

Codey Rocky & Neuron Education Kit



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Codey Rocky & Neuron Education Kit is a package designed for programming and maker education.

In addition to over 10 electronic modules that come with Codey Rocky, six Neuron blocks are included in the kit, which allow students to gain a more intuitive understanding of how sensors work. Also, more supporting teaching materials are available to meet the learning needs of students at different grades. Neuron makes it easier to design, create and show our projects.

The Codey Rocky Education Kit gives students a chance to create an interactive game or a maker project by programming. With the help of our kit, teachers can develop courses on programming, AI and IoT, and organize robotics or creative competitions.

Suitable For



Target Users

- ✓ Age 6+
- ✓ Elementary and Junior high school



Buying Advice

- ✓ Programming curriculum or maker education
- ✓ 20 kits for a 30-student class



Learning Content

- ✓ Scratch, Python
- ✓ Electronic Design, AI, IoT
- ✓ Working principles of Sensors and robots

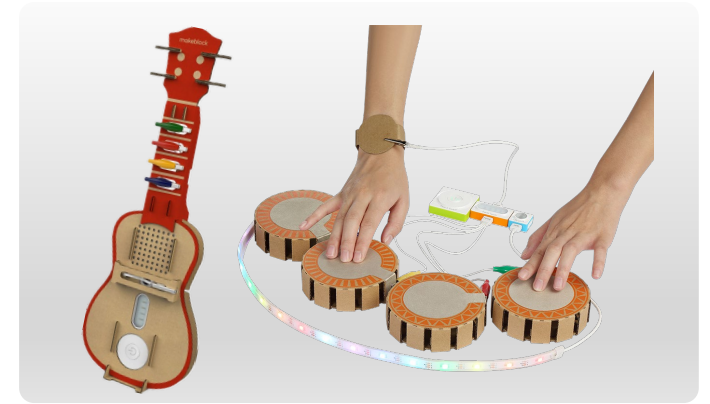
The kit can be used to:



Launch cross-disciplinary courses on programming, robotics, design, AI and IoT



Hold design or robotics competitions where students can enhance programming knowledge and develop teamwork, hands-on skills and creativity.



Organize sharing sessions to exhibit students' works.

Selling Points

Two-in-One Design, Suitable for Various Scenarios



Codey

Equipped with various types of sensors and a programmable "brain", Codey can work independently. As it won't "run" wild, it's an ideal learning partner for programming beginners and [suitable teaching device for tutorials held in computer labs](#).

+



Rocky

Rocky, Codey's agile body, has to work with Codey. Codey and Rocky make a pair of best playmates. Rocky with Codey can complete all sorts of missions such as avoiding obstacles, detecting road conditions, identifying colors and following lines. It's better to try these tasks in [a spacious maker lab](#).

