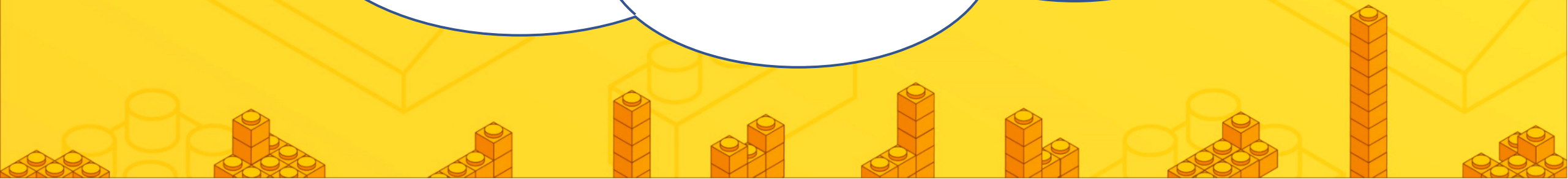


Get the vehicle moving

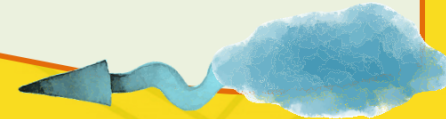


Target

- **Complete the assembly of the basic vehicle and understand the precautions during the setup, as well as the use of the splitter.**
- **Understand the software installation.**
- **Learn the methods for defining devices (motor)**

