

makeblock

# Codey Rocky Education Pack - 6 Robots



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The pack is an ideal solution to large-class lectures on robot programming.

One kit contains six sets of Codey Rocky, allowing up to 12 students to learn coding at the same time. Powerful features of Codey Rocky allow students to learn scratch, Python AI and IoT. A full set of student's guides, teacher's guides, and PPTs make it easier for teachers to prepare for and deliver lessons. What's more, the Gratnells storage boxes and charging accessories included in the kit can further facilitate teaching.

With the help of our kit, teachers can develop courses on programming, and organize robotics or programming competitions.

# Suitable For



## Target Users

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



## Buying Advice

- ✓ Suitable for large-class
- ✓ 7-8 kits for a 40-student class



## Learning Content

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

# The kit can be used to:



Ideal associates for teachers that help with the IT, programming and maker education. Great assistants for robotic competitions and creative contests.



Programming learning partners for students: want to control a robot, design an interactive project or create a maker project? NO PROBLEM! Pair programming helps develop students' teamwork skills



Support block-based mBlock and Python  
Expose students AI application and machine learning.

# 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](#).

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## 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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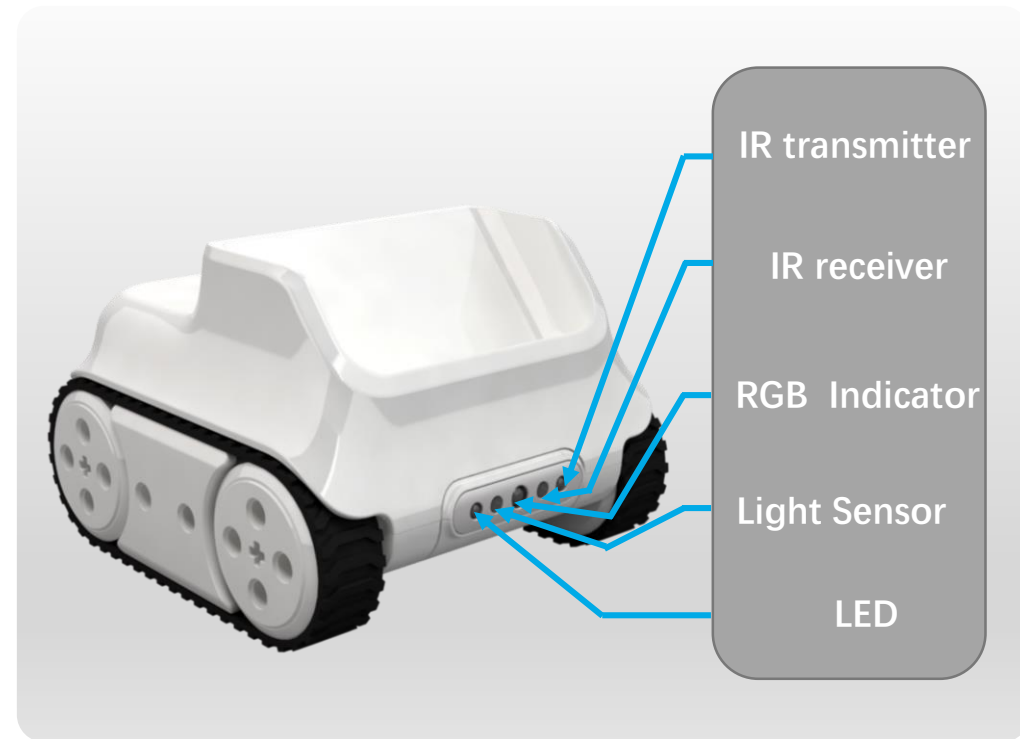
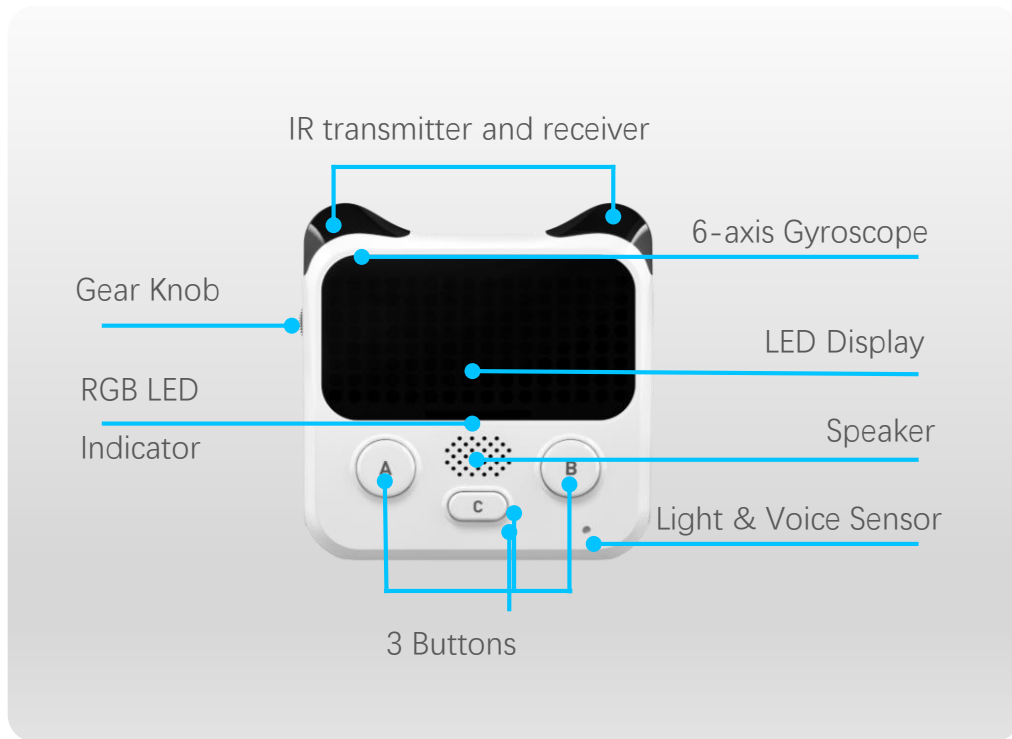


