (MQ2; Octopus)
- Soil moisture sensor (Octopus)
- Tilt sensor (Octopus)



## Power & Wiring

- Crocodile clip
- micro:bit power supply module 3.3V 2A
- 1-channel relay (Octopus)
- L9110 2-channel motor driver board



## Output

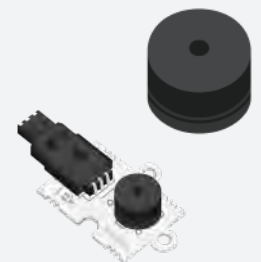
### Light

- 50-LED programmable RGB LED string (WS2811)
- 5mm/10mm through-hole LED
- 8-LED programmable RGB rainbow ring (WS2812)
- 10-LED GVS chainable flexible strip (WS2812B)
- 128x64 OLED display module (I2C)
- 16x2 LCD character display (I2C)
- Alphanumeric display (Octopus)
- RGB common cathode LED
- White LED backlight module



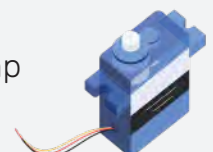
### Sound

- Active buzzer
- Passive buzzer
- MP3 player module



### Motion

- 28BYJ-48 stepper motor
- Continuous rotation servo motor
- DC gearbox motor
- Geekservo 9g 360 degrees (LEGO-compatible)
- Geekservo motor (LEGO-compatible)
- Mini servo motor
- Submersible water pump





M5STACK

## M5GO IoT Starter Kit

Ages 11+

Adults, tool

Every M5Stack development kit can be programmed through Arduino IDE, WebIDE UIFlow, Micropython, and Blockly, Simplifying the development process for those requiring a joint hardware and software solution.

M5Stack has far-reaching IoT applications in industry, agriculture, and home, and it also empowers students to learn to code in STEAM classrooms.



### Includes:

- 1 x M5GO
- 6 x Units
- 4 x LEGO block
- 12x LEGO Connector
- 4 x GROVE cable
- 1 x Type-C USB cable (20cm)
- 1 x User Manual

## FIRE IoT Development Kit

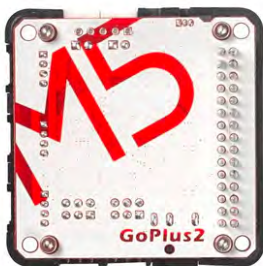
Ages 11+

Adults, tool

FIRE is an M5Stack Core device. Its modular, stackable, scalable, and portable device is powered with an ESP-32 core, which makes it open-source, low cost, full-function, and easy for developers to handle new product development on all stages include circuit design, PCB design, software, mold design, and production.

### Includes:

- 1 x M5GO
- 1 x M5GO CHG Base
- 2 x LEGO block
- 5 x LEGO Connector
- 1 x M3 hex wrench
- 1 x Type-C USB (100cm)
- 1 x User Manual



## M5Stack GoPlus2 DC Motor and Servo Driver Module

Ages 11+

Adults, tool

GoPlus2 is a stackable multi-functional motor and servo control module. The master control integrates the STM32F030C8T6 chipset. The module is equipped with 2-way DC motor drive interface and 4-way servo drive interface. Three PORT-B interfaces(Analog Input,Digital Output,Digital Input) can be expanded. Built-in 500mAh battery and support infrared (IR) transmission and receive. In order to meet the requirements of multi-channel interface power supply at the same time, a DC power interface is provided for external power supply, battery can be charged through the M5Core with USB-C.



# M5StickC Development Kit with Hat

Ages 11+

Adults, too!

M5StickC is a mini M5Stack, powered by ESP32, which is a single 2.4 GHz Wi-Fi and Bluetooth combo chip and integrates a 4 -MB SPI flash. It is a portable, easy-to-use, open source, IoT development board. It includes the ENV HAT II which is an environment sensor which can sense temperature, humidity and atmospheric pressure, as well as the SPK HAT which is an M5StickC compatible speaker.

## Includes:

- 1 x M5StickC
- 1 x ENV Hat II
- 4 x SPK Hat
- 12x WALL/1515
- 1 x 20cm USB Type-C cable
- 1 x Brick
- 1 x Watch Belt



M5STACK



# M5StickC Mini IoT Development kit

Ages 11+

Adults, too!

M5StickC is a mini M5Stack, powered by ESP32. It is a portable, easy-to-use, open source, IoT development board. What can it do? This tiny block is able to realize your idea, enlighten your creativity, and help with your IoT prototyping in a very short time. It will take away a lot of pains from the development process. It is built in a continually growing hardware and software ecosystem. It has a lot of compatible modules and units, as well as the open source code & engineering communities that will help you maximize your benefits in every step of the developing process.

# M5Stack Servo Kit 180°

Ages 11+

Adults, too!

Servo Kit 180° is a 9g servo with LEGO compatible fixed bracket. There are 180 ° or 360 ° specifications. The independent design of the fixed bracket can be easily disassembled, and the product is completely designed according to the LEGO standard unit, so that you can easily combine with LEGO series products, play unlimited creativity. No matter 180 ° or 360 ° servo, it is very easy for beginners to use. Even if you don't know how to program, you can easily drive it with UIFlow. There is no need to use a dedicated servo-drive board with feedback control and a complicated gearbox. Any common pwm driver or a micro-controller can easily control this servo.

## Includes:

- 2 x SG90 Servo 180°
- 2 x GROVE2SERVO adapter
- 2 x Elastic
- 2 x Fixed base of servo
- 2 x Special steering wheel
- 2 x Axle connector
- 4 x Connector peg with friction
- 1 x Frame 5x7-module
- 2 x Servo accessories package
- 2 x M2\*4mm self tapping screw
- 2 x Extension wire 30cm



# M5Stack Sensors, Hats and Components

Ages 11+

Adults, too!

## Sensors



M5Stack PIR  
Motion Sensor



M5Stack Light Sensor Unit  
with Photo-resistance



M5Stack Earth Moisture  
Sensor Unit Analog and  
Digital Output



M5Stack Mini Heart  
Rate Unit (MAX30100)  
Pulse Oximeter



M5Stack ENV II Unit with  
Temperature Humidity  
Environment Sensor



M5Stack Gesture  
Recognition Sensor

## Hats



M5StickC Servo Hat



M5StickC PIR Hat

## Components



M5Stack RGB LED Unit



M5Stack Unbuckled Grove  
Cable - 20cm (Pack of 5)



M5Stack Grove-T  
Connector (Pack of 5)



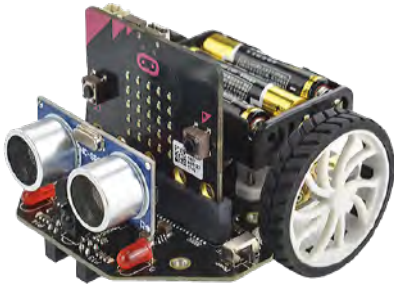
## micro: Maqueen - micro:bit Robot

Ages 6 - 10

Ages 11+

Adults, too!

Maqueen is a micro:bit based programmable robot for STEM education. The Mini-body, interesting features and plug-and-play allow children to quickly learn graphic programming in entertaining, nurturing children's interest in science and logical thinking.



### Features:

- All-metal miniature gear motor, good quality, and strong driving force.
- plug-and-play that Support for Makecode, will support scratch and python later.
- Easy to install and easy to use.
- Exclusive customized POM bearing wheel, flexible and reliable, and strong obstacle crossing ability

## micro: Maqueen micro:bit Robot Plus

Ages 6 - 10

Ages 11+

Adults, tool

micro: Maqueen Plus is an advanced version of micro:Maqueen Lite (4.0), which is more powerful and intelligent. Optimized with better power management and larger capacity power supply, it can be perfectly compatible with HuskyLens AI Vision Sensor, which makes it an accessible AI robot teaching tool.

In addition, micro:Maqueen Plus comes with a larger and more stable chassis, more built-in functions and more expansion ports, it is not only suitable for classroom teaching, but also can be suitable for after-school extended exercises and robot competitions.



