Realizing your creative idea has never been so simple.
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### STEAM Education

9-level Spiral Education System

Referring to Mr. Bruner’s classic spiral curriculum design concept, the resources relating to domestic policies and new curriculum standards in the past two years, Weemake Co., Ltd. has, comprehensively, studied the development trend of the mostly recommended STEAM education in China and, finally designed, in two years, the 9-level Spiral Education System.

Aiming at providing the education solutions integrated with four elements (machinery, electronics, software, and content), the company is committed to providing the innovative educational resource which is of the highest quality and effectiveness for the majority of teachers and students.

Overview of WEEMAKE STEAM 9-level Spiral Education System

For the development of learners’ ability, it is focused on the development of individualized innovation and the awareness of social cooperation. For the learning, it is focused on the training of abstract logical thinking through comprehensive scenario application, with the goal of consolidating reverse reasoning, flexible use of knowledge, and obtaining the logic of thinking.

Highlighting the improvement of inquiry learning ability, with division and collaboration of logic learning in a modular project-based course, the main form, with the outcome in the form of the development of innovative maker projects (achieved mainly by programming, and presenting individual ideas with the help of tools, software, etc.)
In order to let the peer educators understand the characteristics of each kit more intuitively, we will explain the contents of the kit in four dimensions (knowledge level, hardware assembly difficulty, logic programming difficulty, application complexity). (Note: All four dimensions used in designing the curriculum are relative reference values.)
WeeeBot mini

It is an entry-level STEAM programming education product developed by WEEEMAKE. It is slightly biased towards the consumer level, with learning programming as the mainstay, supplemented by assembling practice. It combines the knowledge in science, technology, engineering, art, mathematics, and is supported by eight (8) idea cards and ten (10) tutorial. It is applicable to STEAM entry-level, and will guide its users to learn programming & multidisciplinary knowledge, to make creative design, as well as training of programming mindsets.

Product Features

- Get started easily
  - Start to use without assembly

- Rich Expand-ability
  - Multiple expandable cases, with four-legged crawling, crawler, electronic expansion packs

- Simulation of Car
  - Car and lighting simulation

Graphical programming
- Master the language that can communicate with the robot
- 8 preset gameplay
- Stimulate imagination

Case study and courses
- 8 idea cards to help you get started, supporting courses to help you get through

Specifications

<table>
<thead>
<tr>
<th>Main-board</th>
<th>ELF mini V1.0</th>
<th>User</th>
<th>6 +</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chip</td>
<td>ATmega328P</td>
<td>Guide card(s) and the course</td>
<td>8x idea cards +10x lessons</td>
</tr>
<tr>
<td>On-board sensor and electronic module</td>
<td>Light sensor</td>
<td>RGB IR obstacle avoidance sensor V1.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sound sensor</td>
<td>One-way line-following sensor V1.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>IR receiver</td>
<td>5&quot;x14 LED matrix module V1.0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Motor</td>
<td>Motor x 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>LED taillight x 4 (Red x2, Yellow x 2)</td>
<td>Working voltage</td>
<td>6V - 10V</td>
</tr>
<tr>
<td></td>
<td>Touch power switch</td>
<td>Power supply</td>
<td>AA battery x 6</td>
</tr>
<tr>
<td></td>
<td>RJ11 port x 4</td>
<td>Dimension</td>
<td>155 x 120 x 94 mm</td>
</tr>
<tr>
<td>Communications</td>
<td>Micro USB, Bluetooth 4.1, IR</td>
<td>Net weight</td>
<td>986g</td>
</tr>
<tr>
<td>Control</td>
<td>Online programming, offline programming (client)</td>
<td>Program software</td>
<td>Graphical programming: WeeeCode (based on Scratch 2.0 &amp; 3.0), Text programming language: Arduino C</td>
</tr>
</tbody>
</table>
WeeeBot mini Education Version

It is an educational version upgraded on the basis of the entry-level STEAM robot WeeeBot mini. The products are mainly focused on learning programming, supplemented by assembling practice. It combines the knowledge in science, technology, engineering, art, mathematics, and is supported by eight (8) idea cards and sixteen (16) tutorial. It is applicable to STEAM entry-level, and will guide its users to learn programming & multidisciplinary knowledge, to make creative design, as well as training of programming mindsets.