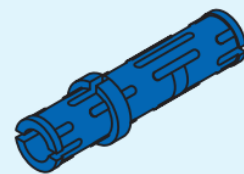


01 Assembly



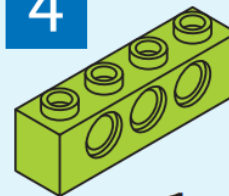
Assembly

1

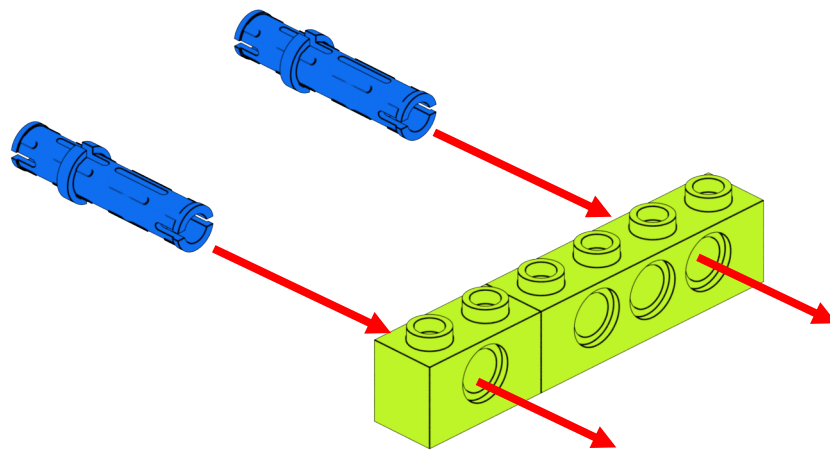


x2

4



x1

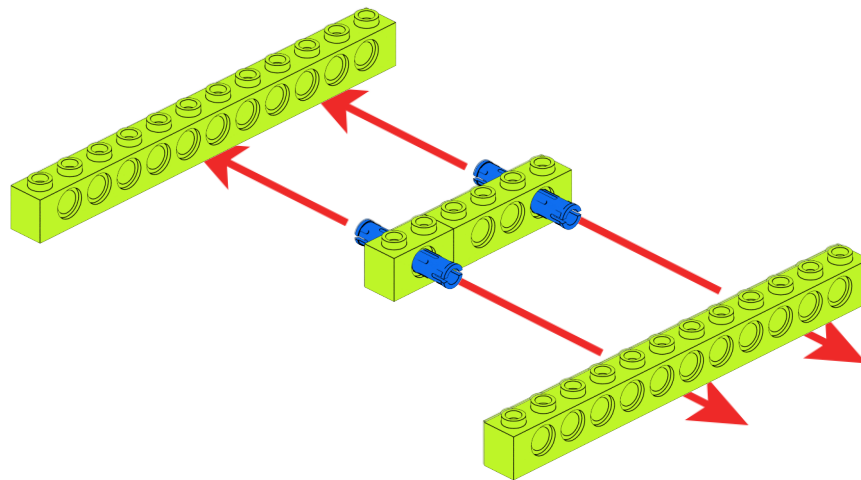


Assembly

2

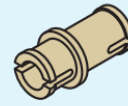
12

x2



Assembly

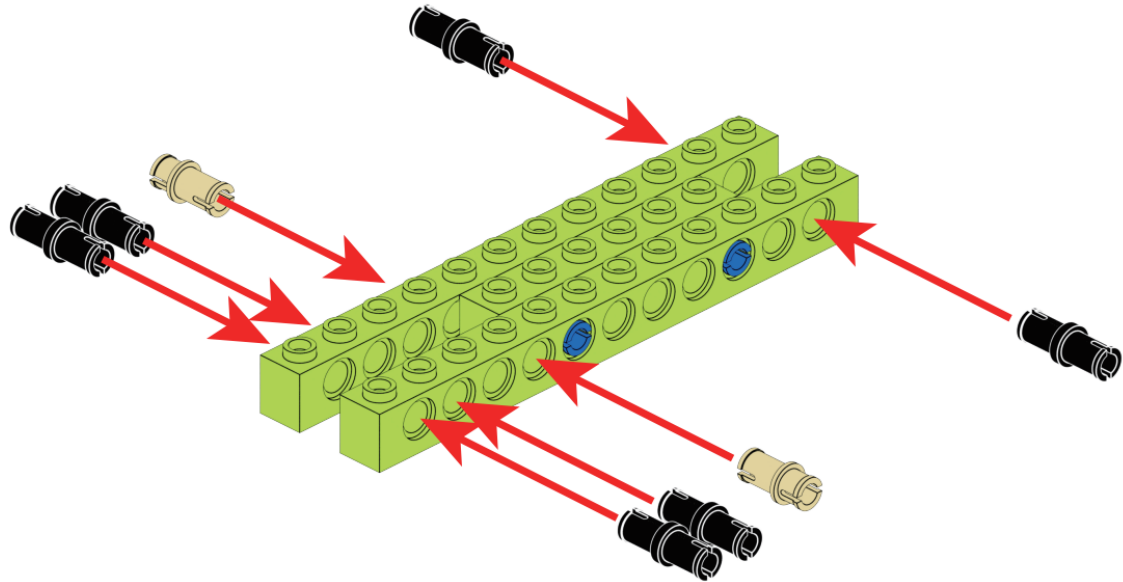
3



x2



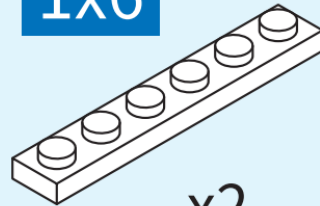
x6



Assembly

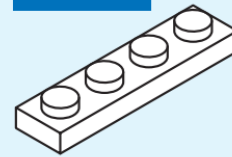
4

1x6

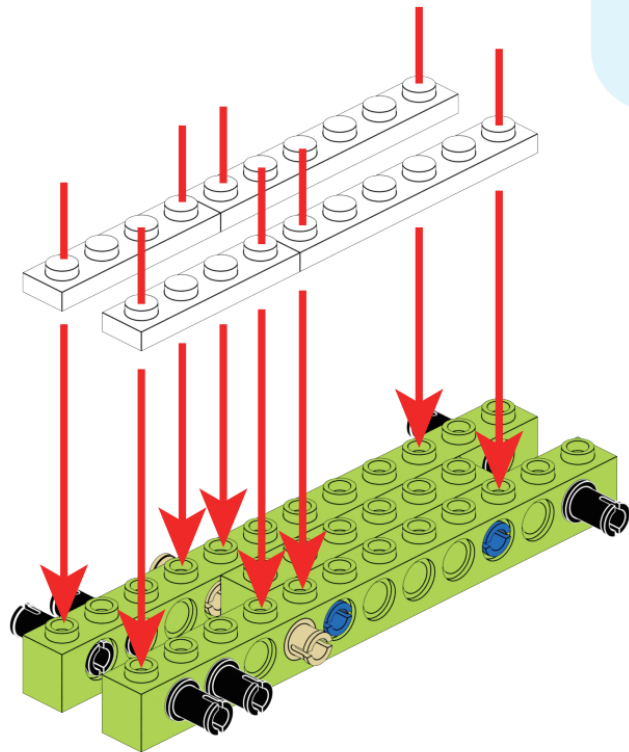


x2

1x4

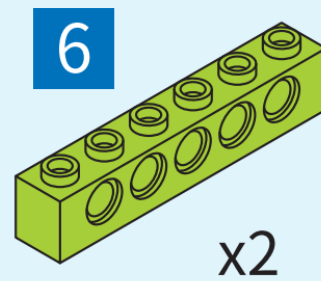
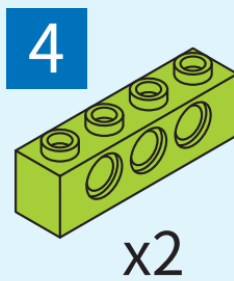
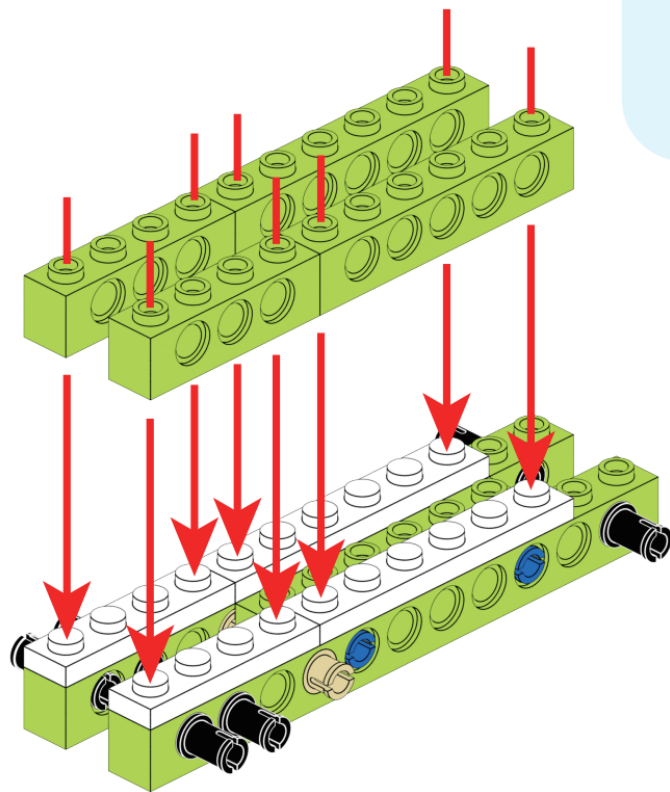