## DFRobot micro:Mate micro:bit Breakout Board

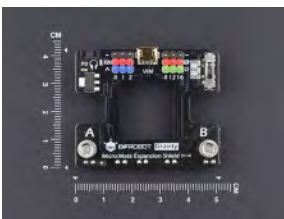
Ages 6 - 10

Ages 11+

Adults, tool

micro:Mate is a tiny micro:bit I/O expansion board for learning electronics and building DIY projects. It expands 6 sets of 3-pin I/O interfaces, capable of connecting DFRobot Gravity series or ELECFREAKS Octopus modules, servo motors, sensors and jumper wires. Additionally, Pin 8, 12, 16 support voltage switch between 3V-5V, allowing up to 5V 2A digital (PWM) output.

micro:Mate has the same dimension as the micro:bit. It connects to micro:bit through contact pins (that are spring loaded), ensuring an easy, compact and secure connection. The rubber bumpers and the 3.5mm audio jack on the back side keep the expansion board stable, while preventing reversed connections.



### Features:

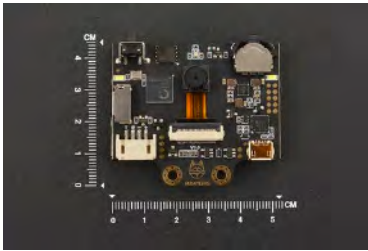
- Color coded Gravity 3-Pin interface, compatible with hundreds of plug & play electronic modules
- 3-way analog input; 6-way digital input/output (PWM); 3V/5V jumper switch;
- 3.5mm audio jack
- External Micro USB power port, up to 5V 2A power output.



## HuskyLens AI Vision Sensor

Ages 11+

Adults, too!



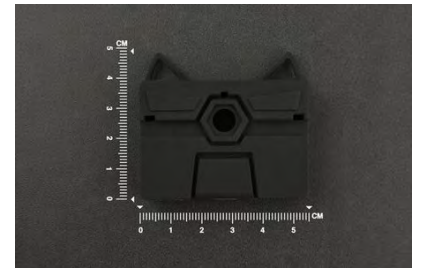
HuskyLens is an easy-to-use AI machine vision sensor. It is equipped with multiple functions, such as face recognition, object tracking, object recognition, line tracking, color recognition, and tag(QR code) recognition. Through the UART / I2C port, HuskyLens can connect popular main control boards like Arduino, micro:bit, Raspberry Pi and LattePanda to help you make very creative projects without playing with complex algorithms.

HuskyLens is pretty easy-to-use. You can change various algorithms by pressing the function button. Click the learning button, HuskyLens starts learning new things. After that, HuskyLens is able to recognize them.

Additionally, HuskyLens carries a 2.0 inch IPS screen. So you don't need to use a PC in the parameters tuning. Enjoy the convenience it brings, what you see is what you get!

## Silicone Case for HuskyLens AI Vision Sensor

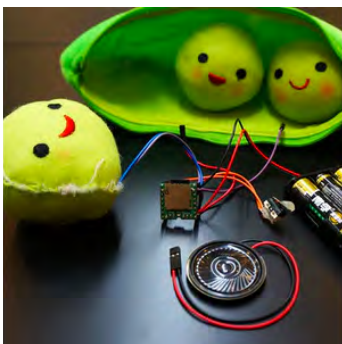
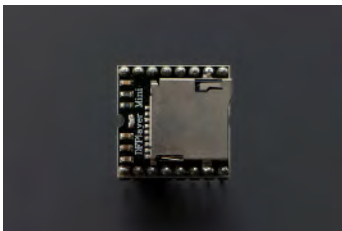
When using HUSKYLENS, you may encounter accidental drops, bumps, etc. Now we carefully designed this silicone sleeve to protect your board. This silicone sleeve is small in size, cute in shape. It looks like a cool dog face. It protects and accessorizes your HUSKYLENS!



## DFPlayer Mini MP3 Player

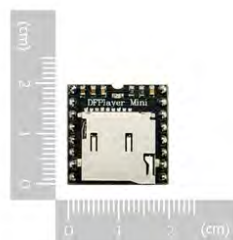
Ages 11+

Adults, too!



Sing for the moment! The DFPlayer Mini MP3 Player is a small and low-cost MP3 module player with a simplified output directly to the speaker. The DFPlayer mini standalone can be used as a stand-alone module with an attached battery, speaker, and push buttons or used in combination with an Arduino UNO or any other with RX/TX capabilities.

This DFRobot Mini MP3 Player perfectly integrates the hard decoding module, which supports common audio formats such as MP3, WAV, and WMA. Besides, the dfplayer mini mp3 player module also supports TF card with FAT16, FAT32 file system. Through a simple serial port, you can play the designated music without any other tedious underlying operations.



### Features:

- Small size
- Support IO, serial port and ADKEY control
- Maximum support 32G of the TF card, suitable for occasions in need of abundant audio files





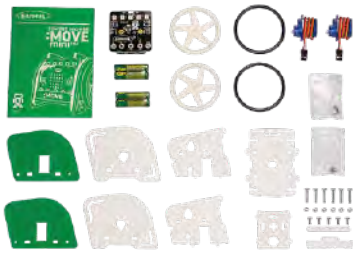
# micro:bit MOVE mini MK2 Buggy Kit

Ages 6 - 10

Ages 11+

Adults, too!

The Kitronik :MOVE mini MK 2 buggy kit is a 2 wheeled robot for the micro:bit that provides a fun introduction to robotics. Powered by two continuous rotation servo motors, the buggy also has 5 x RGB LEDs, which can be used as indicators, reverse lights, and more!



### Features:

- Offers a fun introduction to the world of DIY robotics.
- Add code for autonomous operation.
- Use in conjunction with an App and control it over Bluetooth.
- Use the radio function and a second microbit as a controller.

# EDU:BIT Kit



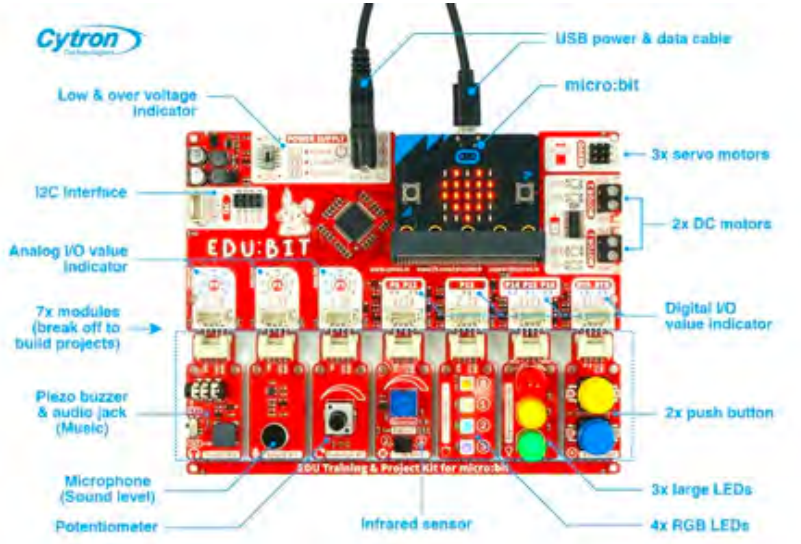
Ages 6 - 10

Ages 11+

Adults, too!

This beginner-friendly micro:bit kit is specially designed to encourage kids to explore STEAM and learn coding. You can easily program EDU:BIT using open-sourced Microsoft MakeCode Editor. Just add EDU:BIT MakeCode Extension and you're good to go. If you're a beginner, you can start with the block programming mode; simply drag, drop and snap the coding blocks together. For more advanced users, you can easily switch into JavaScript or Python mode on MakeCode Editor for text-based programming

- Includes:**
- 1 x EDU:BIT board
  - 1 x BBC micro:bit board
  - 1 x Step-by-step Guide Book
  - 1 x USB power and data cable
  - 2 x Game maps
  - 2 x Game accessories
  - 7 x Grove cables
  - 1 x Servo motor
  - 1 x DC motor
  - 1 x Pulley wheel
  - 1 x Fan blade
  - 1 x micro:bit



# ROBOTICS

## Engage Learning through Robots

Robots are a great way to foster young learners' interest in sequencing, logic, computational thinking, and creativity. We've curated a series of robotics toys and kits to engage the most inquisitive minds.