Product Features

- **Get started easily**
  - Start to use without assembly

- **Rich Expand-ability**
  - Multiple expandable cases, with four-legged crawling, crawler, electronic expansion packs

- **Simulation of Car**
  - Car and lighting simulation

- **Graphical programming**
  - Master the language that can communicate with the robot

- **8 preset gameplays**
  - Stimulate imagination

- **Case study and courses**
  - 8 idea cards to help you get started, supporting courses to help you get through

Specifications

<table>
<thead>
<tr>
<th>Main-board</th>
<th>ELF mini V2.0</th>
<th>User</th>
<th>6 +</th>
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<tbody>
<tr>
<td>Chip</td>
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<td>Guide cards(s) and the course</td>
<td>8x idea cards +16x lessons</td>
</tr>
<tr>
<td>On-board sensor and electronic module</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light sensor</td>
<td>RJ11 Sensor and electronic module</td>
<td>RGB ultrasonic sensor V2.0</td>
<td></td>
</tr>
<tr>
<td>Sound sensor</td>
<td>RJ11 Sensor and electronic module</td>
<td>Double-way line-following sensor V2.0</td>
<td></td>
</tr>
<tr>
<td>IR receiver</td>
<td>LED x 4</td>
<td>Working voltage</td>
<td>3V - 6V</td>
</tr>
<tr>
<td>Buzzer</td>
<td>Motor</td>
<td>Power supply</td>
<td>Lithium rechargeable battery included</td>
</tr>
<tr>
<td>Touch power switch</td>
<td>TT motor x 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension port</td>
<td>RJ11 port x 4</td>
<td>Dimension</td>
<td>155 x 120 x 94 mm</td>
</tr>
<tr>
<td>Communications</td>
<td>Micro USB, Bluetooth 4.1, IR</td>
<td>Net weight</td>
<td>940g</td>
</tr>
<tr>
<td>Control</td>
<td>Online programming, offline programming (client)</td>
<td>Program software</td>
<td>Graphical programming: WeeeCode (based on Scratch 2.0 &amp; 3.0) Online programming: Code game Text programming language: Arduino C</td>
</tr>
</tbody>
</table>
The electronic LEGO programming learning kit is a smart maker kit, of which, the classic LEGO structure and WEEEMAKE intelligent electronic module serving as the carrier, and combining a simple drag-and-drop programming software platform.

Each electronic module is equipped with a standard LEGO base, which is perfectly compatible with small bricks and hole beam parts in LEGO bricks; with children’s creative assembly of the intelligent hardware, many interesting works can be created.

Specifications

<table>
<thead>
<tr>
<th>Main-board</th>
<th>ELF mini V2.1</th>
<th>Chip</th>
<th>ATmega328P</th>
</tr>
</thead>
<tbody>
<tr>
<td>User</td>
<td>Grade 1-4</td>
<td>Course</td>
<td>32x lessons (45 mins/lesson)</td>
</tr>
<tr>
<td>On-board sensor and electronic module</td>
<td>Light sensor</td>
<td>Sound sensor</td>
<td>IR receiver</td>
</tr>
<tr>
<td></td>
<td>Buzzer</td>
<td>LED taillight x 4 (Red x2, Yellow x2)</td>
<td>Touch power switch</td>
</tr>
<tr>
<td>R22 sensor and electronic module</td>
<td>R22 sensor and electronic module</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension port</td>
<td>RJ11 port x 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation voltage</td>
<td>3V - 6V</td>
<td></td>
<td>IR remote controller</td>
</tr>
<tr>
<td>Power supply</td>
<td>4 AA battery (battery pack, optional)</td>
<td>Communication</td>
<td>Micro USB, Bluetooth 4.1, IR</td>
</tr>
<tr>
<td>Control</td>
<td>Online programming, offline programming (client)</td>
<td>Programming software</td>
<td>Graphical programming: WeeeCode (based on Scratch 2.0 &amp; 3.0) Online programming: Code game Text programming language: Arduino C</td>
</tr>
</tbody>
</table>

Level 3: Work-ability 13% Interest 28% Learning 22% Expand-ability 22%

Note: the specifications are subject to change with development of electronic LEGO programming learning kit.
Home Inventor Kit

It simulates smart home scenarios through specific cases and guides students to learn mechanical, electronic, and software-related knowledge and improve students’ observation ability, hands-on ability and logical thinking ability.

Specifications

<table>
<thead>
<tr>
<th>Main-board</th>
<th>ELF mini V2.1</th>
<th>User</th>
<th>Grade 3-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chip</td>
<td>ATmega328P</td>
<td>Course</td>
<td>16x lessons (45 mins/lesson)</td>
</tr>
<tr>
<td>On-board sensor</td>
<td>Light sensor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and electronic</td>
<td>Sound sensor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>module</td>
<td>IR receiver</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Buzzer</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>LED tailight x 4 (Red x2, Yellow x 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Touch power switch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Extension port</td>
<td>RJ11 port x 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operation voltage</td>
<td>3V - 6V</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td>4 AA battery/battery pack, optional</td>
<td>Dimension</td>
<td>310 x250 x 59mm</td>
</tr>
<tr>
<td>Communication</td>
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<td>Net weight</td>
<td>950 g</td>
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<tr>
<td>Control</td>
<td>Online programming, offline programming (client)</td>
<td>Programming software</td>
<td>Graphical programming: WeeeCode (based on Scratch 2.0 &amp; 3.0) Online programming: Code game Text programming language: Arduino C</td>
</tr>
</tbody>
</table>
Starter Maker Space Kit

It is a teaching product based on STEAM education concept, which integrates mechanical, electronic, software and course. With the kit, at least 20 structures at different difficulty level can be constructed. Each structure is cleverly designed, simple and compact; the course is interdisciplinary, following the teaching theory of combining knowledge learning and hands-on practice, stimulating students’ scientific interests and exercising their scientific literacy.