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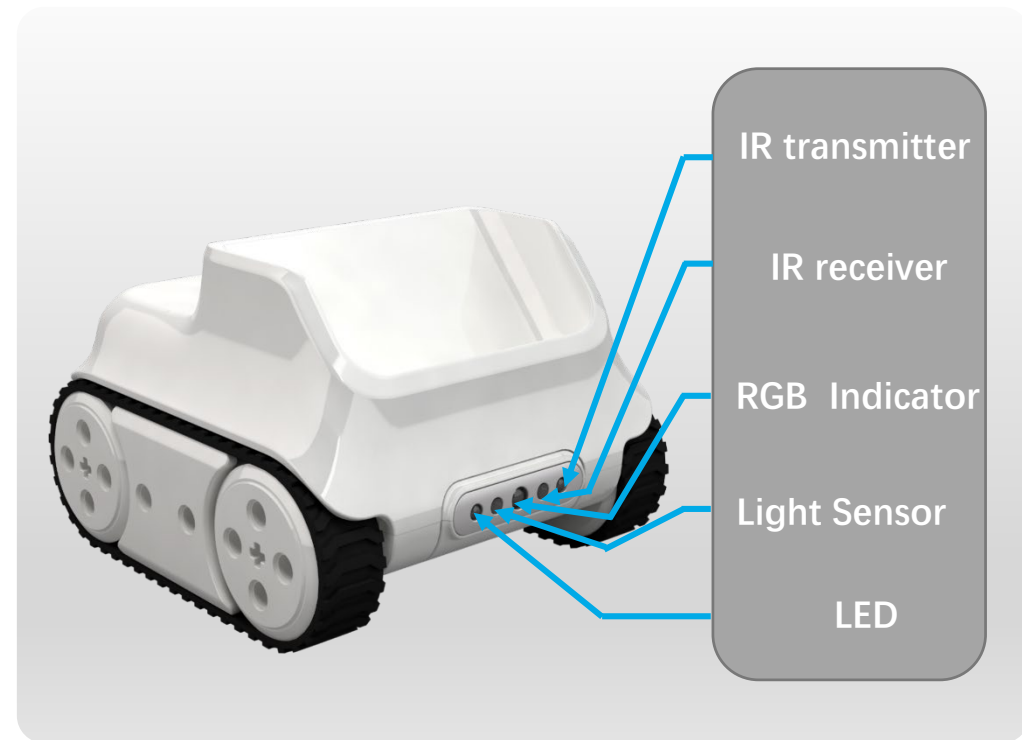
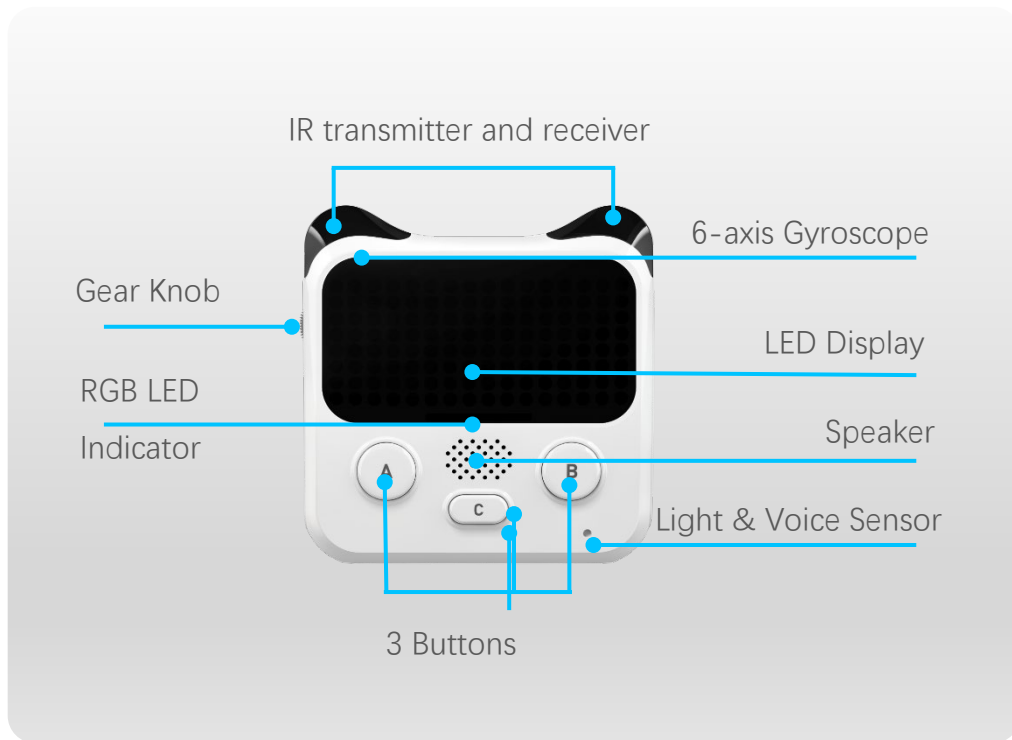


Codey Rocky

Codey Rocky is a capable teaching assistant in all teaching scenarios. It's easy to assemble, allowing students to focus on the more important thing: turning ideas into reality with code.