## Codey Rocky

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.



# 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



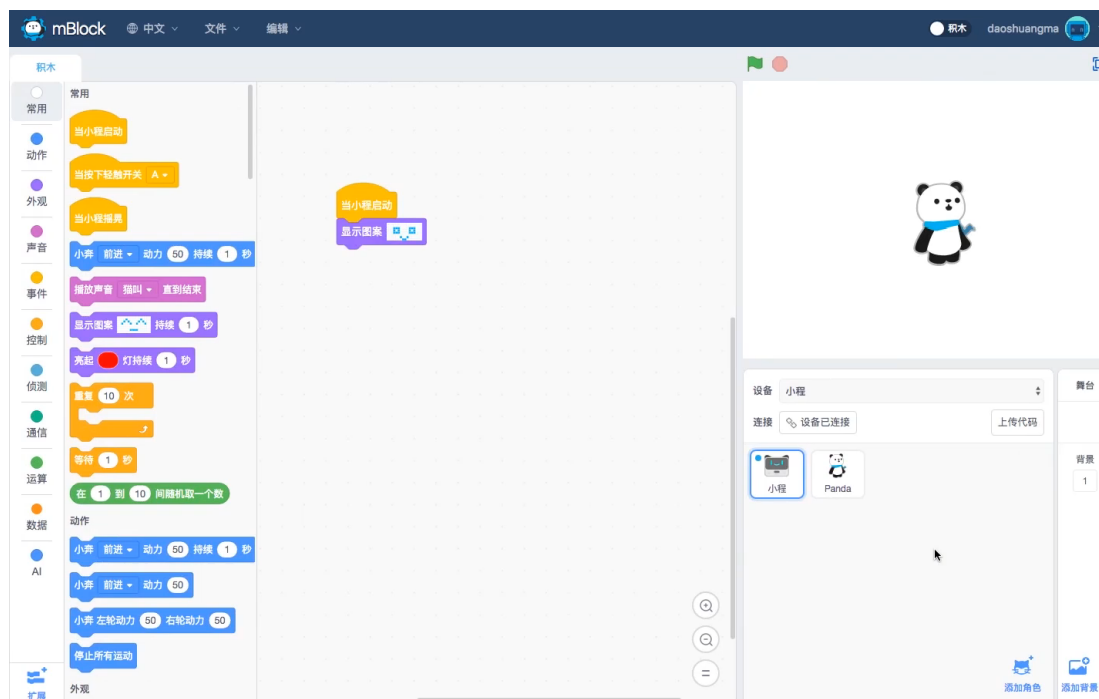
Switch to Python with One Click



Code Autofill



Python texts change in sync with coding blocks

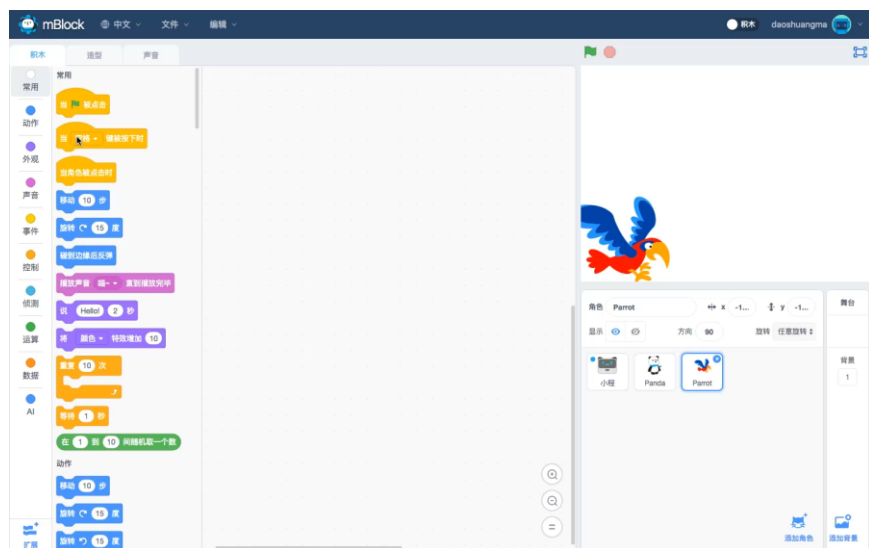


[△ Click to Play Video](#)