**Product Features**

- **Practice how to assemble**
- **Rich in parts**
  - Majorly mechanical, with some electronic modules
- **Convenient storage**
  - Carefully designed storage pattern
- **Wonderful course**
  - 4 units, 24+ Hours (90-minute system), Step by step, full of fun

**Cultivate core skills**

- Spatial imagination
- Hands-on building skills
- Basic knowledge of mechanical structure
- Enhance connections with the physical and material world of life
- Observation and perception experience, hands-on habits
- Team collaboration, active sharing

**Applicable school age**

- Age 7—10 +
- Grade 1-4 in primary school
WeeeBot
3-in-1 STEM Robot Kit

Product Features

**Easy to build**
30 types, 80 parts, can be constructed in 9 steps

**Strong function**
Powerful main-board and motor with a variety of sensors

**Strong expand-ability**
Platform supplying abundant parts enabling free-style creation of various works

**Fast speed**
Specially designed for line-following competition, with a speed 2 times faster than that of similar products

**Easy to program**
WeeeCode software (based on Scratch 2.0 and Scratch 3.0) Easy to use

**Well-written course**
Exclusive 16-chapter course matching with the Teacher’s Manual

Specifications

<table>
<thead>
<tr>
<th>Main-board</th>
<th>ELF</th>
<th>User</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chip</td>
<td>ATmega328P</td>
<td>Supporting materials</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16-chapter Teacher’s Manual</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-board sensor and electronic module</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RGB LED</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buzzer</td>
<td>RJ11 sensor and electronic module</td>
<td></td>
</tr>
<tr>
<td>Light sensor</td>
<td>7*11 LED matrix panel module</td>
<td></td>
</tr>
<tr>
<td>Button</td>
<td>Motor</td>
<td></td>
</tr>
<tr>
<td>IR receiver</td>
<td>Operation voltage</td>
<td></td>
</tr>
<tr>
<td>Sound sensor</td>
<td>Power supply</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2x3.7V 18650 lithium battery</td>
<td></td>
</tr>
<tr>
<td>Extension port</td>
<td>4xRJ11 ports +10 motor ports +6 sensor ports + MCU port</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>USB-B cable, Bluetooth 4.1, infrared</td>
<td></td>
</tr>
<tr>
<td>Net weight</td>
<td>1608g</td>
<td></td>
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</tbody>
</table>

Control

<table>
<thead>
<tr>
<th>Online programming, offline programming (client)</th>
<th>Programming software</th>
</tr>
</thead>
</table>

**Level 5**

WeeeBot 3-in-1 STEM Robot Kit is a product designed by WEEEMAKE for STEAM Education and Maker’s Education. Multi-disciplinary knowledge such as science, technology, engineering, art, mathematics, supported by 16-chapter Teacher’s Manual exclusive for teachers’ reference during teaching, and enhancing students’ interest with classroom step-by-step cases. By programming WeeeBot, learning the programming and multidisciplinary knowledge, carry out the training on creative design and programming ideas for advanced teaching.
WeeeBot Jeep Classroom Kit is a product designed by WEEEMAKE for STEAM Education and Maker Education. Adapted to the actual situation in the classroom, this product is specially equipped with a plastic storage box for the convenience of learning programming and expansion assembly. It combines multidisciplinary knowledge in science, technology, engineering, art, mathematics, etc., with a 16-chapter Teacher’s Manual exclusive for teachers’ reference during teaching, and enhancing students' interests with classroom step-by-step cases. By programming WeeeBot Jeep, learning the programming and multidisciplinary knowledge, carry out the training on creative design and programming ideas, used for advanced teaching of the makers.

### Level 5

#### Work-ability ★★★★★

#### Interest ★★★★★

#### Learning ★★★★★

#### Expand-ability ★★★★★

#### Product Features

- **Easy to build**
  - 30 types, 80 parts, can be constructed in 9 steps

- **Fast speed**
  - Specially designed for line-following competition, with a speed 2 times faster than that of similar products

- **Strong function**
  - Powerful main-board and motor with a variety of sensors

- **Strong expand-ability**
  - Platform supplying abundant parts enabling free-style creation of various works

- **Easy to program**
  - WeeeCode software (based on Scratch 2.0 and Scartch 3.0) Easy to use

- **Well-written course**
  - Exclusive 16-chapter course matching with the Teacher’s Manual