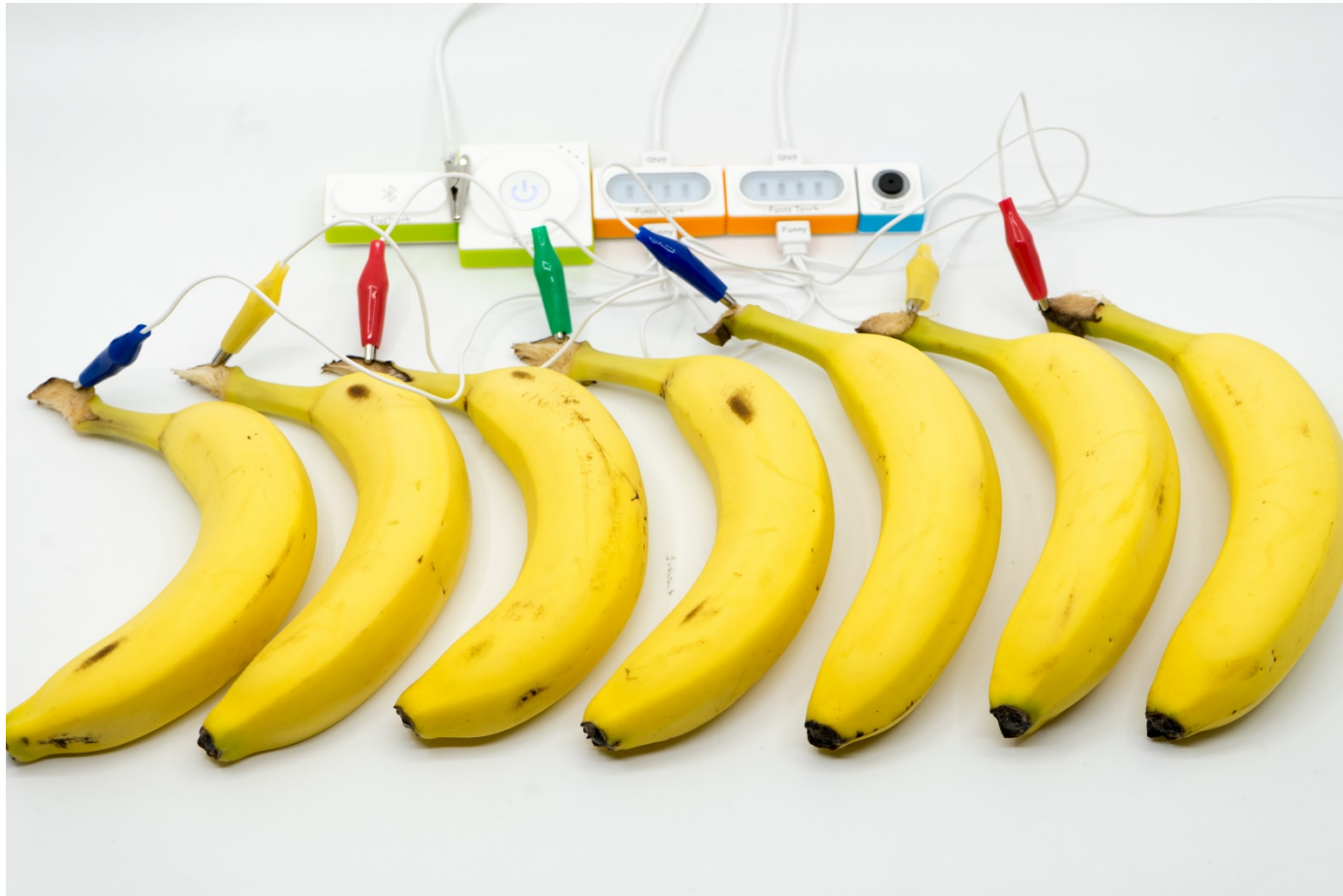
Make Programming Education Fun

Codey Rocky can sense vibration and changes in sound, light and color, which allows students to have first-hand experience of how sensors work. Instant interaction with Codey Rocky brings more fun and better experience to the programming learning process.



Spark More Ideas with Neuron

Use Neuron_Funny Touch, Neuron LED Strip and LED Strip Driver, Neuron Ultrasonic Sensor, To inspire kids to design and create.