## Sphero RVR

Ages 11+

Adults, too!

Sphero RVR robot offers a bold new take on programmable robots.

It's drivable straight out of the box, packed with a diverse suite of sensors and built for customisation.

Sphero RVR provides a hackable mobile platform for beginners, educators, students and tech hobbyists.



### Tech Specs



Infrared  
Communication



Live Sensors



Universal  
Expansion Port



LED Lights



Codeable



## Sphero RVR Multi-pack

Ages 11+

Adults, too!

Sphero RVR Multi-Pack is the perfect way to expand your STEAM curriculum. Work in groups to build mobile projects, compete in a hackathon, or deploy RVRs IR capabilities and experiment!



### Includes:

- 5 x RVRs and Batteries
- 5 x Roll Cages and Mounting Plates
- 5 x Sets of Color Cards



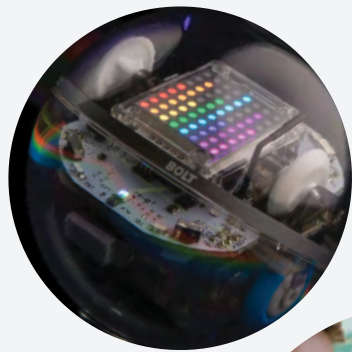
# Sphero BOLT

Ages 6 - 10

Ages 11+

Adults, too!

Sphero BOLT's eye-catching, programmable 8x8 light matrix opens up an endless array of coding and gaming capabilities.



- **Advanced Sensors**  
Keep tabs on BOLT's speed and direction with built-in sensors for programming.
- **LED Matrix**  
Sphero BOLT was built to shine with 8x8 LED Matrix that animates and displays real-time data.
- **Infrared Communication**  
BOLT to BOLT communication enables new games and advanced coding tactics.

## Sphero BOLT Power Pack

Ages 6 - 10

Ages 11+

Adults, too!

The BOLT Power Pack compiles the best of Sphero's STEM solutions for schools and packages them for the classroom.

Teach robotics and coding skills in the classroom through hands-on STEM learning.



### Tech Specs



Infrared Communication



Waterproof Shell



Live Sensors



Inductive Charging



Magnetometer



Codeable



### Includes:

- 1 x Power pack case
- 15 x Sphero BOLT Robots
- 15 x Inductive charging cradles with USB cables
- 15 x Protractors with heading, directions, and clock
- 15 x Turbo covers
- Maze tape and 124 stickers



# Sphero indi At-Home Learning Kit

Ages ≤ 5



Speed into STEAM with this indi kit designed to engage kids ages 4+ in hours of exciting exploratory learning and play at home. Perfect for parents, grandparents, caretakers, or anyone looking to equip their young learners with coding, computational thinking, and problem-solving skills, the indi At-Home Learning Kit provides hours of self-guided, screenless engagement. Kids will discover how to communicate instructions to indi with color cards, solve puzzles, and direct indi through mazes they dream up. Once they've mastered screenless programming, kids can learn block coding concepts by changing how indi reacts to different color cards in the Sphero Edu Jr app.

## Features



Colour Sensor



Coding Concept



Bluetooth Communication



LED Lights



USB Charging



Onboard Speakers

# Sphero Mini

Ages ≤ 5

Ages 6 – 10

Ages 11+

Adults, too!

Sphero Mini packs tons of fun into a tiny, app-enabled robot about the size of a ping pong ball. Drive Mini using different modes with the Sphero Mini app, or just by using your face. Yes, you read that right. Face Drive is a hilarious new feature that uses your facial expressions to drive the ball.

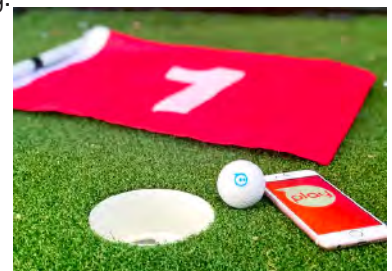
Mini's games are just as addicting - use the ball as a controller to shoot your way through space, race a ship through a tunnel, or rotate your ball to destroy a polygon of bricks. Thanks to the beauty of app updates, there's always more on the way. If you're feeling extra clever, download the Sphero Edu app and program your robot using JavaScript.

Packed with teeny tiny tech, Sphero Mini has a little gyroscope, accelerometer, and LED lights. Colorful, interchangeable shells are available, so you can easily switch one out to suit your mood. With almost an hour of play time, Sphero Mini is the next big thing.



## Features:

- Driving - Drive Mini using different modes with the Sphero Mini app - Joystick, Tilt, Slingshot, or Face Drive.
- Face Drive - Face Drive is a hilarious new feature that uses your facial expressions to drive the ball.
- Gaming - Sphero Mini can be used with the app as a video game controller. Play 3 games with more updates on the way.
- Coding - Download the Sphero Edu app and program your Sphero Mini bot using JavaScript.
- Interchangeable Shells - Colorful, interchangeable shells allow you to switch one out to suit your mood.



## Wonder Workshop Dash & Dot Robot Wonder Pack

Ages 6 - 10



Dash is an explorer who zips around the room, getting into mischief along the way. Using sensors, Dash can detect objects in front and behind, hear where you are, and see where Dot is. This robot has quite the personality and becomes more capable as you program and play.

Dot is a puppet master who instigates the adventures that Dash goes on. When you toss, shake, or pick Dot up, Dot sends a signal telling Dash what to do. Dot can also tell stories using lights, sounds, and eye expressions.

## Wonder Workshop Dash Robot

Ages 6 - 10

- **New ways to play and learn**

Kids can define how they want to play. Whether your child is into having make-believe tea parties, building elaborate forts, or adventuring with friends, Dash will be there every step of the way. Empower your child to program Dash into anything they imagine.

- **Visual, hands-on programming**

We set a low floor but a high ceiling for coding. Blockly is a drag-and-drop programming language that snaps together like puzzle pieces. Start by sending simple commands, learn programming concepts as you play, and progress to creating more complex algorithms.

- **Interact with the real world**

It's a big world out there, and Dash is ready help you explore. Program Dash to squeal when you pick it up, navigate around sharp corners, or be on the lookout for approaching siblings or pets.



## Wonder Workshop Xylophone for Dash Robot



## Wonder Workshop Launcher for Dash Robot



## Wonder Workshop Cue Robot

Ages 11+

Adults, too!

Powered by breakthrough Emotive AI, cue is a witty robot with attitude. Share your world with Cue as it talks, texts, and laughs with you. Games and challenges make programming your own interactive experiences fun for any skill level. Unlock Cue's secret to coding for any skill level by easily switching between block and JavaScript programming.



## Wonder Workshop Dot

Ages ≤ 5

Ages 6 - 10

Dot is the brains of a robot. Dot comes with several games you can play right out of the box, such as Magic Dot Ball, Dot of Music, and Light Sword. Using free apps Wonder and Blockly, you get to see how these games are created, and make over a hundred more of your own games. The apps come with puzzles to guide you through - no books or camps needed!



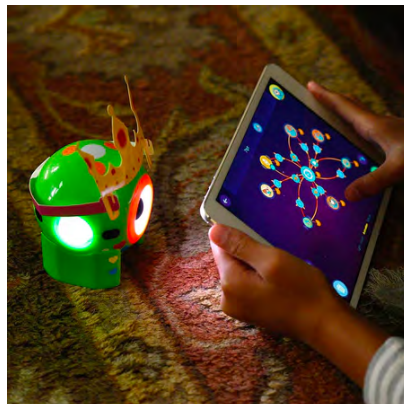
## Wonder Workshop - Dot Creativity Kit

Ages ≤ 5

Ages 6 - 10

Dot Creativity Kit is designed for adventure, fun and learning at an affordable price, the kit combines Do-it-Yourself projects with a quirky green robot and 100's of self-guided coding challenges.