#### Specifications

<table>
<thead>
<tr>
<th>Main-board</th>
<th>Chip</th>
<th>On-board sensor and electronic module</th>
<th>Communication</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>ELF</td>
<td>ATmega328P</td>
<td>RGB LED, Buzzer, Light sensor, Button, IR receiver, Sound sensor</td>
<td>Square port - USB, Bluetooth 4.1, infrared</td>
<td>Online programming, offline programming (client)</td>
</tr>
<tr>
<td>User</td>
<td>Supporting materials</td>
<td>RJ11 sensor and electronic module, 7*1&quot; LED matrix panel module</td>
<td>Net weight</td>
<td>Programming software</td>
</tr>
<tr>
<td></td>
<td>RGB ultrasonic sensor V1.0</td>
<td>Power supply 2x3.7V 18650 lithium battery</td>
<td>Dimension</td>
<td>Graphical programming: WeeCode (based on Scratch 2.0 &amp; 3.0), Text programming language: Arduino C</td>
</tr>
</tbody>
</table>

- **Percentage Distribution**
  - STEAM: Science, Technology, Engineering, Art, Mathematics
  - 13% Science, 30% Technology, 21% Engineering, 21% Art, 15% Mathematics
The 6-in-1 Weeebot Evolution Robot Kit is a versatile DIY advanced STEAM educational robot kit. It consists of 6 forms. It enables the children experiencing the charm of the robot during the assembly process, entertaining themselves by controlling the robot during the programming process, and exercising the hands-on ability and logical thinking ability in the meantime.

**Product Features**
- Cross platform support: Cell phone, IPAD, PC
- Easy to program: Compatible with graphic and Arduino programming software
- Versatile: 6 fun forms
- Strong expand-ability: Supported by mechanical, electronic and software platforms

**Specifications**

<table>
<thead>
<tr>
<th>Description</th>
<th>6-in-1 Weeebot Evolution Robot Kit</th>
<th>Pre-set forms</th>
<th>6</th>
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<tbody>
<tr>
<td>Main-board</td>
<td>ELF</td>
<td>User</td>
<td>10 +</td>
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<td>Motor</td>
<td>2x18rpm DC geared Motor</td>
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<tr>
<td></td>
<td>1x Light sensor</td>
<td>External electronic modules</td>
<td>RGB ultrasonic sensor V1.0</td>
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<tr>
<td></td>
<td>1x Sound sensor</td>
<td></td>
<td>Double-way line-following sensor V1.0</td>
</tr>
<tr>
<td></td>
<td>1x IR transmitter &amp; receiver</td>
<td>Variety and quantity of parts</td>
<td>Parts variety:55 + , parts quantity: 380+</td>
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<tr>
<td></td>
<td>1x Buzzer</td>
<td>Operation voltage</td>
<td>6-12V</td>
</tr>
<tr>
<td></td>
<td>1x On-board button</td>
<td>Power supply</td>
<td>18650 lithium battery x2</td>
</tr>
<tr>
<td></td>
<td>1x On-board RGB LED</td>
<td>Programming software</td>
<td>APP(graphic), PC(graphic + Arduino C)</td>
</tr>
<tr>
<td>Extension port</td>
<td>4xRJ11 port, 2x DC motor port; 4x Versatile motor port; 6x pin conversion port; 1xUSB B port; 1x Bluetooth 2.4G port</td>
<td>Dimension (LxWxH)</td>
<td>500x150x350(max.)</td>
</tr>
<tr>
<td>Communication</td>
<td>Micro USB, Bluetooth 4.1, IR</td>
<td>Net weight</td>
<td>1800g</td>
</tr>
</tbody>
</table>

**Level 6**
- Work-ability: 13%
- Interest: 30%
- Learning: 21%
- Expand-ability: 21%
- Practice how to assemble
- Collaboration and sharing habits formation
- Mechanical structure awareness
- Cross platform support
- Versatile
- Strong expand-ability

Science
Technology
Engineering
Art
Mathematics
12-in-1 Robotstorm STEAM Robot Kit

The 12-in-1 Robotstorm STEAM Robot Kit is a versatile DIY ultimate STEAM robot kit. It has more than 450 parts and contains 12+ cool pre-set forms. Whether you are a mechanical or an electronics engineer, a software engineer, a teacher a student, or a maker, this kit allows you to easily learn robot-related institutions, electronics and programming related knowledge, and even let you team up for robot competition.
The 12-in-1 Robotstorm STEAM Robot kit

- Pre-set forms 12

Main-board ELF User 12 +

- Chip
  - ATmega328P
  - Motor
    - 2x188rpm 25 Encoder DC Motor
    - 1x50rpm 25 DC geared Motor
    - 1x530rpm N30 DC geared Motor

- On-board sensor and electronic module
  - 1x Light sensor
  - 1x Sound sensor
  - 1x IR sending & receiving sensor
  - 1x Bluzzr
  - 1x On-board button
  - 1x On-board RGB LED
  - 1x RGB ultrasonic sensor V1.0
  - 1x Double-way line-following sensor V2.0
  - 1x Gyroscope sensor
  - 1x limit switch module
  - 1x IR remote controller
  - 1x Bluetooth Dongle module

- Parts variety: 90+ parts
- Quantity: 450+

- Operation voltage: 6-12V
- Power supply: 18650 lithium battery x2

- Extension port
  - 4x RJ11 port, 2x DC motor port, 4x Versatile motor port, 6x pin conversion port, 1x USB B port, 1x Bluetooth 2.4G port

- Dimension (LxWxH): 368x346x700mm (max.)