Switch to Python with One Click

Support block-based and python programming · Meet the needs of kids at different grades · Python texts change in sync with coding blocks



Switch to Python with One Click



Code Autofill



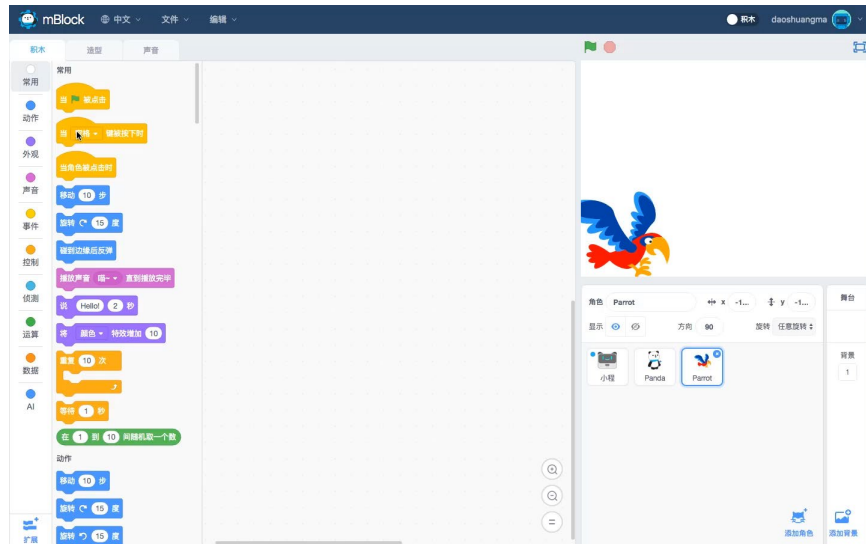
Python texts change in sync with
coding blocks



[△ Click to Play Video](#)

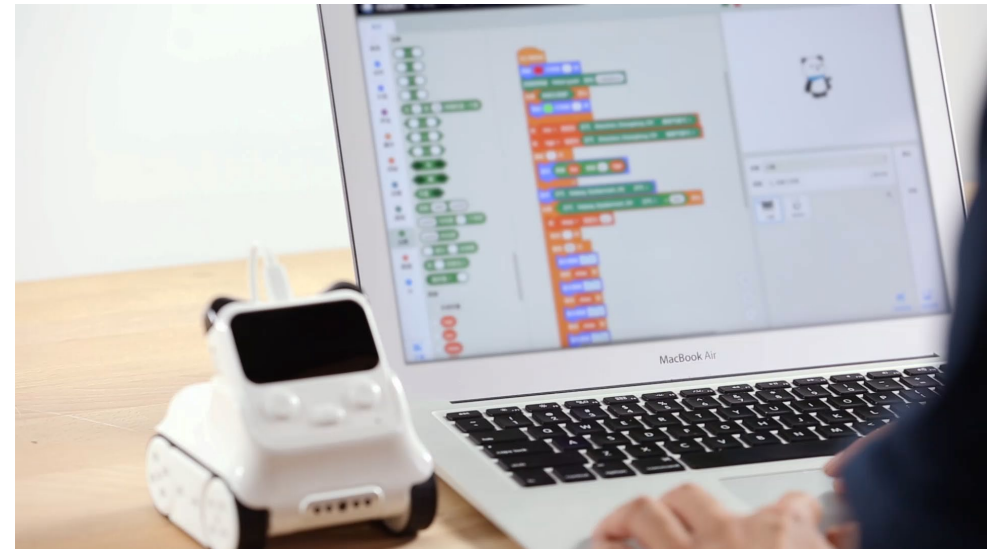
Easy to Learn and Apply AI and IoT

▽ Use the AI feature of mBlock 5 to realize age recognition



mBlock supports image, speech and word recognition and other AI features. Children can interact with robots through games and hands-on activities.