x2



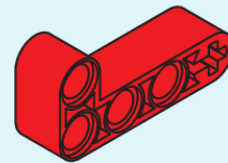
Assembly

5

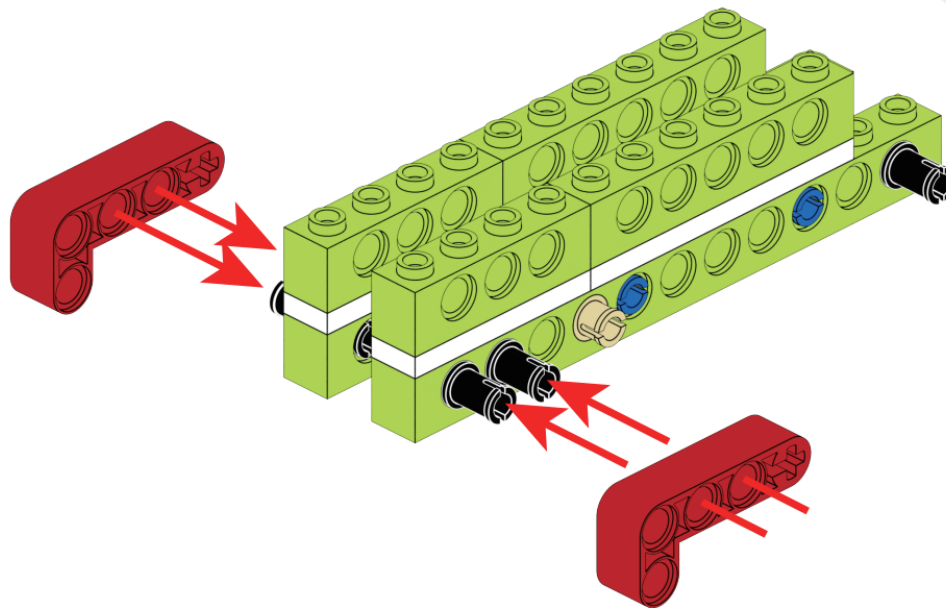


Assembly

6

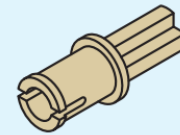


x2



Assembly

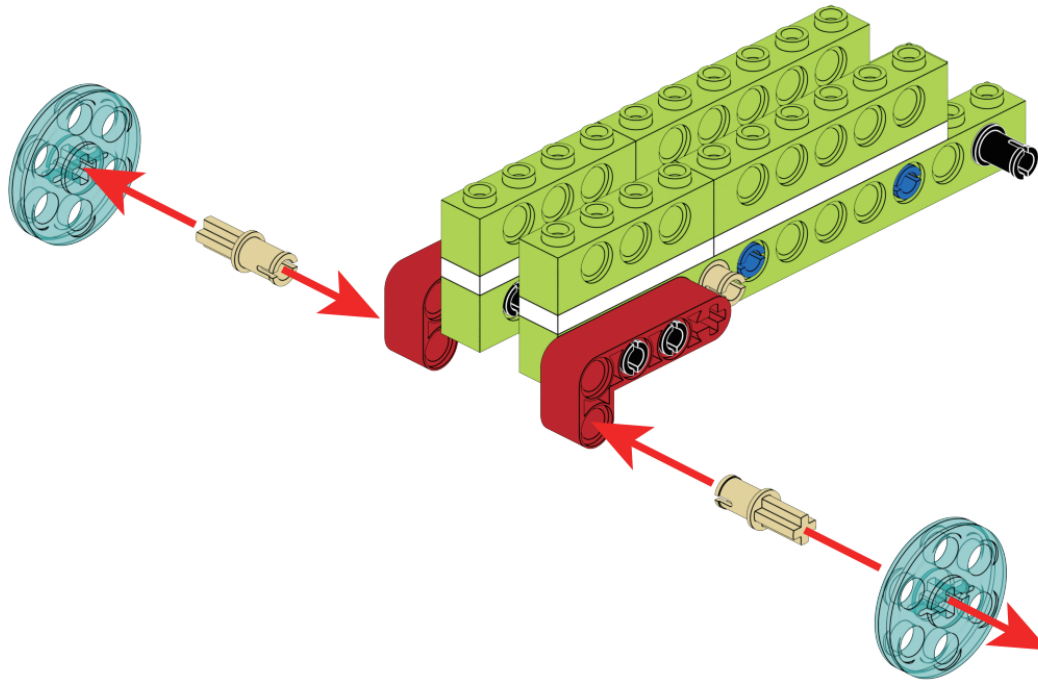
7



x2

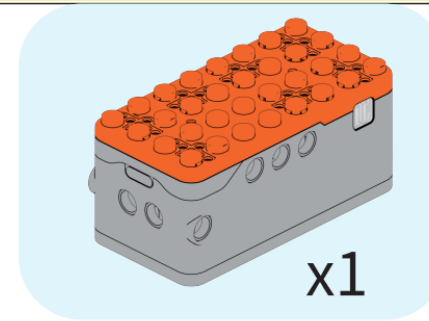
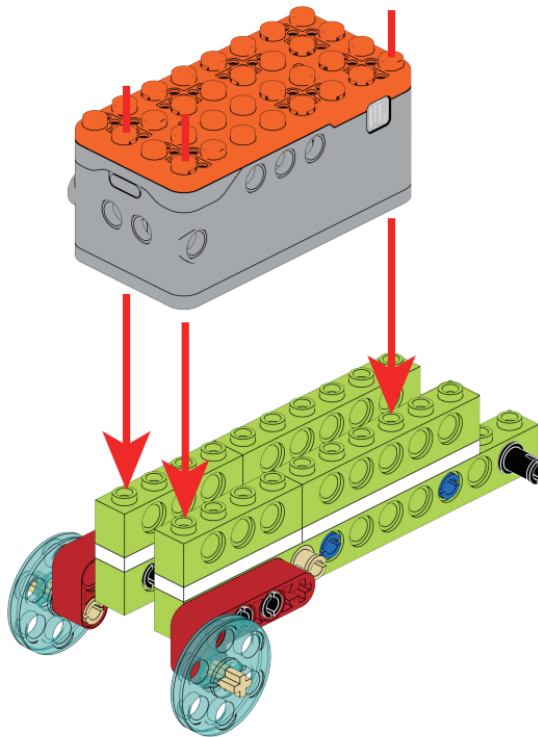