- Communication
  - Micro USB, Bluetooth 4.1, IR

- Net weight: Approx. 3500g

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>The 12-in-1 Robotstorm STEAM Robot kit</th>
</tr>
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<tbody>
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<td>Pre-set forms</td>
<td>12</td>
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</table>

<table>
<thead>
<tr>
<th>Main-board</th>
<th>ELF User 12 +</th>
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<table>
<thead>
<tr>
<th>Chip</th>
<th>Motor</th>
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<tbody>
<tr>
<td>ATmega328P</td>
<td>2x188rpm 25 Encoder DC Motor</td>
</tr>
<tr>
<td></td>
<td>1x50rpm 25 DC geared Motor</td>
</tr>
<tr>
<td></td>
<td>1x530rpm N30 DC geared Motor</td>
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</table>

<table>
<thead>
<tr>
<th>On-board sensor and electronic module</th>
<th>Expandable sensor and electronic module</th>
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<tbody>
<tr>
<td>1x Light sensor</td>
<td>1x RGB ultrasonic sensor V1.0</td>
</tr>
<tr>
<td>1x Sound sensor</td>
<td>1x Double-way line-following sensor V2.0</td>
</tr>
<tr>
<td>1x IR sending &amp; receiving sensor</td>
<td>1x Gyroscope sensor</td>
</tr>
<tr>
<td>1x Bluzzr</td>
<td>1x limit switch module</td>
</tr>
<tr>
<td>1x On-board button</td>
<td>1x IR remote controller</td>
</tr>
<tr>
<td>1x On-board RGB LED</td>
<td>1x Bluetooth Dongle module</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parts variety</th>
<th>90+ parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>450+</td>
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</table>

<table>
<thead>
<tr>
<th>Extension port</th>
<th>Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>4x RJ11 port, 2x DC motor port, 4x Versatile motor port, 6x pin conversion port, 1x USB B port, 1x Bluetooth 2.4G port</td>
<td>Micro USB, Bluetooth 4.1, IR</td>
</tr>
</tbody>
</table>

Product Features

- Practice how to assemble
- Collaboration and sharing habits
- Mechanical structure awareness
- Easy to program
  - Compatible with graphic and Arduino programming software
- Versatile
  - 6 fun forms
- Cross platform support
  - Cell phone, iPad, PC
- Strong expand-ability
  - Supported by mechanical, electronic and software platforms

Ability & thinking features

- Cross platform support
- Cell phone, iPad, PC
- Easy to program
  - Compatible with graphic and Arduino programming software
- Versatile
  - 6 fun forms
- Strong expand-ability
  - Supported by mechanical, electronic and software platforms

Practice how to assemble

Collaboration and sharing habits

Mechanical structure awareness

Ability & thinking features

Cross platform support

Cell phone, iPad, PC

Easy to program

Compatible with graphic and Arduino programming software

Versatile

6 fun forms

Cross platform support

Cell phone, iPad, PC

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Compatible with graphic and Arduino programming software

Versatile

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Strong expand-ability

Supported by mechanical, electronic and software platforms

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Mechanical structure awareness

Ability & thinking features

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Cell phone, iPad, PC

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Compatible with graphic and Arduino programming software

Versatile

6 fun forms

Strong expand-ability

Supported by mechanical, electronic and software platforms
**Advanced Maker Space Kit**

It is a teaching product based on STEAM education concept, which integrates mechanical, electronic, software and course. It is mainly used to learn electronic and programming related knowledge. The kit consists of 30+ electronic module types (with a total of more than 120 electronic modules). Courses are categorized by project units, focusing on the principles and programming usage of electronic modules, complemented by project construction with creative ideas. The course is interdisciplinary, realizing the combination of learned knowledge and hands-on practice, stimulating students’ scientific interests and enforcing their scientific awareness.