▽ Obtain real-time weather data via Wi-Fi and show the data on the LED display

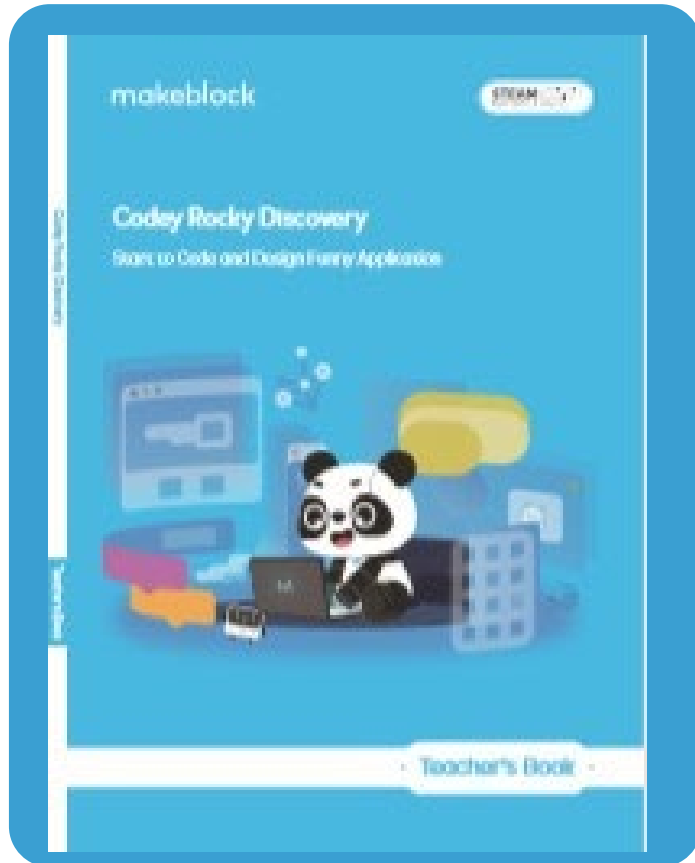


The built-in Wi-Fi module allows Codey Rocky to connect to the Internet so it can carry out weather data gathering and other applications of IoT.

Supporting Materials

A full set of student 's guide (34 sessions) , teacher' s guide and PPT. Don't worry even you launch a programming course for the first time.

Teacher' s book



Tutorial PPTs and sample programs



Course Evaluation Forms

The image shows two sample course evaluation forms. The first form is titled 'Project Assessment' and includes fields for 'Name : _____' and 'Age : _____', followed by a blue button that says 'Answer questions and record your achievements'. The second form is titled 'Reflective Report' and also includes fields for 'Name : _____' and 'Age : _____', followed by a blue button that says 'Answer questions and record your achievements'. Below the button are three text boxes with prompts: 'Describe the new knowledge you have learned in this course', 'Describe the favorite part and the least favorite part', and 'Write a "Conditional" in your life'.

Course and Supports

Course Features

Combining Software and Hardware



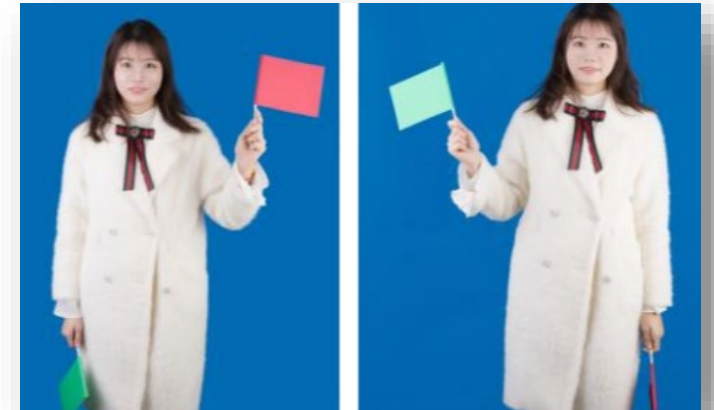
A Combination of software and hardware is adopted to stimulate children's confidence in creating and interest in programming.

Pair Programming



Pair programming is a software developing process where two programmers work together. One is responsible for running the program and the other observing how it works. It's proved that pair programming helps students learn from and cooperate with each other.

Unplugged Coding



Unplugged coding activities allow students to learn programming through games. Unplugged coding is a learning activity at which cards and color pens or other materials are used to introduce programming and computational thinking. Even without a computer, teachers can still teach the basics of computer science with the help of unplugged coding activities.