x2



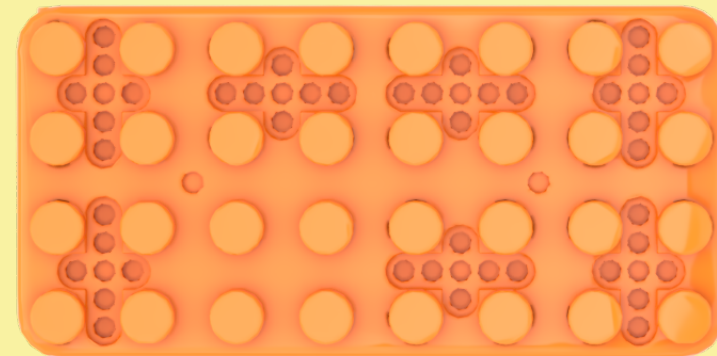
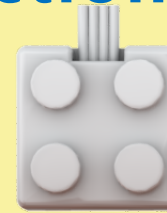
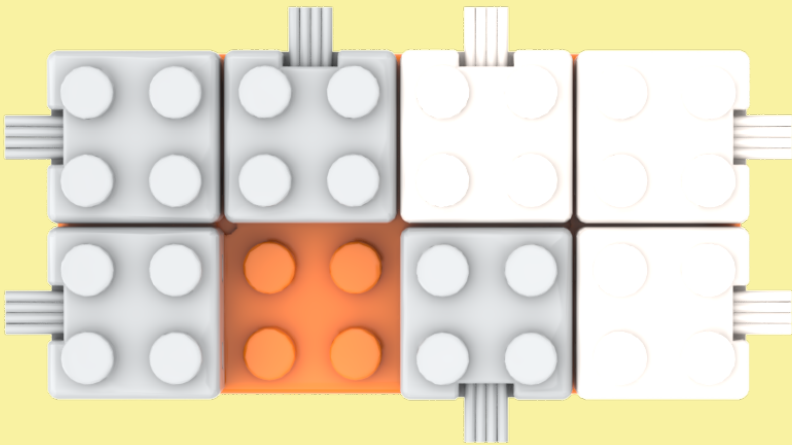
Assembly

8



Precautions

- Pay attention to the orientation of the interfaces. Observe the position of the wires and the direction of the interfaces

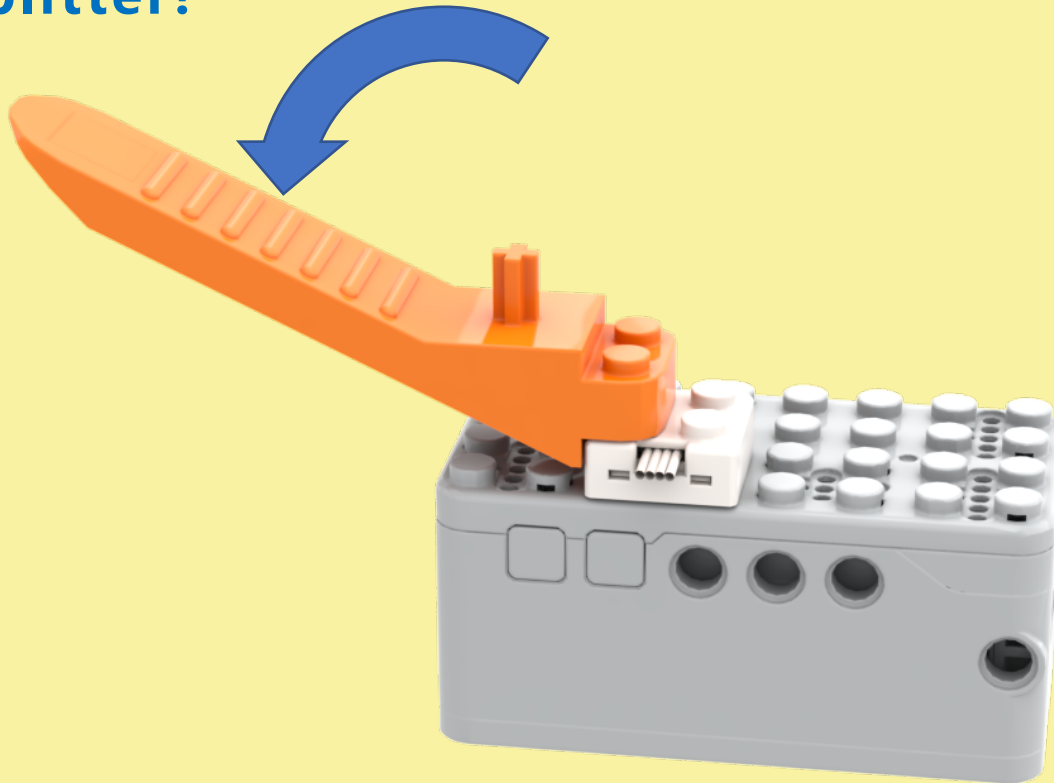


(Old Hub)(Please refer to the new hub)