**Product Features**

- **Learn how to think logically**
- **Rich in parts**
  - 30+ electronic modules
  - 70+ mechanical parts
- **Graphical programming**
  - Zero-based introduction, Scratch graphical programming, training logic thinking
- **Collaboration and sharing habits**
- **Circuit and programming awareness**
- **System course**
  - 5 units, 30+ classes (90-minute per class), step by step, fun courses
- **Trouble shooting ability**

**Cultivate core skills**

- Exercise basic logic analysis thinking ability
- Program basics
- Applications of common sensor and modules
- Comprehensive ability to analyze and solve problems in topic projects
- Teamwork and sharing

**Applicable school age**

Age 11—14 +

Grades 5-8 in primary and secondary schools
ELF Shield for micro:bit

It is a Shield board that works with the Micro Bit; it is compatible with the WEEMAKE electronic platform, LEGO, the Python Turtle Editor (CODE.GAME) and Microsoft’s MakeCode compiler. It is an entry-level product line for Python programming education.

Specifications

<table>
<thead>
<tr>
<th>Description</th>
<th>ELF Shield for micro:bit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main-board</td>
<td>micro:bit (To be purchased separately)</td>
</tr>
<tr>
<td>On-board sensor and electronic module</td>
<td>1x Sound sensor</td>
</tr>
<tr>
<td></td>
<td>1x Buzzer</td>
</tr>
<tr>
<td></td>
<td>3xRGB led</td>
</tr>
<tr>
<td>Extension port</td>
<td>4xRJ11 port; 2x DC motor port; 2x Servo port; 1xMicro USB port</td>
</tr>
<tr>
<td>Communication</td>
<td>Micro USB</td>
</tr>
<tr>
<td>Net weight</td>
<td>170g</td>
</tr>
</tbody>
</table>
9-in-1 Science Kit

Crank and rocker mechanism
The crank is master drive and moving at the same speed, while the rocker is slave drive, moving back and forth at variable speed, and the connecting rod is making compound motion in one plane.

Double rocker mechanism
Both rockers can be used as master drive members. When the master rocker swings back and forth, the driven rocker swings back and forth through the connecting rod.

Slider-crank mechanism
The crank and the slider mechanism is one planar linkage mechanism that can transfer the movements between rotation and sliding.

Meshing Belt Driving Mechanism
Keep the belt drive synchronized, utilizing the gears’ gear ratio difference, it can reduce the speed and increase the torque.

Oscillating and Reciprocating Mechanism
With the combination of the slider-crank mechanism and the gear-linkage transmission mechanism, the rotary motion is converted into a reciprocating swing motion.

Generator
The gear transmission mechanism drive the motor rotate and reversely cut the magnetic induction wire, and therefore generate electricity and light up the led, realizing the process of energy conversion from Electric energy to mechanical energy to electric energy.

Ultrasonic guitar
Utilizing the ultrasonic sensor ranging function, the preset sound will be played depends on the detected distance of the slider, the color of the RGB led will change accompanying the ultrasonic.

Ultrasonic radar
Ultrasonic radar uses one motor to rotate the ultrasonic sensor in 360 degrees horizontal, if measured object in its detection range, buzzer will make resonose and ultrasonic sensor would be moved up and down by the second motor.

Music Robot
Utilizing the line-following sensor as the limit switch, the gear drives the gear rack back to the initial position; then rotate inversely to drive the gear rack to move and start playing music; when the music playing is done, the gear rack returns to the initial position; and repeats the above motion.

Product Features

Abundant case
9+ cases with classic structure

Integration with other subjects
Closely integrated with courses in physics, science, and art

Easy to program
With WeeeCode software (Based on scaratch 2.0 and Scartch 3.0)
Easy to use

Easy to display
The shape is diverse, the appearance is beautiful, and the display effect is good

A scientific kit can build at least 9 classic STEAM application cases. Each structure is cleverly designed, simple and compact; it is closely integrated with the school’s science and physics classes so as to stimulate students’ scientific interest.
Parts Platform - Mechanical

Clever & delicate mechanical structure

Hardware and software platforms with full range of accessories for creative idea
- 200+ mechanical parts, 60+ electronic modules, and with increment at 10% per quarter
- Specially designed structural allows for ease of use, versatility, expand-ability and stability of mechanical parts
- MCU, single bus and RJ11 enable distributed computing power, intelligence and independence of electronic modules
- Graphical WeeeCode, Arduino IDE, Python offer easy-to-use and tier-by-tier programming software

Smart hardware and robotic works with unlimited creativity
- Using the parts platform, to create all kinds of interesting smart hardware and robotic works with Maker’s wisdom
- To develop more product kits during the process of creation, and to expand the parts platform by virtue of the supply chain

STEAM educational robot kits with several product lines
- Sports chassis and robot kits series developed based on sports chassis.
- Robot kits series developed based on motion type (linear / rotary)
- Electronic kits series developed based on sensor’s complexity
- Matching education material (e.g. textbooks) for Kits at different level & difficulty
- Matching kits for the school-based course and knowledge system
Slide beam 2424 series
Length: 24-504mm
M4 hex screw slot for mounting at any position; Four-sided slide rails, can be used as rails; 4 screw holes on each of the two end-faces for end face fixing; Pitch and length are multiples of 8, compatible with WeeeMake platform; made of anodized aluminum alloy, durable and beautiful