Winner of the Parents' Choice Gold Award 2017





## Bee-Bot

Ages ≤ 5

Award-winning programmable floor robot, the Bee-Bot's simple and child-friendly layout is a perfect starting point for teaching control, directional language, and programming to young children.

Memory of up to 40 steps with No confusing degrees to program. Fantastic cross-curricular resources also available!



## Blue-Bot

Ages ≤ 5

Meet Blue-Bot, the new Bee-Bot robot with a Bluetooth connection! Blue-Bot brings science, technology, engineering, and math into the classroom for even the youngest students and helps build foundational skills for lifelong learning.

Use the buttons on the back to program Blue-Bot just like Bee-Bot. Connect Blue-Bot to your tablet or PC via Bluetooth, using free apps, and program Blue-Bot remotely. Blue-Bot offers all the features of Bee-Bot while also introducing remote control!





## Bee-Bot Pen Holder (Pack of 6)

Ages ≤ 5

Now Bee-Bot® can draw! Simply click on the shell, place a pen in the pen holder and off you go.

- Pack of 6
- Rainbow-coloured
- Fits both Bee-Bot and Blue-Bot

This set of 6 rainbow-coloured shells are made from a high quality plastic that is designed to withstand everyday school life.



## Blue-Bot TacTile Reader

Ages ≤ 5

The Blue-Bot TacTile Reader introduces remote programming without the complications of apps and tablets and makes learning to code a direct, hands-on experience. Press the connect button to pair Blue-Bot with the TacTile Reader. Then place individual tiles, each representing a Blue-Bot command, sequentially on the TacTile Reader. Press the GO button and watch Blue-Bot move step-by-step through the program while the TacTile Reader lights up each command as Blue-Bot performs it. Want to change the program? Just switch the order of the tiles and press GO again.

The TacTile Reader holds up to 10 tiles, allowing a program up to 10 steps long. Up to three TacTile Readers can be connected together with the included cable, so students can build programs of up to thirty steps. The TacTile Reader is rechargeable and includes 25 Blue-Bot command tiles.

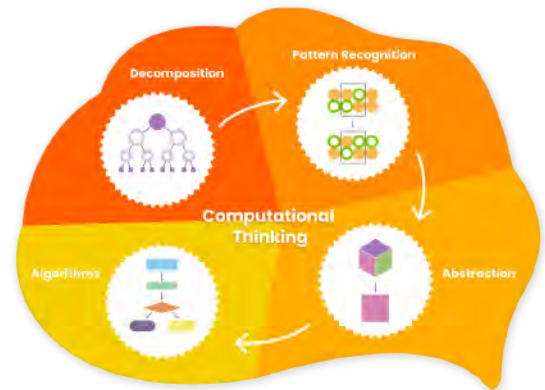




## Matatalab Coding Set

Ages ≤ 5

Matatalab Coding Set is a new hands-on coding robot for STEAM education, without the need for screen and literacy. Kids use their imagination to create infinite possibilities using coding blocks, by controlling a robot car through coding algorithms. They learn fundamental coding skills and develop necessary cognitive abilities through educational coding games from a young age.



## Matatalab Coding Set (Home Edition)

Ages ≤ 5

Matatalab Coding Set (Home Edition) provides multiple tangible Coding Blocks with intuitive symbols to represent programming commands. Kids are able to create simple programs by combining Coding Blocks and controlling the robot to complete a challenge. Supporting family storybooks, parents can easily accompany kids into the fun and simple programming world.



## Matatalab Tale-Bot Pro

Ages ≤ 5

Matatalab Tale-Bot Pro is an entry-level learning robot set for kids aged 3-5. Leveled up with the innovative technology and with a wide range of cross-curricular Interactive maps, kids can learn basic coding concepts, and manipulate a robot to develop stories in a smart manner. Through the game-based play, kids can improve skills of free speaking, and storytelling, while their social-emotional skills, four C's of 21st century skills and computational thinking skills are exercised.

# PRIMO

## Cubetto Playset

Ages ≤ 5

The coding toy for girls and boys aged 3 and up. Powered by a playful programming language you can touch. Montessori approved, and LOGO Turtle inspired.

### Includes:

- 1 x Cubetto
- 1 x Board
- 16 x Blocks
- 1 x World Map
- 1 x Story Book



## Intelino Smart Train

Ages ≤ 5

For generations, children grew up playing with toy trains. Intelino is the classic toy train, reinvented. The Intelino is built on futuristic design, powerful features, enhanced interactivity, programmability and updatable content.

It augments the classic toy train experience to engage and entertain train fans of all ages. The track is built for fast action and smart play, and it's compatible with most wooden track systems. It is durable, dual-sided and is easy to click together even for a 3-year-old. All track pieces have built-in slots for action snaps.

To program the Intelino, plastic snap-on tiles of different colors can be easily placed on and off the tracks. They are used to control the train's actions like steering, speed, movement, the magnetic wagon coupler and more. The smart train comes with 17 default action snap commands.

# intelino®



# fisher-price

## Fisher Price Think & Learn Code-a-Pillar

Ages ≤ 5

Code-a-pillar inspires little learners to be big thinkers by encouraging preschoolers to arrange (and rearrange) the easy-to-connect segments in endless combinations, sending Code-a-pillar on his path. This learning toy encourages experimentation while developing important skills like problem solving, planning & sequencing and critical thinking.

There's no end to the combinations kids can make – mix up the segments and put them back together to send Code-a-pillar in a different direction every time! Every time kids change and rearrange his segments, Code-a-pillar takes a different path. Every time – with cool sounds and lights wherever he goes!

Kids can even configure the segments to make Code-a-Pillar reach targets they set up throughout the room.



# ELECTRONICS

## Build your knowledge through Electronics!

Electronics kits are no longer a pile of resistors, breadboards, and components\*. With these kits, students can learn about fundamental concepts in circuitry and engineering, then use their skills to create real-world prototypes with technology.

\*Though we're happy to help you teach with those, too!

## littleBits STEAM Student Set

Ages 6 - 10

Educators and parents can now bring STEAM (Science, Technology, Engineering, Art, and Math) learning to life - no experience necessary! This set will walk teachers and parents through every step with comprehensive lessons and guides.

### Features:

- **Raise technology literacy:**  
Students engage with electronics by completing 8 challenges that progress in difficulty, with 10 companion lessons for educators.
- **Integrate STEAM learning:**  
With the inclusion of Art in STEM, students are empowered to think creatively and design and engineer solutions to real-world problems.
- **Make curricular connections:**  
The 120+ page Teacher's Guide connects challenges to American NGSS and Common Core standards, and inspires teachers to take concepts further.



littleBits™

## littleBits Rule Your Room Kit

Ages 6 - 10



Create touch-activated inventions to control your stuff.

Build science, engineering, art and math skills as you problem-solve and invent.

Get step-by-step instructions for 8 inventions, 1 challenge, and inspiration for tons more!

Gain the confidence and curiosity to reinvent the world around you.

Minimize screen time with a toolbox you can use again and again to create new toys, pranks & more.





## littleBits Space Rover Inventor Kit

Ages 6 - 10

Creative kids build and customize a planetary rover using littleBits electronic building blocks, then transform it by adding out-of-this-world capabilities!

Over 30 activities in the free Inventor App guide kids through building and controlling space vehicle inventions, like a space rock collector or an alien life detector, learning STEAM (Science, Technology, Engineering, Art, Mathematics) skills, and drawing inspiration from real space pioneers. Through both hands-on and digital play, kids gain lifelong skills to become changemakers through invention.