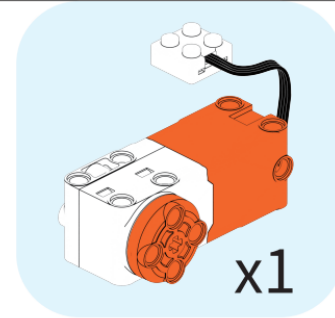
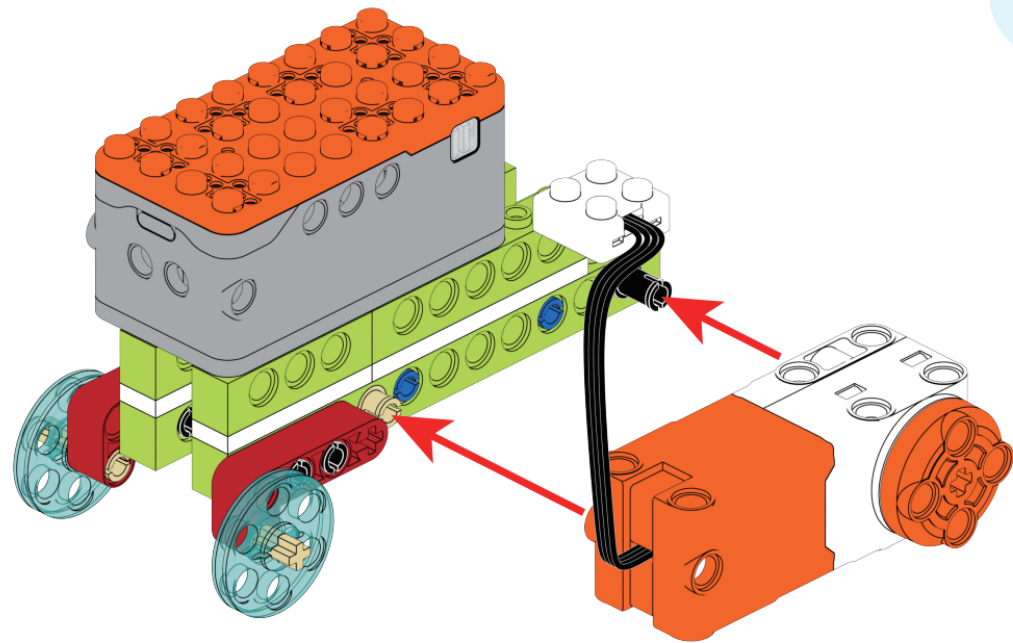
Precautions

- **IMPORTANT:** When removing the motors or sensors from the interfaces, **be sure to use the splitter**. Let's give it a try with how to use the splitter!



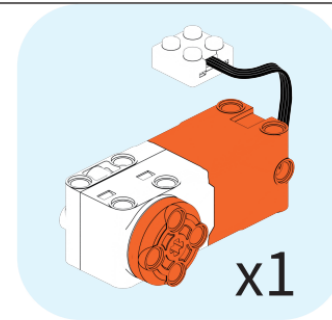
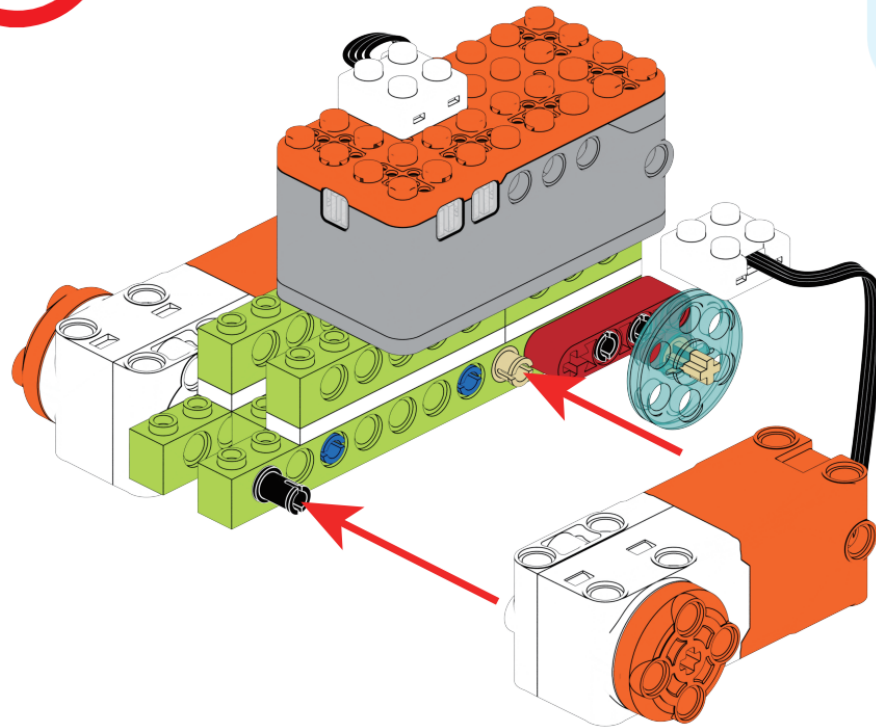
Assembly