Beam 1030 Series
Length: 20-212mm
Six-sided mounting structure, more flexible; 2 screw holes on each of the two end-faces, can be used for end face fixing, or can be connected with other end-face for the extension; Pitch and length are multiples of 8, compatible with WeeeMake platform; made of anodized aluminum alloy, durable and beautiful

Beam 0824 series
Length: 24-512mm
M4 hex screw slot for mounting at any position; Two-sided slide rails, can be used as rails; 2 screw holes on each of the two end-faces, for end face fixing; Pitch and length are multiples of 8, compatible with WeeeMake platform; made of anodized aluminum alloy, durable and beautiful

Beam 0808 series
Length: 24-152mm
Six-sided mounting structure, more flexible; 1 screw hole on each of the two end-faces; Pitch and length are multiples of 8, compatible with WeeeMake platform; made of anodized aluminum alloy, durable and beautiful

Beam 0410 Series
Length: 18-186mm
Plate connecting rod structure, flexible in assembly and wide in applicability; Can be used to build linkages, support structures, chassis, etc; Pitch and length are multiples of 8, compatible with WeeeMake platform; made of anodized aluminum alloy, durable and beautiful.

Beam 1010 Series
Length: 20-212mm
Six-sided mounting structure, more flexible; One screw hole on each of the two end faces, which can be used for end face fixing or end face connection for the extension; Pitch and length are multiples of 8, compatible with WeeeMake platform; made of anodized aluminum alloy, durable and beautiful

Beam 0208 series
Length: 16-192mm
Porous connecting rod, can be used as a structural member, or linkage driving, etc.; Pitch and length are multiples of 8, compatible with WeeeMake platform; made of anodized aluminum alloy, durable and beautiful

Brackets
Motor bracket, fixing bracket, bearing bracket, etc.; Pitch and length are multiples of 8, compatible with WeeeMake platform; made of anodized aluminum alloy, durable and beautiful

Punched plates
Various sheet parts; Pitch and length are multiples of 8, compatible with WeeeMake platform; Made of anodized aluminum alloy, durable and beautiful

Transmission related accessories
Various injection molded gears, racks, shafts, wheels, timing belts, etc.; compatible with WeeeMake platform
Main-boards and Chip modules
Support ATmega 328P, ATmega 2560 and ESP32 series of chip, port compatible with the electronic modules and sensors in the system, easy to use, support Arduino and WeeCode (based on Scratch) software

Communication
WEEMAKE electronic platform supports infrared communication, Bluetooth 2.4G communication, USB communication and so on.

Sensors
20+ sensor modules already equipped with the WEEMAKE electronic platform, which can meet common sensor needs.

Other electronic modules (drivers, displays, etc.)
The WEEMAKE electronic platform supports DC motor, encoder motor, and stepper motor and so on. The number of electronic modules of drivers, displays and executors exceeds 20+, which can satisfy the commonly used driving occasions, display occasions, and execution occasions.

Motors
The WEEMAKE electronic platform has more than 12 motors or servomotors (steering actuators) of different type or has different speed, which can be used to make all kinds of robots.
WeeeCode
WeeeCode is a graphical programming software developed and designed by WEEEMAKE based on the open source software Scratch2.0, Scratch 3.0 and Arduino. It is easy to use and supports both graphical programming and Arduino IDE programming. In its programming port, a variety of program code and programming teaching cases can be easily created by simple dragging and dropping of the program instruction modules. WeeeCode perfectly supports all kinds of robots on the WEEEMAKE platform. User can control the robots by program various intelligent programs.

Supported system: Windows / Mac OS
Software and data can be accessed on: www.weeemake.com

Arduino IDE
WEEMAKE’s ELF main-board is a development main board that perfectly compatible with the Arduino platform. Users can develop a variety of smart applications or teaching cases through the combination of ELF main-board and Arduino IDE. User can program a variety of intelligent controls for all robots using the ELF main-board on the WEEEMAKE platform.

Supported system: Windows / Mac OS
Software and data can be accessed on: www.weeemake.com

WeeeMake
The WeeeMake APP is a mobile-side control and programming software designed specifically for the robots of the WEEEMAKE platform. The user can interact with the robot through a preset program in the APP, and the user can also program to instruct the robot execute certain commands.

Supported system: Android / ios
Software and data can be accessed: www.weeemake.com
The WM Robot Challenge is an entry-level event officially held by WEEMAKE. It is mainly a multi-tasking competition for primary and secondary school students. The players use robots to complete different levels (missions) on the designated maps, and the successful player with the highest score is the champion.

The competition can examine and evaluate comprehensively the participants’ engineering skills, teamwork, game strategy design as well as the ability to solve problems quickly.