Product features include in-app instructions for 30 space activities, tech sensors, paper templates, wheels, mounting boards, LED light, motors, battery, stickers, and free Inventor App, and battery.



## littleBits Electronic Music Inventor Kit

Ages 6 - 10

Creative kids build and customize a rockin' synth guitar using littleBits electronic building blocks, then transform it into new electronic instruments of their own!

Over 12 activities in the free Inventor App guide kids through building musical inventions, like an electric keytar or air drums, learning STEAM (Science, Technology, Engineering, Art, Mathematics) skills, and drawing inspiration from real-world musical inventors. Through hands-on play, kids gain lifelong skills to become changemakers through invention.

Product features include in-app instructions for 12 musical activities, tech sensors, paper templates, mounting boards, keyboard Bit, speaker Bit, stickers, free Inventor App, and battery.



## littleBits Base Inventor Kit

Ages 6 - 10

The introductory Base Inventor Kit from littleBits includes everything creative kids need to turn their ideas into inventions! With a range of Bits that move, light up, and make noise, kids gain STEAM (Science, Technology, Engineering, Art, Mathematics) skills by learning how technology is built.

Over 12 activities in the free Inventor App guide kids through building fun inventions, like a voice-activated robotic gripper arm or a room-protecting intruder alarm. Kids are challenged to create their inventions to improve their room, help their community, or save the world. Through hands-on play, kids gain lifelong skills to become changemakers through invention.

Product features include in-app instructions for over 12 activities, tech sensors, paper templates, mounting boards, LED light, motor, stickers, free Inventor App, and battery.



Ages 6 - 10

The Gizmos & Gadgets Kit, 2nd Edition is the ultimate invention toolbox. It turns screen time into hands-on learning. The kit is bursting with motors, wheels, lights, servos - everything you need to spark creativity and fun. Start with step-by-step instructions to build fun DIY games, cars, gadgets and more. Then tilt, shake, or tap your phone to make them do tricks! Create a car and let your phone do the steering. Or a caterpillar that crawls with the tap of a tablet!

You'll start inventing the minute you open the box. The kit comes with 13 electronic building blocks, instructions for 16 inventions, and all the accessories and tools you need to unleash the inventor within. The 2nd Edition includes the Bluetooth Low Energy (BLE) Bit, giving you the power to control your inventions in ways never-before-possible, from any compatible smart device.



## littleBits Synth Kit

Ages 6 - 10

### Features:

- Perfect for kids exploring music and instruments, or professional musicians and DJs.
- Get step-by-step instructions for 10 musical inventions & tons more online!
- Developed in partnership with world-renowned electronic music maker KORG.
- Connect to speakers, headphones, computers, and instruments.
- Learn about the science of sound and the history of electronic synthesizers



### Synth Kit



Ages 11+



The Hardware Development Kit (HDK) is the quickest way to get started developing your own module for the bitLab. The two proto modules allow you to connect to PCBs and breadboards, while the perf module allows you to build a small circuit right on the module. When you're ready to design your own PCB, you can use the included gray bitSnap connectors to attach to the board. We've also included color-coded stickers so you can easily denote your bitSnaps as power, input, wire, or output.

**Includes:**

- 2 x Proto modules
- 1 x perf module
- 12 x bitSnap [6 male and 6 female]
- Color-coded bitSnap stickers [blue, pink, orange and green]

littleBits Individual Bits - micro:bit Adapter

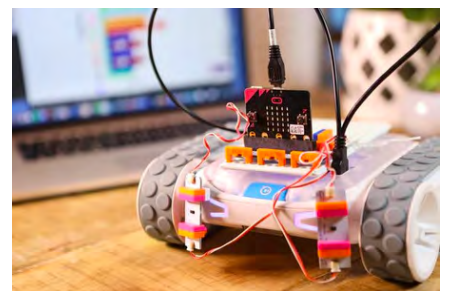
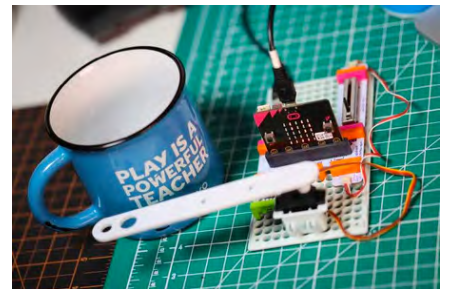
Ages 6 - 10

Ages 11+

The littleBits micro:bit Adapter connects micro:bit and littleBits enabling new learning experiences and creative inventions in a less-intimidating way.

Enhance your learning with micro:bit by adding coding to your littleBits using platforms like the free Microsoft MakeCode or Python editor. It works by connecting the signals from the littleBits input and output bitsnaps to pins on the micro:bit edge connectors. No special coding libraries are needed.

*\* micro:bit is required for use & sold separately*



# Raspberry Pi 4

Your tiny, dual-display, desktop computer

...and robot brains, smart home hub, media centre, networked AI core, factory controller, and much more

Ages 11+

Adults, too!



## Silent, energy-efficient

The fanless, energy-efficient Raspberry Pi runs silently and uses far less power than other computers.



## USB 3

Your new Raspberry Pi 4 has upgraded USB capacity: along with two USB 2 ports you'll find two USB 3 ports, which can transfer data up to ten times faster.



## Fast networking

Raspberry Pi 4 comes with Gigabit Ethernet, along with onboard wireless networking and Bluetooth.



## Your choice of RAM

We're making different variants of the Raspberry Pi 4 available, depending on how much RAM you need – 2GB, 4GB, or 8GB.

## Raspberry Pi 4 Desktop Kit

Ages 11+

Adults, too!

Full desktop computer kit - just connect to HDMI display(s)

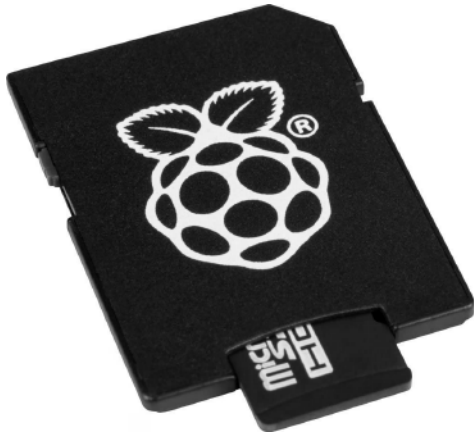
### Includes:

- Raspberry Pi 4 Model B (2GB, 4GB or 8GB version)
- Raspberry Pi Keyboard & Mouse
- 2 x micro HDMI to Standard HDMI (A/M) 1m Cables
- Raspberry Pi 15.3W USB-C Power Supply
- Raspberry Pi 4 Case
- Official Raspberry Pi Beginner's Guide
- 6GB NOOBS with Raspberry Pi OS microSD card





## Raspberry Pi 32GB Preloaded (NOOBS) SD Card



Official 32GB MicroSD Card and Full-Size Adapter

### Features:

- Fully Qualified by the Raspberry Pi Foundation for Optimum Performance
- Preloaded with the NOOBS Operating System
- Works with all Raspberry Pi Models

## Raspberry Pi Universal Power Supply (USB-C)

The official Raspberry Pi USB-C power supply is designed to power the latest Raspberry Pi 4 Model B boards, which were released in June 2019.

### Features:

- 5.1V / 3.0A DC output
- 96-264Vac operating input range
- Short circuit, overcurrent and over temperature protection
- 1.5m 18 AWG captive cable with USB-C output connector



## Raspberry Pi Pico

The 1st MCU Board from Raspberry Pi - Pico

Ages 11+

Adults, too!

Raspberry Pi Pico is a tiny, fast, and versatile board built using RP2040, a brand new microcontroller chip designed by Raspberry Pi in the UK, now available in Singapore. Designed for physical computing projects that controls anything from small electronic components, LEDs, motors; reading information from sensors, or communicate with other microcontrollers.