Course Features

Wrap-up

Conclude what has been learned

New concepts/Review

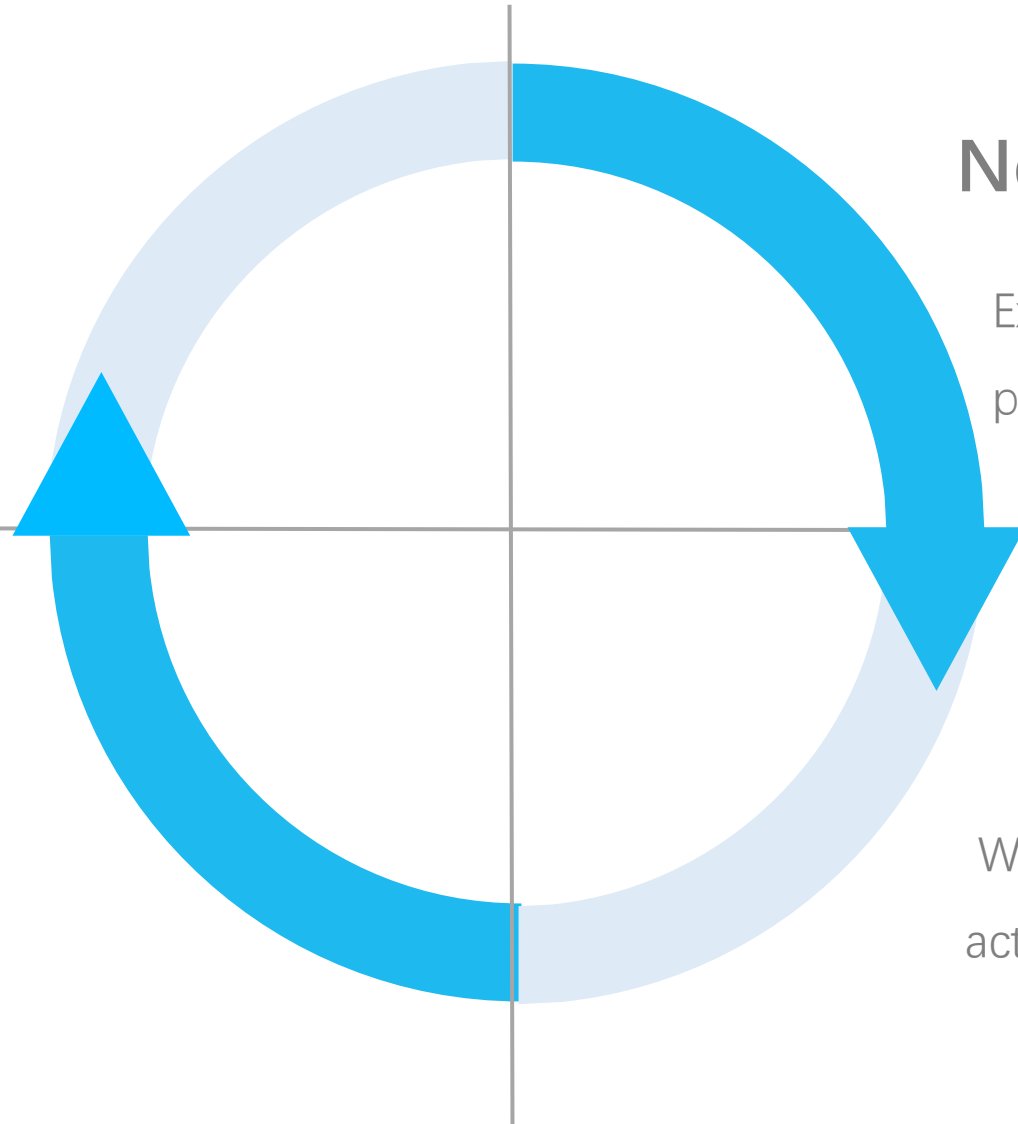
Explain new concepts and review prior knowledge

Tasks & Games

Adopt scaffolding strategies

Lead-in Games

Warm up with unplugged coding activities



Supports

**1**

Makeblock Education Website

Courses about mBlock and Codey Rocky are freely available on Makeblock Education website. You can also download the materials.

2

Video Lectures

Skilled teachers are invited to deliver video lectures, which provides a platform where people can exchange insights. The lectures can be used as basic coding courses for kids.

Appendix

Parts List · Courses & Tutorials · Specifications

Part List

SKU	P1030052
Name	Codey Rocky & Neuron Education Kit



1x Codey	1x Rocky	1x USB Cable_100cm	36x Friction Pin Connector
8 x Color Card	1 x Name Sticker(6 pieces)	1x Lanyards	1x Neuron_Funny Touch Block
1x Neuron_Funny Switch	1xGND Wire	1x Neuron_ULtrasonic Sensor	1 x Neuron_LED Strip Driver
1 x Neuron_LED Strip	1x Neuron_Magnet Wire (20cm)	3x Gel Pad	3 x Neuron Board
1 x User Manual (EN)	1 x Students' Guide(EN)	1 x Safey Guide (EN)	1 x Parts List(EN)