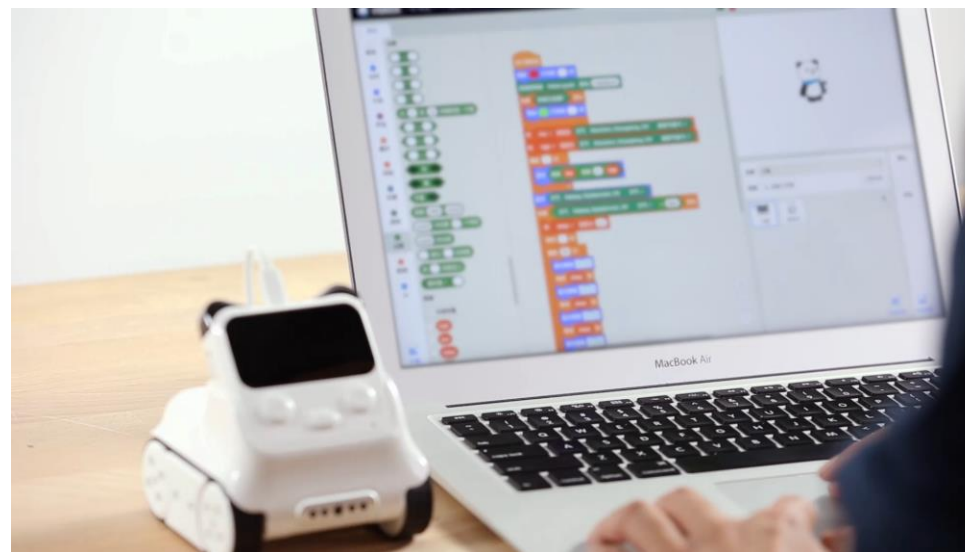
# Easy to Learn and Apply AI and IoT

▽ 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

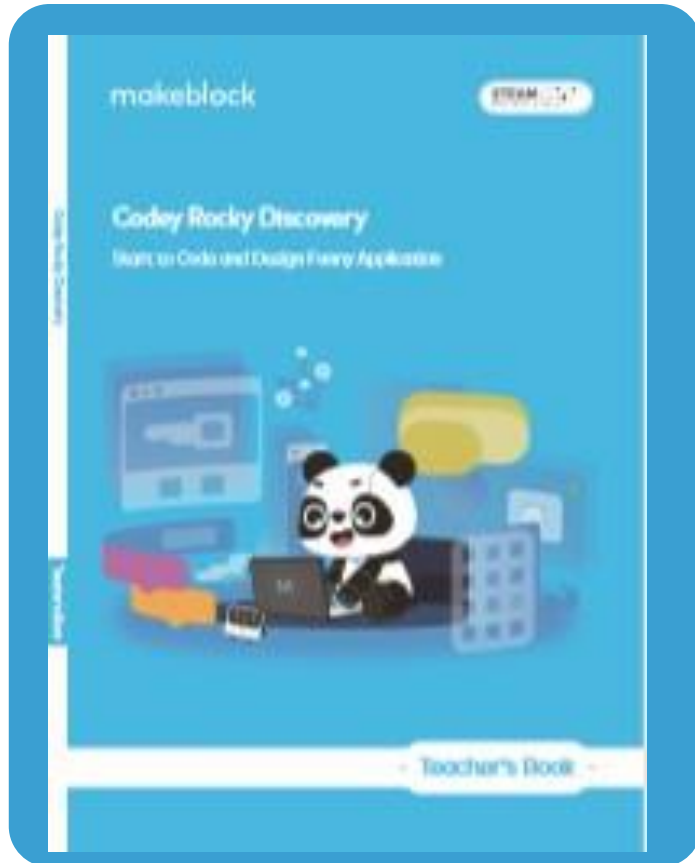


The built-in Wi-Fi module allows Codey Rocky to connect to the Internet so it can carry out weather data gathering and other applications of IoT.

# Supporting Materials

A full set of student's guide (24 sessions) , teacher's guide and PPT. Don't worry even you launch a programming course for the first time.

## Student's book



## Tutorial PPTs and sample programs



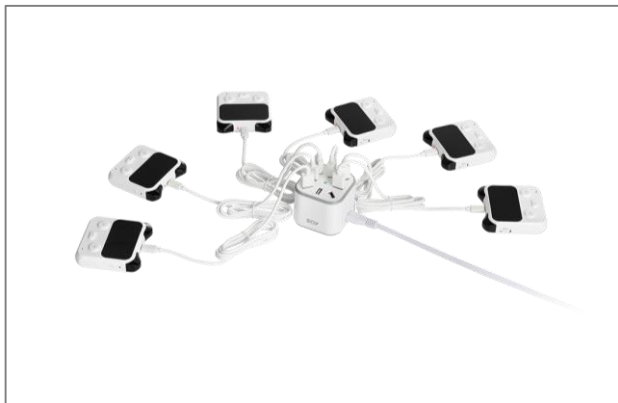
## Course Evaluation Forms

The image shows two evaluation forms. The first is a "Project Assessment" form with fields for "Name:" and "Age:", a radio button for "Answer questions and record your achievements", and a blue bar for the answer. The second is a "Reflective Report" form with fields for "Name:" and "Age:", a radio button for "Answer questions and record your achievements", and three text boxes for "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".