9



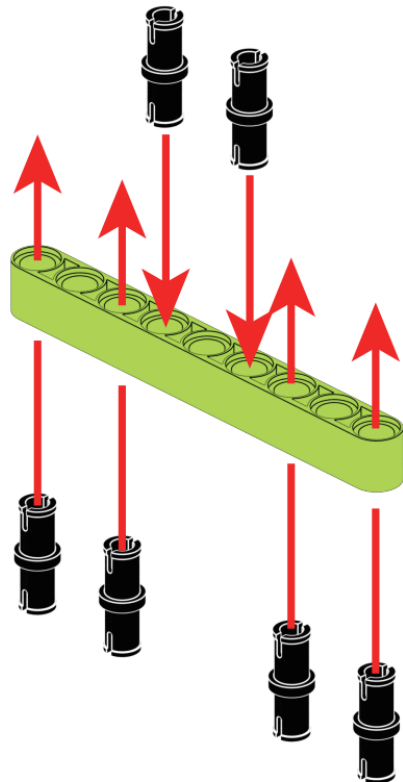
Assembly

10



Assembly

11



9

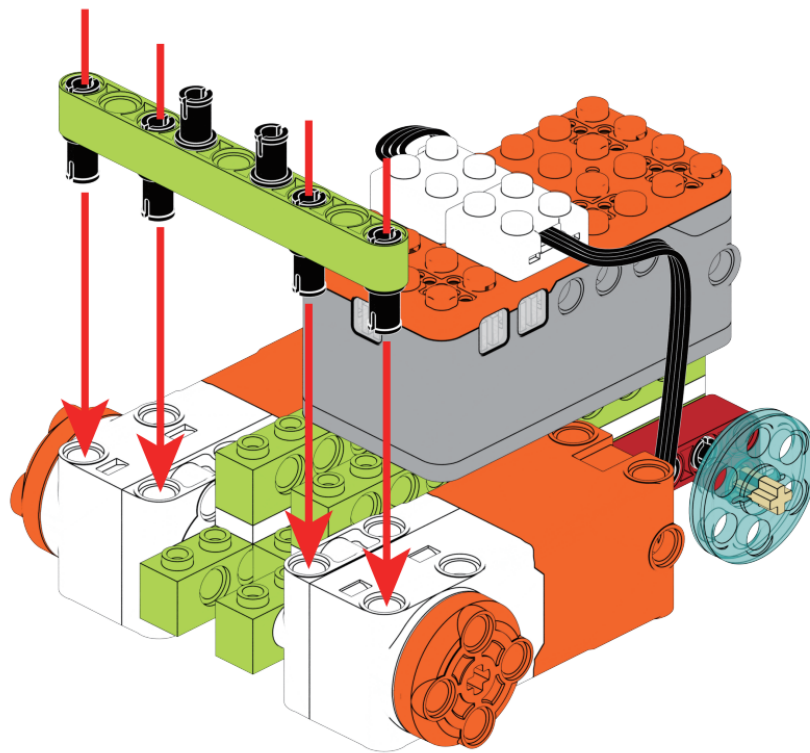
x6

x1



Assembly

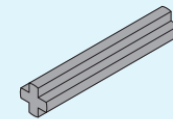
12



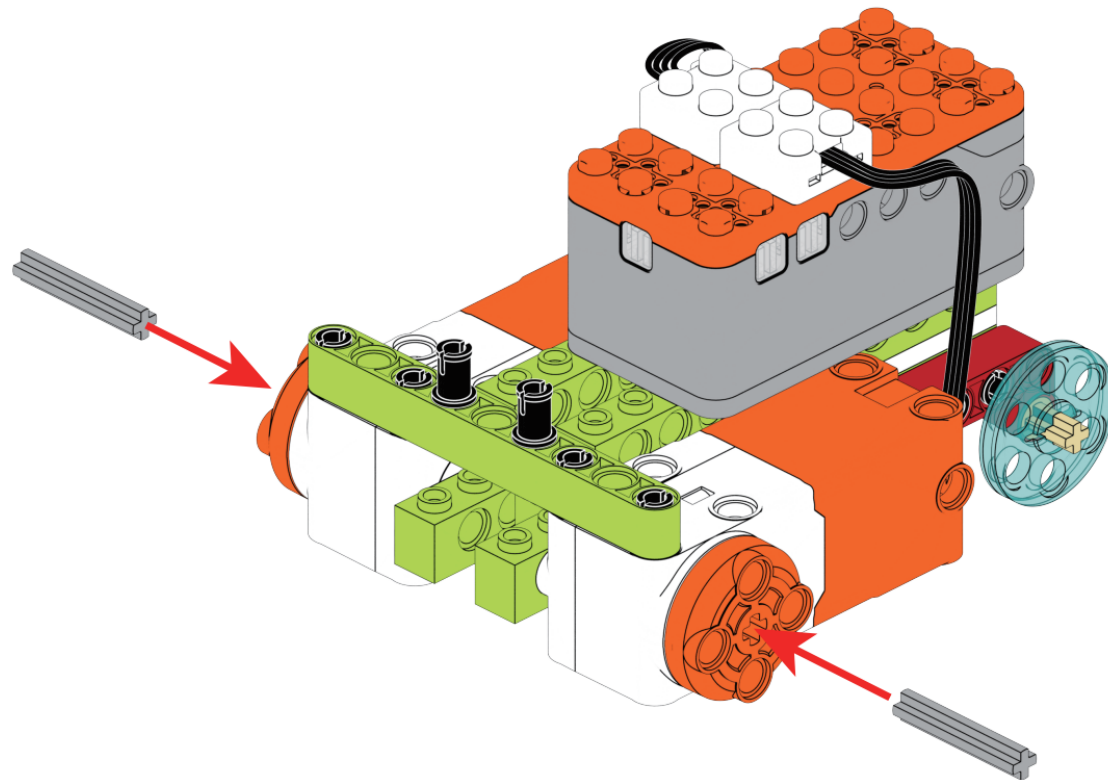
Assembly

13

3

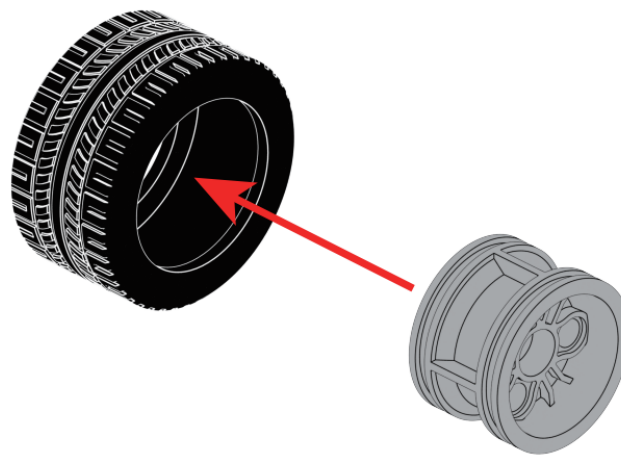
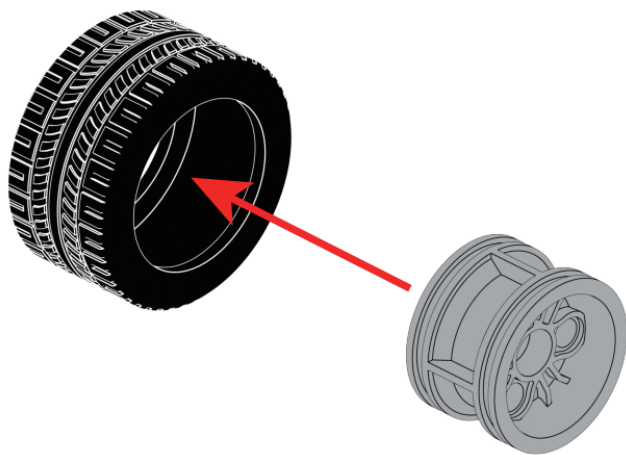
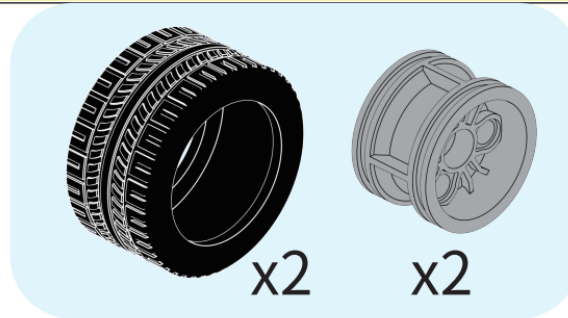