Codey Rocky & Neuron Discovery Course Outline

Unit	Lesson	Topic	Session	Learning Objectives
Unit 1 Event & Sequencing	L 1	The Secret of Codey Rocky	40 mins	Understand the concept and function of Programming Learn to use Codey Rocky and mBlock
	L 2	Press Buttons to Change Emotions	40 mins	Understand the concept of Event Design buttons for different facial expression with Event Blocks
	L 3	To Be an Animation Designer	40 mins	Understand the concept of Sequencing Make an animation with programming with Sequencing Blocks
	L 4	Identify the Bug	40 mins	Understand the concept of Bug and Debug Find out bugs and fix them
Unit 2 Loop	L 5	The Steamed Bread Can't Jump	40 mins	Understand the concept of Counting Loop Make a fun animation with Counting Loop Blocks
	L 6	The Jumping Steamed Bread	40 mins	Understand the concept of Infinite Loop Make a creative animation with Infinite Loop Blocks
Unit 3 Conditionals	L 7	The Racing Game I	40 mins	Understand the concept of Conditionals Use Conditional Blocks to help Codey Rocky recognize color and detect obstacles
	L 8	The Racing Game II	40 mins	Use multiple Conditional Blocks or a combination of nested Counting Loop, Conditional and Operators Block to accomplish missions
	L 9	Volume Bar	40 mins	Use nested Infinite Loop Blocks and Conditional Blocks to accomplish missions
Unit 4 Function	L 10	Good Morning! Functions	40 mins	Understand the concept of Function Make an original project by creating Function Blocks
	L 11	The Tiny Patroller I	40 mins	Design a game containing different missions for Codey Rocky Apply mathematic skills to completing missions
	L 12	The Tiny Patroller II	40 mins	Further study in Function Use complex Function programming and mathematic skills to accomplish complicated missions

Codey Rocky & Neuron Discovery Course Outline

Unit	Lesson	Topic	Session	Learning Objectives
Unit 5 Variable	L 13	The Squirrel's Nuts Box	40 mins	Understand the concept of Variable Control Codey Rocky with Variable Blocks
	L 14	Mathematical Operations	40 mins	Further study in Variable Use Variable Blocks to carry out comparison operation
	L 15	The Bomb!	40 mins	Continue study in Variable Accomplish programming tasks by using Variable and Random
	L 16	Rock-Paper-Scissors	40 mins	Accomplish programming tasks by using Variable and Conditional Blocks
Unit 6 Inputs	L 17	Find the Blue Dot	40 mins	Learn about physical buttons and their applications in everyday life; Use the LED display to create simple projects.
	L 18	Lucky Wheel	40 mins	Learn about LED displays and their applications; Understand how LED displays work. Complete tasks by using physical buttons and LED displays.
	L 19	Bomb Disposal Expert	40 mins	Learn about touch switches and their applications; Understand what a touch switch is used for and complete tasks.
	L 20	Multifunction Switch	40 mins	Have a further understanding of the applications of Touch Switches; Use the Touch Switch to complete game tasks.
Unit 7 Magical Sensors	L 21	Codey Rocky Can Do Addition	40 mins	Get to know IR sensors and their applications in everyday life; Understand what IR sensors are used for and complete tasks;
	L 22	Jump! Codey!	40 mins	Get to know IR sensors and their applications; Use the IR sensor to interact with the stage.
	L 23	RC Car	40 mins	Get to know IR transmitters and receivers and their applications in everyday life; Use the IR transmitters and receivers of Codey Rocky to complete coding tasks.