# Convenient for teaching

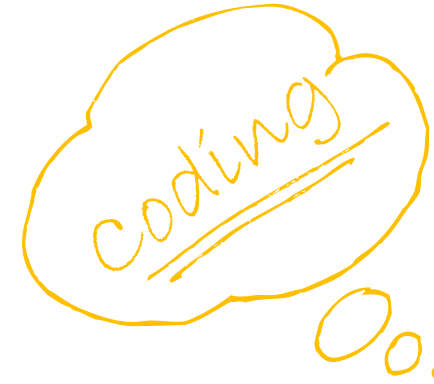
## Store and Check

Use Gratnells storage boxes to facilitate checking, collecting and storing.



## Charging accessories

8 devices can be charged at the same time and can be fully charged within a class break.



# 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

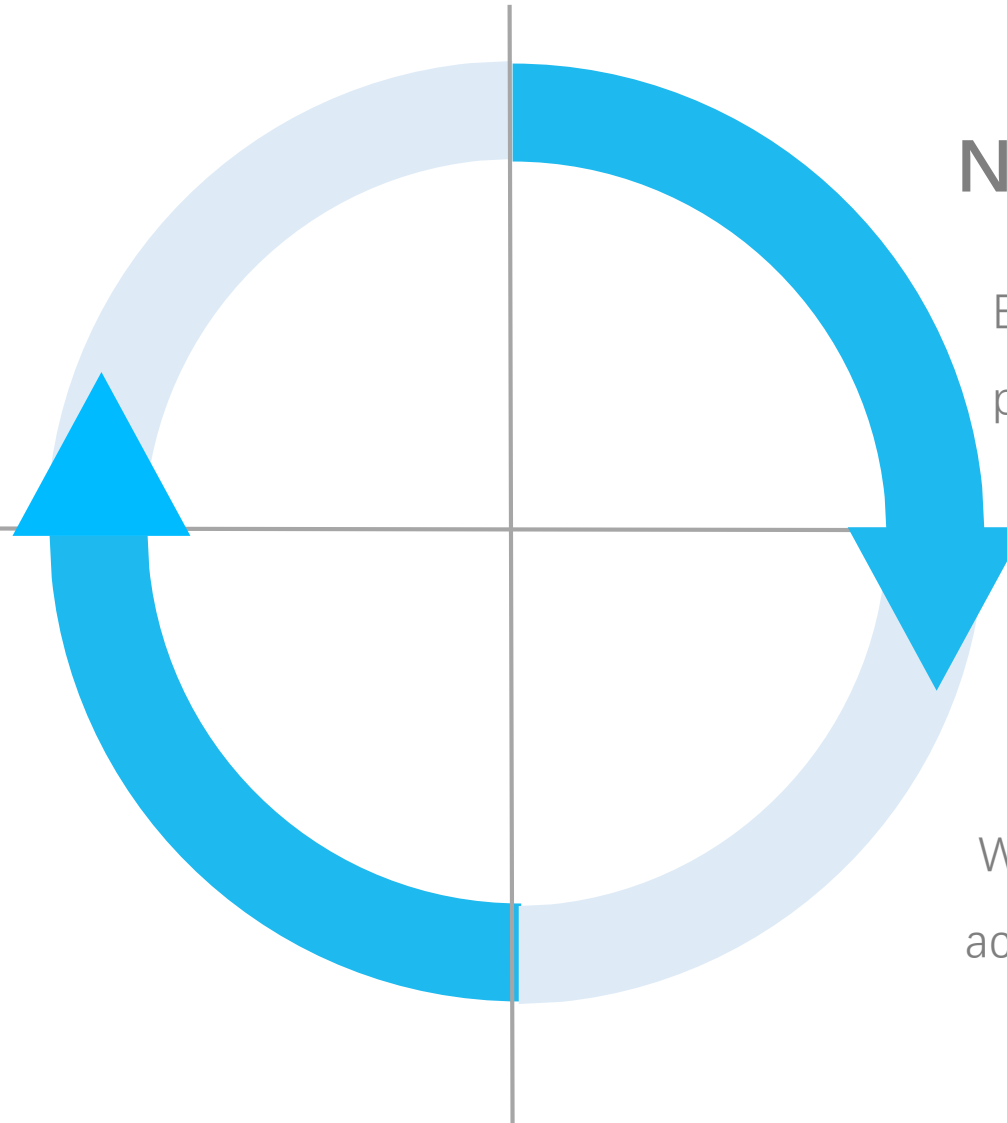
Explain new concepts and review prior knowledge