### Features:

- Compact and Easy-to-mount
- USB Micro for Power and Data
- Large RAM and Flash Size
- Programmable in MicroPython, C, and C++
- Flexible Power Input



## Pimoroni Picade (with 8-inch display)

Ages 11+

Adults, too!



The ultimate desktop retro arcade machine! Picade is a Raspberry Pi-powered mini arcade that you build yourself, with authentic arcade controls, a high resolution 4:3 display that's ideal for retro gaming, and a punchy speaker to hear those 8-bit game soundtracks at their best. Picade comes in kit form, and it'll take around two to three hours to build. The cabinet is made from powder-coated MDF, giving it a quality look and feel similar to a full-size arcade.

All you'll need to add is a Raspberry Pi, USB-C power supply, and micro-SD card.

## Pan-Tilt HAT Retail pack (full kit)

Ages 11+

Adults, too!

Ideal for a mini CCTV system, this set of horizontal and vertical motion servos will give you Pi camera movement with a minimum of fuss.

Pan-Tilt HAT lets you mount and control one of our pan-tilt modules right on top of your Raspberry Pi. The HAT and its on-board microcontroller let you independently drive the two servos (pan and tilt), as well as driving up to 24 regular LED (with PWM control) or NeoPixel RGB (or RGBW) LEDs. There's also a handy slot through which you can route the servo, LED, and camera cables. The module pans and tilts through 180 degrees in each axis.

Use Pan-Tilt HAT with a Pi camera for face-tracking. Or mount it on top of your roving robot as a set of eyes. Why not stick a foam sword on top and make it swashbuckle?!

There's absolutely no soldering required as the servos on the pan-tilt module have female jumper wires attached and we've soldered a strip of right-angled header pins to the underside of the HAT to connect them up.

We've also included a handy little acrylic camera mount to hold your camera snugly in the head of the pan-tilt module. The mount has a couple of mounting holes at the top to hold a NeoPixel strip and there's a neat little frosted diffuser to make the light super-dreamy.

*Note that the Pi camera, NeoPixel strip, male header, female to female jumper wires, Pi 3 and Pi4 are not included. You'll need to pick them up separately!*



# Pirate Radio - Pi Zero W Project Kit

Ages 11+

Adults, too!



Build your very own internet-connected radio with the Pirate Radio Kit!

Pirate Radio uses our new pHAT BEAT DAC and stereo amp. to drive the single speaker (left and right channels are mixed when you flip the DIP switch on the underside to mono mode). pHAT BEAT uses the same I2S mono DAC and amplifier that we use on Speaker pHAT and Picade HAT and... adds a second one for stereo goodness! The two rows of 8 APA102 RGB LEDs make the perfect VU meter, and there are 6 buttons along the edges to control your audio.

This kit takes advantage of the built-in wireless LAN and Bluetooth on the Pi Zero W, meaning that there's no longer any need for a USB Wi-Fi dongle.

*Note that this is a soldering project*



### Kit Contents:

- Pi Zero W
- pHAT BEAT DAC and stereo amp. with VU meter and six buttons
- Male and female 2x20 pin headers
- Single 5W 4Ω speaker
- Blue acrylic enclosure
- 50cm USB A to micro-B cable
- USB A (female) to micro B (male) adaptor
- Mini to full-size HDMI adaptor
- Sticker sheet (personalise your Pirate Radio!)
- Pi Zero W
- Comes in a reusable kit box

# Mood Light - Pi Zero W Project Kit

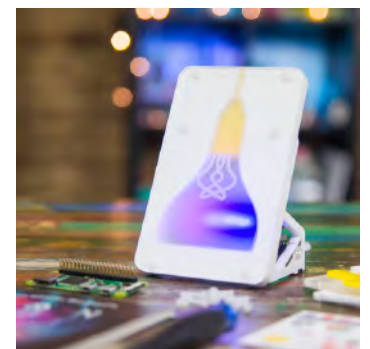
Ages 11+

Adults, too!

A beautifully modern Mood Light that'll look great on your bedside table, bookcase, or desk, and it's internet-connected!

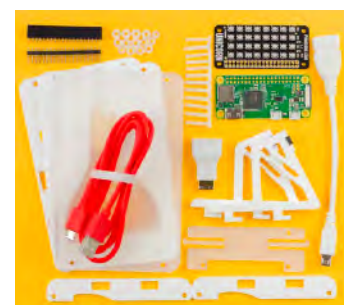
The Mood Light Kit has everything\* you'll need to build a sleek looking light that evokes a real pendant light, and uses our Unicorn pHAT board with 32 programmable RGB Neopixel LEDs. Set it to a single colour, have it fade through all the colours of the rainbow, or harness the built-in wireless LAN on the Pi Zero W.

*Note that this is a soldering project*



### Kit Contents:

- Pi Zero W
- Unicorn pHAT with 32 programmable RGB Neopixel LEDs
- Male and female 2x20 pin headers
- White and yellow pendant light stand and diffuser
- 50cm USB A to micro-B cable
- USB A (female) to micro B (male) adaptor
- Mini to full-size HDMI adaptor
- Sticker sheet (personalise your Mood Light!)
- Comes in a reusable kit box



# Solarbotics Herbie the Mousebot v2.0

Ages 11+

Adults, too!

Herbie the Mousebot is a very quick, easy-to-build, light-chasing robot kit with functional whisker and tail sensors! It is a 9-volt battery-powered light-following robot that loves to chase flash light beams. What sets aside the new version is that it can see much better now - and reacts to both LED and incandescent light.

These little robots are so quick, you have to run to keep up to them! We've even enhanced Herbie with functional whisker and tail sensors, so he doesn't get stuck in corners or under obstacles while chasing around.

Herbie comes as a build-it-yourself kit that does not use any microprocessors or programming - we'll supply you with all the parts and some excellent documentation to put him together. Our instructions contain many pictures and simple descriptions to make the building process easy and fun, especially for beginners.

# Solarbotics SolarSpeeder v2.0

Ages 11+

Adults, too!

The SolarSpeeder 2 Kit is a very quick Solarroller that can cover 3 meters (10 feet) in under 40 seconds in direct sunlight. This is a super simple solar-powered dragster. All it takes is a bit of basic soldering to install a few components, and then you're all set. The SolarSpeeder will sit in the light (sunlight works best!), and when it's all charged up, it'll shoot off in a line. The SolarSpeeder uses fancy MillerEngine Technology, which means there's a big improvement in performance with no increase in complexity or cost.

This is a perfect introduction to electronics, with a detailed manual (lots of pictures and step-by-step instructions) that will walk you through how to solder and install each component.



# Solarbotics Photopopper Photovore v5.0

Ages 11+

Adults, too!

The Photopopper Photovore utilizes very small high-efficiency motors in combination with elegant circuitry to make a very active solar powered robot capable of covering a meter (3.3 feet) distance in under a minute!

This Photovore is a capable little robot that is powered entirely by solar energy, has light-sensing directional optics (eyes), and a pair of obstacle avoidance sensors. The pair of infrared detectors on the robot give it a very directed phototropic or light-seeking behavior, making it trace outlines around shadows, and be attracted to the brightest sources of light.

The Photopopper Photovore 5.0 uses new "Miller Engine" technology to make a very dynamic light-seeking & obstacle-avoiding robot. All components necessary for the Photopopper are in the kit, including a high-quality printed circuit board, optics, motors, and a very complete 12 page instruction manual with over 26 illustrations and images. The BEAM Photopopper Photovore kit is designed to be a straight-forward kit to assemble and tune, but does require fundamental soldering skills and hand-tool abilities to complete successfully.



## Solarbotics Useless Box Kit

Ages 11+

Adults, too!



Yes, it's ... Useless! It's a clever electromechanical box that turns itself off after you've turned it on.

You build it, you turn it on, and ...it has other ideas. A finger extends, and turns itself off just as quickly as you turn it on. Weird and wonderful, it's a physical description of many aspects of life (how's that for the beginning of an artsy interpretation?).