Codey Rocky & Neuron Discovery Course Outline

Unit	Lesson	Topic	Session	Learning Objectives
Unit 7 Magical Sensors	L 24	When Codey Meets Codey	40 mins	Gain a further understanding of how to apply IR transmitters and receivers; Use the IR transmitters and receivers to create stories and animations.
	L 25	Volume Control	40 mins	Get to know gear knobs and their applications in everyday life; Complete coding tasks by using the gear knob.
	L 26	Number Guessing	40 mins	Know the location of Codey Rocky's gear knob and how to use related blocks; Complete tasks by using the gear knob; Complete enrichment tasks
	L 27	I'm a Good Guesser	40 mins	Learn about color sensors and their applications in everyday life; Use the color sensor to complete coding tasks.
	L 28	Stoplight	40 mins	Learn about where the color sensor is located and how to program the sensor; Create stories, games or animations using the color sensor.
	L 29	Sensing Motions	40 mins	Learn about gyroscopes and what they are used for; Use the gyroscope to complete simple coding projects.
	L 30	Jumping Game 2.0	40 mins	Gain a further understanding of the applications of gyroscopes; Use the gyroscope to create coding games.
	L 31	The Greeter Codey	40 mins	Learn about ultrasonic sensors and what they are used for in our everyday life; Understand how ultrasonic sensors work and complete tasks.
	L 32	Who has the fastest hand?	40 mins	Learn about ultrasonic sensors and their applications; Complete tasks using the ultrasonic sensor.

Codey Rocky & Neuron Discovery Course Outline

Unit	Lesson	Topic	Session	Learning Objectives
Unit 7 Magical Sensors	L 33	Speedy Colors	40 mins	Learn about the LED strip and its applications in everyday life; Understand how the LED strip works and complete tasks.
	L 34	Glowing Light - Jump Up	40 mins	Use the LED strip to interact with the stage; Use imagination and the LED strip to complete tasks.

Specification

Infrared receiver and transmitter

6-axis gyroscope

Color and IR distance sensor

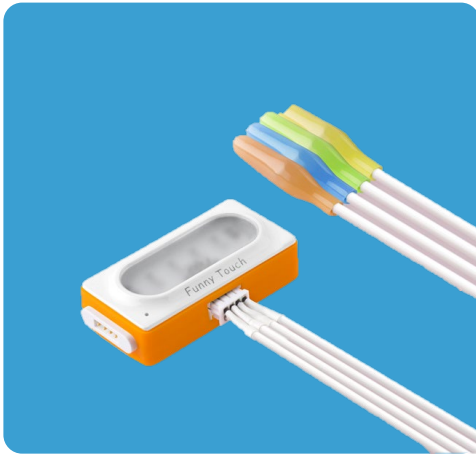


LED Display

Voice and light sensor

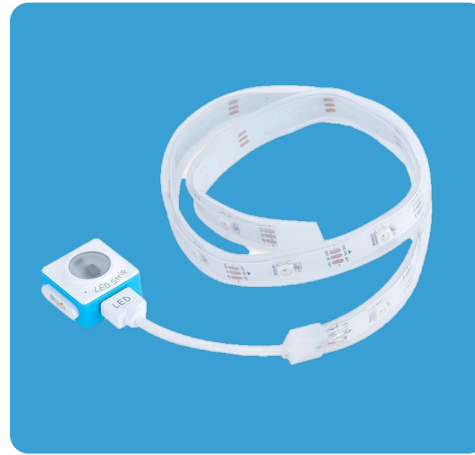
Product Name	Codey Rocky
Chip	ESP32
Transfer Method	Wi-Fi / Bluetooth / USB
Control Platform	MacOS/Windows/iOS/Android
Battery	950mAh Li Battery (charging time: 2hrs approx.)
Charging Time	2hrs approx.
Coding Languages	Scratch 3.0, Python

Accessories Specifications



Neuron_Funny Touch

Resistance Range: $< 24M\Omega$
Length of Clips: 35mm
Operating Voltage : DC 5V
Drop Test: It can withstand a drop from a maximum height of 1.5m.
Operating Temperature: $-10^{\circ} \sim 55^{\circ}C$
Relative Humidity: $< 95\%$



Neuron_LED Strip and LED Strip Driver

Length of Cable: 500mm
Amount of RGB LEDs: 15
Operating Voltage : DC 5V
Drop Test: It can withstand a drop from a maximum height of 1.5m.
Operating Temperature : $-10^{\circ} \sim 55^{\circ}C$
Relative Humidity : $< 95\%$



Neuron_Ultrasonic Sensor

Sensing Range: 3~300cm
Accuracy: $\pm 5\%$
Operating Voltage: DC 5V
Drop Test: It can withstand a drop from a maximum height of 1.5m.
Operating Temperature: $-10^{\circ} \sim 55^{\circ}C$
Relative Humidity: $< 95\%$