## Tasks & Games

Adopt scaffolding strategies

## Lead-in Games

Warm up with unplugged coding activities



# Supports

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**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



# Parts List

|      |                                       |
|------|---------------------------------------|
| SKU  | P1030046                              |
| Name | Codey Rocky Education Pack - 6 Robots |



|                                    |                           |                              |                                |
|------------------------------------|---------------------------|------------------------------|--------------------------------|
| 6 x Codey                          | 6 x Rocky                 | 6 x Lanyards                 | 6 x Micro USB data cable_100cm |
| 6 x Quick Start Guide_En           | 1 x Safety Guide_En       | 48 x Codey Rocky Colour Card | 1 x 8-port USB charger         |
| 1 x Power Cord                     | 1 x Gratnells Storage Box | 1 x Pearl-cotton box liner   | 2 x Name Sticker               |
| 1 x Teacher's Guide (Pack of 6)_En |                           |                              |                                |

# Codey Rocky Discovery Course Outline

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

# Codey Rocky Discovery Course Outline

| Unit                      | Lesson | Topic                           | Session  | Learning Objectives   |
|---------------------------|--------|---------------------------------|----------|---|
| Unit 5<br>Variable        | L 13   | The Squirrel's Nuts Box         | 40 mins  | Understand the concept of Variable<br>Control Codey Rocky with Variable Blocks  |
|                           | L 14   | Mathematical Operations         | 40 mins  | Further study in Variable<br>Use Variable Blocks to carry out comparison operation  |
|                           | L 15   | The Bomb!                       | 40 mins  | Continue study in Variable<br>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<br>Game Design     | L 17   | Speedway                        | 120 mins | Know how to design scenes and characters, set stage background and dynamic effects  |
|                           | L 18   | My First Game Design Experience | 90 mins  | Familiarize with game design procedures<br>Design a simple game   |
|                           | L 19   | Game Rules I                    | 90 mins  | Learn about game mechanism<br>Improve a game by introducing rules   |
|                           | L 20   | Game Rules II                   | 90 mins  | Develop skills of designing game mechanism by introducing moving obstacles  |
|                           | L 21   | Fast & Furious                  | 90 mins  | Further develop skills in designing game mechanism<br>Understand the concept of Game Outcome and introduce a finish line to the racing game   |
| Unit 7<br>Robotics course | L 22   | Bend competition                | 90 mins  | Consolidate the basic knowledge of the robot, design maps by yourself, and control Codey Rocky to follow maps.  |
|                           | L 23   | Object Avoidance                | 45 mins  | Understand the application of autonomous driving technology, understand the infrared sensor and obstacle avoidance principle, and use the obstacle avoidance function to complete the task. |
|                           | L 24   | Line Following                  | 45 mins  | Understand the application of line following, reflection intensity of different gradations and the principle of the patrol of the Codey Rocky. Then complete the patrol task.               |

# Specification

Infrared receiver and transmitter

6-axis gyroscope

color and IR distance sensor



LED Display

Voice and light sensor

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