The Useless Machine Kit requires assembly, and you must have your own soldering equipment, batteries, and phillips screwdriver.

## Solarbotics BeetleBot

Ages 11+

Adults, too!

The BeetleBot is the simplest TRUE robot you can build. Use only a screwdriver to put it together, then watch it zoom and smartly bounce off things in it's way! No microcontrollers, ICs, or transistors are used - just two switches wired cleverly together form the brains of this robot that has been featured as a popular MAKE Magazine & Instructables.com project.

Designed by Jerome Demers originally as a science-fair project, this robot design has won awards for it's simplicity and effectiveness. Jerome has now turned his design into a solder-free project, ideal for beginners to put together.



## Solarbotics Solar Marble Machine Kit

Ages 11+

Adults, too!

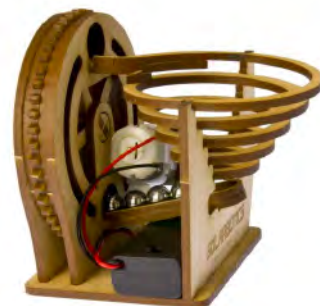


The circuit takes the light from the solar cell, stores it and releases it in a pulse, making the gear wheel move, which eventually drops the marble down the spiral. In sunlight, the motor will pulse every few seconds, and drop a ball every minute. In indoor light, motor pulses will drop to every few minutes (be patient)! if you are not, then you can use the hand crank and see the marble drop.

## Solarbotics Marble Machine Kit - Battery Edition

Ages 11+

Adults, too!



You are probably familiar with its older cousin, the Solar Marble Machine that has a clever circuit that delivers short bursts of energy collected by the solar cell to the gear wheel. The battery pack edition of the Marble Machine kit has splendid electromechanical appeal, delivering 8 steel balls down a laser-cut wood frame. Unlike its solar-powered cousin, it's ready to run at your command.

# ENGINEERING / EXPERIENTIAL

## Teach STEM with hands-on experience

These kits encourage students to build, tinker, and invent. Combine these with recyclable materials - milk cartons, cardboard boxes, kitchen towel rolls - and prototyping has never been easier! This hands-on experience making and crafting fosters creative confidence and problem solving skills.



## Teach with tech that transcends the physical and digital worlds

Explore immersive worlds using Virtual Reality and Augmented Reality tools, transporting you to far away lands, to the edges of the solar system, or the inside of a biological cell. Play and learn with tangible manipulatives infused with technology: code with tiles, and explore the physical laws with simulations that spring out from your drawings!

## MERGE Cube

Ages ≤ 5

Ages 6 - 10

Ages 11+

Adults, too!

### Features:

- **HOLD A VIRTUAL OBJECT IN YOUR HAND:** learn, play, and create in augmented reality by holding and interacting with virtual objects.
- **FUN STEM TOY:** The MERGE Cube is used by hundreds of schools to inspire and engage kids to explore math, science, anatomy, engineering and more.
- **TRAVEL GAMES FOR KIDS:** No need to pack up additional chargers, wires, or batteries. The durable and soft Cube is the perfect travel companion to entertain and teach on the go. With over 30 available apps (most of them are free), your kids can play for hours
- **HOW IT WORKS:** Simply download and launch Cube apps onto your smartphone or tablet, point device at the Cube, and watch the Cube transform before your eyes.
- **USE IN THE CLASSROOM:** The MERGE Cube and our MERGE EDU Platform is used by schools to engage kids in lessons on math, science, engineering, art and more!
- **WHAT YOU GET:** MERGE Cube device stand, MERGE sticker



## MERGE AR/VR Headset

Ages ≤ 5

Ages 6 - 10

Ages 11+

Adults, too!



The MERGE headset provides an immersive augmented and virtual reality learning experience using your smartphone. The durable design and rugged construction means it ready ready for use at home - or in the classroom, lab and library. The MERGE headset is a fun learning tool that can engage kids and adults in STEM lessons, immersive gaming, and more.

With the MERGE headset, turn your iOS or Android smartphone into an immersive virtual reality headset - no controller necessary. Dual spring-loaded input buttons for greater VR app interaction. It is made of soft, lightweight foam with adjustable lenses to fit virtually any face and is drop-tested for durability for the classroom. Enjoy over 300 apps, games and virtual reality experiences available on the MERGE Miniverse portal.

## Makedo INVENT Kit

Ages ≤ 5

Ages 6 - 10

Ages 11+

Adults, too!

Engaging screen-free learning is overflowing from this toolbox.

Suitable for classrooms, libraries, workshops, birthday parties, maker spaces, design studios and delightfully ambitious home projects (like the biggest cardboard fort... ever), this large toolbox will ignite the creative genius in all who use it.

The Makedo experience celebrates the process of wondering, imagining, creating, discovering, experimenting, failing, thinking and solving, all under the guise of play. Oh where was this kit when I was a kid?! Don't hold back, you are older than 7 years.

This kit includes safe (no sharp edges) steel cardboard saws and perforators for competent makers.

### Kit Contents:

- 8 x SAFE-SAW
- 8 x FOLD-ROLLER
- 8 x SCRUI-DRIVER
- 240 x SCRUI
- 90 x SCRUI XL
- 12 x MINI-TOOL
- 1 x TOOLBOX



## Makedo DISCOVER Kit

Ages ≤ 5

Ages 6 - 10

Ages 11+

Adults, too!

Be it family or friends, young or old, solo, duo or more.. this toolbox contains all the age suitable tools needed to collaborate and make just about anything from up-cycled cardboard.

Imagine costumes, vehicles, forts and creatures! An immersive, hack-able world of your own making is at your finger tips.

This toolbox has every tool in the Makedo arsenal so you and your crew can perfect the art of cardboard construction. This kit includes a safe (no sharp edges) steel cardboard saw and perforator for competent makers, and a safe flexible plastic cardboard saw for younger makers.



## Makedo EXPLORE Kit

Ages ≤ 5

Ages 6 - 10

Ages 11+

Adults, too!

Help them ditch the tangle of tape and gift them this starter toolbox of Makedo to take their play into another realm of imagination. This is pure, no-tech, unadulterated (unless you want to get involved!) fun for girls and boys. Simple and safe, cardboard construction has never been this easy. Anything is possible from a flower to a fort, a mask to a maze. Then watch the happy makers play, play, play as they learn to up-cycle and develop critical 21st century thinking skills. This kit includes a safe, flexible plastic cardboard saw for younger makers.



Strawbees allows makers of all ages to exercise their creativity to build shapes and inventions using everyday straws! Consisting of simple straws and plastic connectors, it's easy to measure, cut, connect, and build! Unlock your imagination, experiment with different shapes and combine pieces to create movable joints to build whatever you want!

## Strawbees Maker Kit

Ages ≤ 5

Ages 6 – 10

Ages 11+

Adults, too!

The Maker kit is an introduction to building with Strawbees and comes with 200 pieces plus instructions for 16 activities. Experiment with the connectors by building geometric shapes, a puppy, butterfly, or let the extra activities inspire you!

### Features:

- **Creative Play:**  
designed to be completely open-ended, offering possibilities as limitless as your child's imagination.
- **Skill Development:**  
kids can practice problem-solving skills through building and modifying increasingly complex structures.
- **STEAM Learning:**  
encouragement of experimentation; kids can combine pieces to create hinges and moveable joints or combine with other materials like cardboard or twine.
- **All materials are custom-made, durable, and reusable:**  
finish building, disassemble, and begin a new project.



## Strawbees Robotic Inventions for micro:bit

Ages 11+

Adults, too!



You can build and code robots that move! This add-on kit adds robotic capabilities to Strawbees building projects and the micro:bit.

This kit is to snap the micro:bit with physical Strawbees buildings and programming mechanical structures with servo motors. A way to create physical interaction with your next project!

As an add-on kit, this requires the purchase of another Strawbees product for building with building pipes and connectors.

Write in Microsoft MakeCode's block-based programming platform, upload a program and remove from the computer to run on batteries.