x2



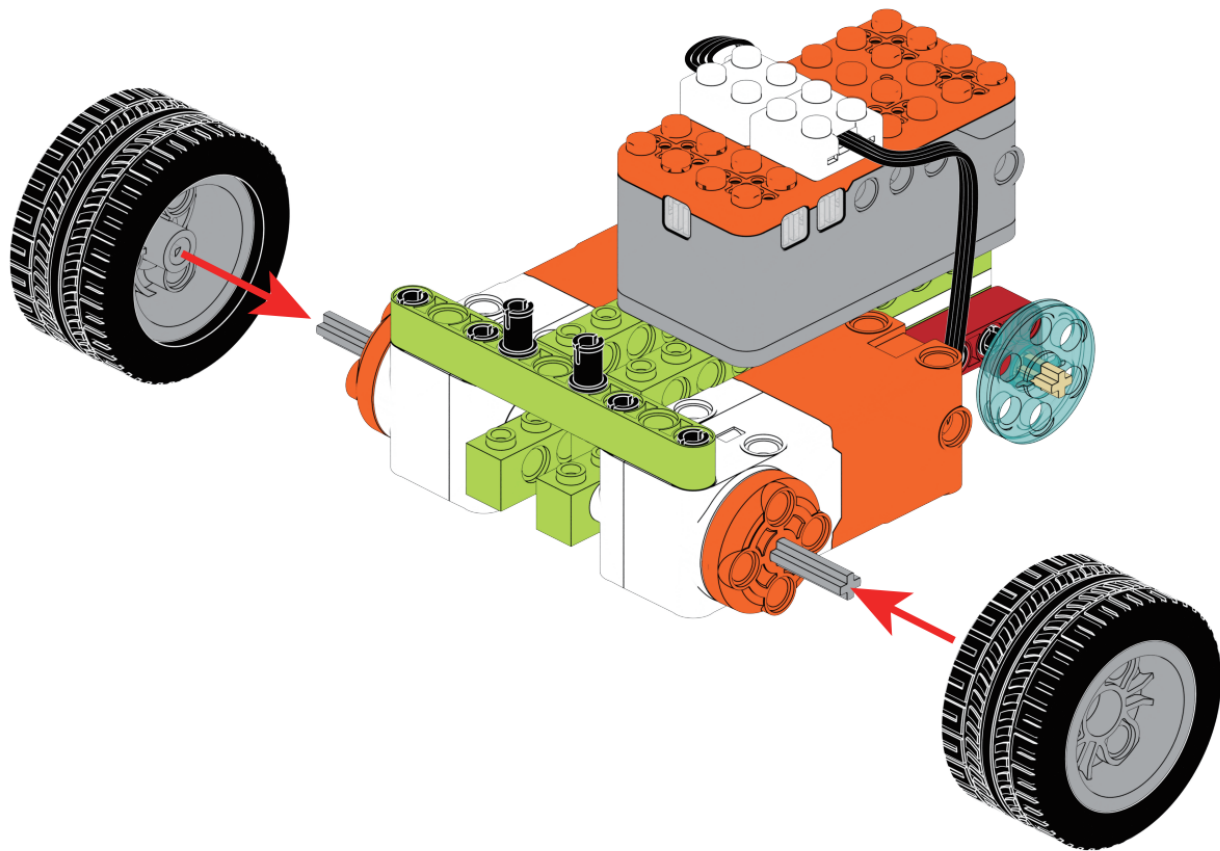
Assembly

14



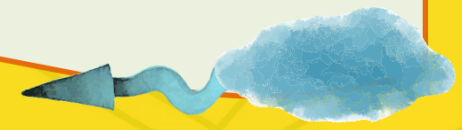
Assembly

15





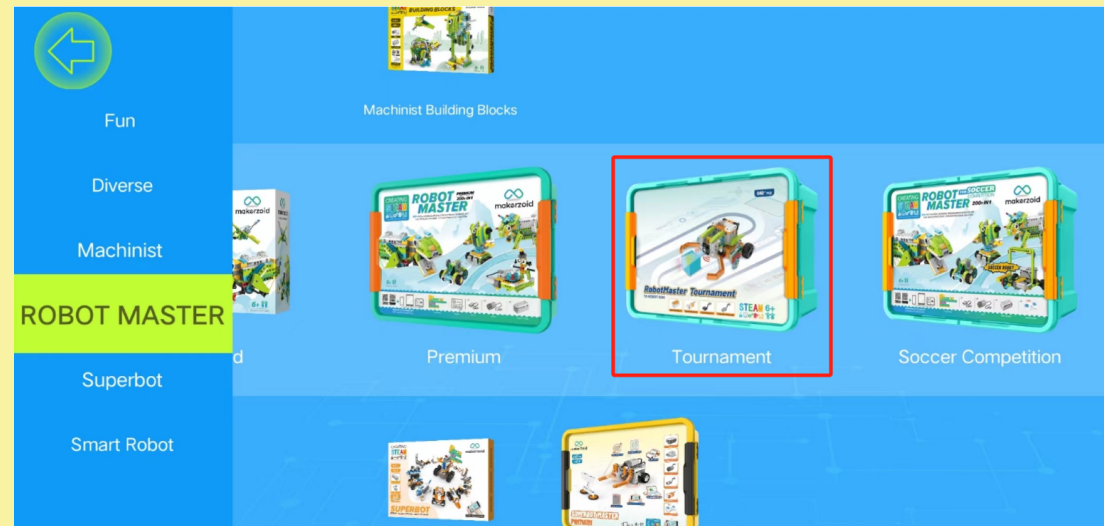
02 Practice



APP Instructions (Android)