There are eight (8) challenging missions in the entire challenge, namely, rapid marching, fortress strikes, breakthrough barriers, precision replenishment, dodge the ambush, ready-to-go, material classification, and victory cheers. All eight (8) missions are distributed on one 1.2m*2.4m map. Among them, four (4) tasks have different task requirements for the primary school group and the secondary school group. Both the primary school group and the secondary school group should complete all the competition tasks.

Competition time: 65 minutes.

Competition Process: Build Robots--Write Programs--On-site Commissioning--Competition--Scoring/Rating & Awards.
Competition 1: Fast march
Project Level: Beginner
Project features: Design a small wheeled robot, use the line-following sensor to identify the running track of the robot from time to time, patrol the line and smoothly return to the starting point.

Competition 2: Open Road Pioneer
Project level: Beginner
Project Features: The robot ranges with an ultrasonic sensor, dodges the randomly occurred obstacles, and propels the ball into the designated circle within a specified time.

Competition 3: Over the mountains
Project level: Beginner
Project features: Design a programmable small wheeled robot, the robot uses RGB ultrasonic sensor for ranging, passes through the specified route & levels, and conquers high and low obstacles.

Competition item 4: Speed supply
Project level: Intermediate
Project features: Mount the ultrasonic sensor on the robot car, the robot shall detect the obstacles around, avoid the obstacles and get out of the obstacle smoothly.

Competition 5: Military Road
Project level: Intermediate
Project features: With the line-following sensor and color sensor, the robot car shall follow the specified route and pass the signal light, and score.

Competition 6: Precision strike
Project level: Intermediate
Project features: The robot walks along the curve, uses the track to judge the driving route, and pushes the color block to the target area after passing the specified position; It is required that the position shall be precise.

Competition 7: Battle on the battlefield
Project level: Advanced
Project features: select the driving routes randomly; structure construction and programming are done according to the routes so as to exercise the comprehensive thinking ability.

Competition 8: Collection, Assemble
Project level: Advanced
Project features: Collect the parts on the battlefield, and assemble the parts together and deliver them to the front line, so as to comprehensively examine the azimuth accuracy of robot driving, as well as the structural construction skills.

Competition 9: Labyrinth walks
Project level: Advanced
Project features: Comprehensive application of 3 ultrasonic detection algorithms, thinking out the optimal solution and completing the labyrinth walk challenge.
The maker space display program
It creates a standard maker space display model for the schools and training institutions. This program can facilitate teaching & guidance, decorate the maker space, demonstrate the teaching and research strength, and provide perfect software and hardware support for Maker Education. It is convenient to carry out various creative salons, project prototype construction, and competition simulation activities.

Product Features

- A variety of parts
  Types of mechanical parts: 200+ Types of electronic modules: 60+

- Design standardization
  Provide standard placement methods and design solutions

- Good visual appearance
  Specially designed appearance and lighting effect, full of technological sense

- Combinable
  One single kit can be displayed; the combinations of multiple kits can form a complete maker space accessory library

**Platform**
**WEEEMAKE**
**Maker Marathon Kit**

<table>
<thead>
<tr>
<th>Work-ability</th>
<th>Interest</th>
<th>Learning</th>
<th>Expand-ability</th>
</tr>
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<tr>
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<td>★ ★ ★ ★ ★ ★</td>
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</table>

**STEAM**
- Science
- Technology
- Engineering
- Art
- Mathematics
Company Profile

Weemake Co., Ltd. is a comprehensive STEAM education solution platform integrating R&D, production and sales. The company’s R&D team consists of highly educated and competent personnel with years’ development experience in different fields. The proportion of R&D personnel exceeds 70% of the total number of company employees.

With extraordinary modular thinking, with the integration of mechanical structure, electronic modules, and programming software with the product, the company has gained unlimited development potentials. The products have been exported to Dubai, Europe and the United States, and are highly praised by educators and parents. It has already reached strategic cooperation plan with many domestic education institutions and academies.

In 2018, combining with the STEAM education concept and the curricula standard (under the guidance of current education policy), the company innovatively developed a variety of interesting and diverse educational kits, developed the step-by-step practical education programs (resources) corresponding to the needs of different educational scenarios and different age groups, contributed its own share to the popularization and development of domestic STEAM education and Maker education.

Exciting Activities

WeeBot products were awarded with the BEST STEM products by the Dubai Ministry of Education.

WeeBot products enter the classroom in Dubai Primary School and are popular among students.

Hong Kong Electronics Show (Quarter I, 2018)

Former Deputy Director of the Department of Basic Education of the Ministry of Education was visiting our products

Hong Kong Electronics Show (Quarter IV, 2018)
New Curriculum Standard & New Course Forum (Shenzhen Graduate School of Peking University)

Technology Festival Parade (No. 2 Secondary School in Kowloon)

Training program for the 6th seminar

Best popular booth in Shenzhen Gift Show (April, 2018)

China-US Young Maker Competition (2018, Shenzhen sub-field)