## OSMO Genius Starter Kit for iPad

Ages 6 – 10

Ages 11+

Adults, too!



Osmo is a unique gaming accessory for the iPad that comes with games that will change the way your child plays. It has been specifically designed for 5 to 12, but people of all ages enjoy it!

Each kit includes a white iPad stand and a red reflector for the iPad camera. The Genius Kit includes three sets of game pieces (two complete alphabet letter tile sets, a set of high-quality number and dot tiles for the Numbers game and wood tangram shapes). Masterpiece and Newton don't require any pieces. All of these apps are available to download from the App Store free of charge but you need the Osmo Game System (base + reflector) to play them.

Osmo fosters learning in key areas such as: social-emotional skills, creative thinking, art, STEM (science, technology, engineering and mathematics) and common core.

## OSMO Coding Starter Kit for iPad

Ages 6 – 10

Ages 11+

Adults, too!

Awaken your child's cognitive abilities through these fun-filled coding games! In Osmo Coding Starter Kit, your kid will learn how to place physical blocks into sequences and understand the basics of programming, all while developing creative confidence and a love for learning.

### Kit Contents:

- Suitable for ages 5 to 12
- Learn the fundamentals of coding and build computational thinking skills
- Go on an awesome coding adventure through interactive games
- Approved by parents and teachers worldwide, used in over 30,000+ classrooms
- Parents can track game progress, using child game profiles, on a parent app
- Become a master coder and succeed in a digital world
- Osmo base included



## OSMO Little Genius Starter Kit for iPad

Ages ≤ 5

Engage preschoolers in core subjects through Osmo's Little Genius Starter Kit. With 4 fun-filled games, your little one can get a broader understanding of phonics, drawing, and social-emotional cues. Beyond developing creativity and problem-solving skills, the hands-on learning approach enables kids to go on adventures with animated characters and have the time of their lives!





## 3Doodler Start+ Essentials 3D Printing Pen Set

Ages 6 - 10

Ages 11+

Adults, too!

The 3Doodler Start+ Essentials pen set combines art and design with technology in a fun and creative way. It's easy-to-use, uncomplicated technology drives engagement and comprehension of critical STEM subjects. Young learners ages 6-13 years old will thrive when they experience what it's like to use their hands and minds as they bring their ideas to life in 3D.



Easy as  
1, 2, 3D



### Features:

- **Kids bring ideas to life in 3D with this award-winning Pen Set:**  
The ideal entry-point to 3D printing! Plastic extrudes and hardens rapidly allowing kids to literally create anything they can think of in 3D.
- **Perfect for STEM Learning Fun:**  
Inspires creativity, design, planning, building and, spatial understanding.
- **Child-Safe:**  
Designed with no external hot parts, completely safe for kids ages 6-13.
- **Charge & Play:**  
It's easy to get started. Simply charge up your pen, turn it on, feed in a strand of filament, and start drawing in 3D!

## 3Doodler Create+ Essentials 3D Printing Pen Set

Ages 11+

Adults, too!

The latest version of the world's first 3D Printing Pen! Now with dual drive technology, the all new Create+ is re-engineered to give you an ultra smooth and enhanced Doodling experience.

### Features:

- **The latest version of the world's first 3D Printing Pen:**  
Dual-drive technology features improved power durability and reliability for anyone ages 14+.
- **No Learning Curve:**  
No complicated software or hardware learning curve. Just plug in, turn on, add plastic, and begin creating!
- **Safe and Environmentally Friendly:**  
The BPA-free, non-toxic 3Doodler Create plastic refills are industrially compostable and/or recyclable!





# Makey Makey Classic

Ages 6 - 10

Ages 11+

Adults, too!



Simple Box



Contents

The original Makey Makey Classic - Named one of Consumer Reports' "Best Tech Toys of 2014", "Best of Toy Fair 2014" by Popular Science, and a finalist for Toy of the Year 2016. Makes STEM Education fun! Start out easy with a banana piano. First setup takes seconds. Then make game controllers, musical instruments, and countless inventions. Advance to additional inputs and multi-key remapping up to 18 keys. Ages 8 to infinity.

### Kit Contents:

- Turn everyday objects like bananas into touchpads!
- Connect the world around you to your computer! Setup takes just seconds.
- Just plug, clip, and play! No programming knowledge needed. No software to install.

Works with Mac and Windows

- 1000s of possibilities! Draw your own game controller, sneak a cat selfie, and dance like never before
- Ages 8 to infinity

# Stick 'Em

Stick 'Em aims to make STEAM education accessible to all, by allowing everyone to build robots with chopsticks! By creating accessible STEAM kits that don't require expensive classes and are 10x cheaper than traditional sets, we hope to turn every child into a problem solver to better navigate the 21st century.

We also have an online ecosystem coming soon, which allows students from anywhere in the world to take part in challenges, learn about robotics and share their creations!



# Stick 'Em Connector Kit

Ages ≤ 5

Ages 6 - 10

Ages 11+

Adults, too!



The connector kit allows you to build simple geometric shapes, to complex bridges and structures. Simply connect the included wooden chopsticks into the connectors, and you'll have a rigid structure that can go up to 3 meters high! Build catapults, flying gliders and more with the 60°, 90°, 120° and 180°, Axles and Clips. This kit allows you to build the frames of robots, which can then be controlled with the Electronics Kit!

# Stick 'Em Electronics Kit

Ages 6 - 10

Ages 11+

Adults, too!

With its servos and plug and play electronics board, the electronics kit unlocks a much larger realm of possibilities. Build robots out of chopsticks hassle free, without messing with the traditional complicated electronics. Comes with 3 servos that attach to the chopstick ecosystem, allowing you to build a 2 wheeled robot with an additional servo for an intake.



# Stick 'Em Robotics Kit

Ages 6 - 10

Ages 11+

Adults, too!

The Robotics Kit combines both connector and electronics, so that you get a full kit in one package. It's literally the connector kit and electronics kit combined. Allows you to build iron man masks, complex robots and mechanisms.

# We build STEM solutions too

Buying educational tech products for your school is just the first step. Teachers need resources and support to develop best practices in deploying these products.

Whether building up a vibrant makerspace, developing a level-wide STEM Applied Learning Programme, or running Maker Mondays, we have experience working hand in hand with schools.

We can help with your design, procurement, training and programming needs.

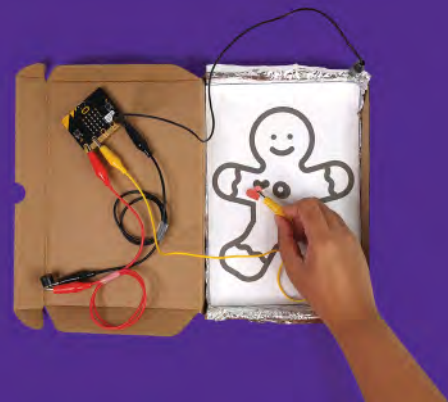
We also have a library of tech products in our makerspace, and are happy to arrange a visit and product demonstration. Get in touch!



## Join our online learning community.

Learn to build ...

*... a gingerbread operation game*



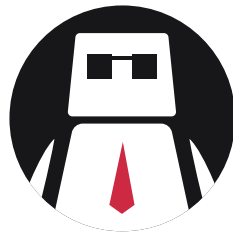
*... a movable cardboard chameleon*

*... and more!*



@letsgethacking





# TINKER TANKER



**TINKERCADEMY**

[tinkercademy.com](http://tinkercademy.com)



**TINKER CLASS**

[gethacking.com](http://gethacking.com)

Tinker Class Pte. Ltd. is a subsidiary of Tinkertanker Pte Ltd in Singapore.

Born out of Tinkertanker's experience delivering fun and interactive digital making classes since 2012 through its education arm Tinkercademy, Tinker Class distributes carefully-curated technology kits and toys with genuine educational value, and crafts quality lessons and activities to enhance the learning experience of these toys.

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