A. Connect to the host control unit

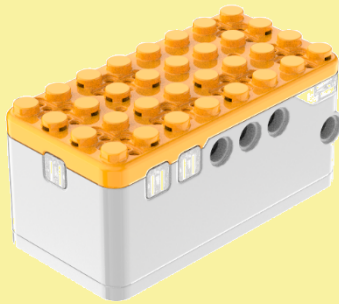
1. Download the makerzoid app



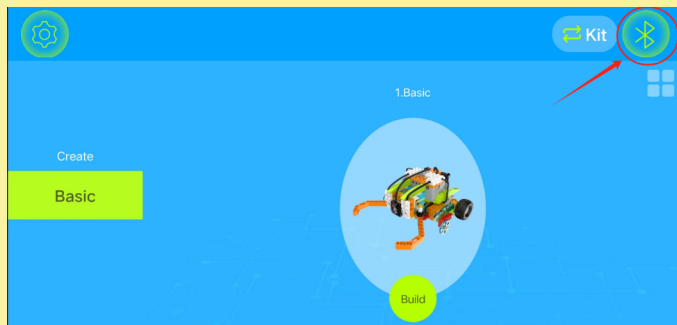
***Please enable Bluetooth and agree to use the "Location" services**

APP Instructions (Android)

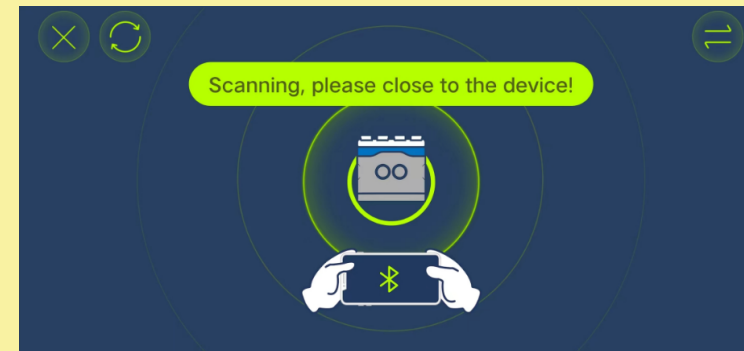
2. Connect to the control unit



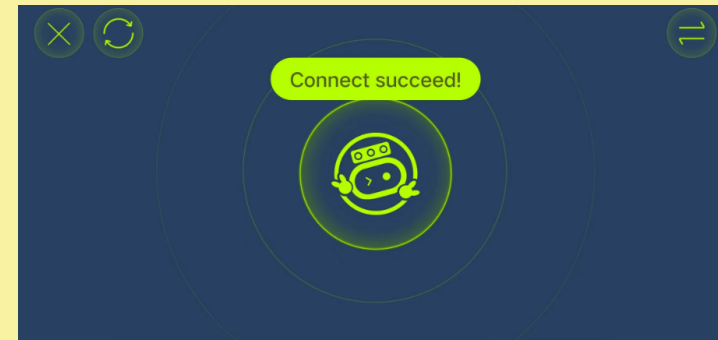
(1) Press the power button, the light will flash.



(2) Click the Bluetooth icon.



(3) Put the device close to the control unit.



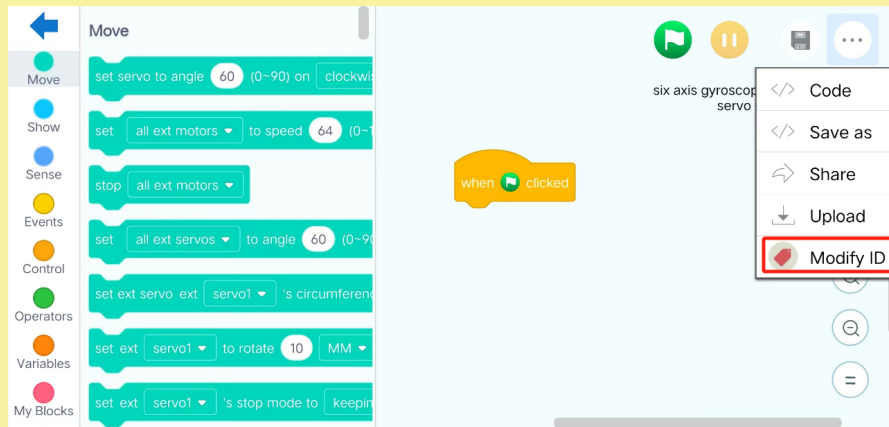
(4) Connected succeed.

APP Instructions (Android)

B. Connect to the electronic components(motors, sensors)

Modify the ID

The default port for the servo motor, color sensor, and grayscale sensor is 1. We can change the port through the setting. After modifying the port, each device will remember its assigned ID.



When modifying the ID (e.g., for the servo motor), only one device (servo motor) can be connected at a time. You cannot connect two identical devices (servo motors) simultaneously.

Modify the desired ID, ensuring it is not duplicated.

Makerzoid Lab Instructions (PC)

A. Use the on-line webpage to programme

1. Open the online coding webpage and download page.
(**Google Chrome browser is preferred.**)

<https://software.makerzoid.com/makerzoidlab/index.html>



Makerzoid Lab Instructions (PC)

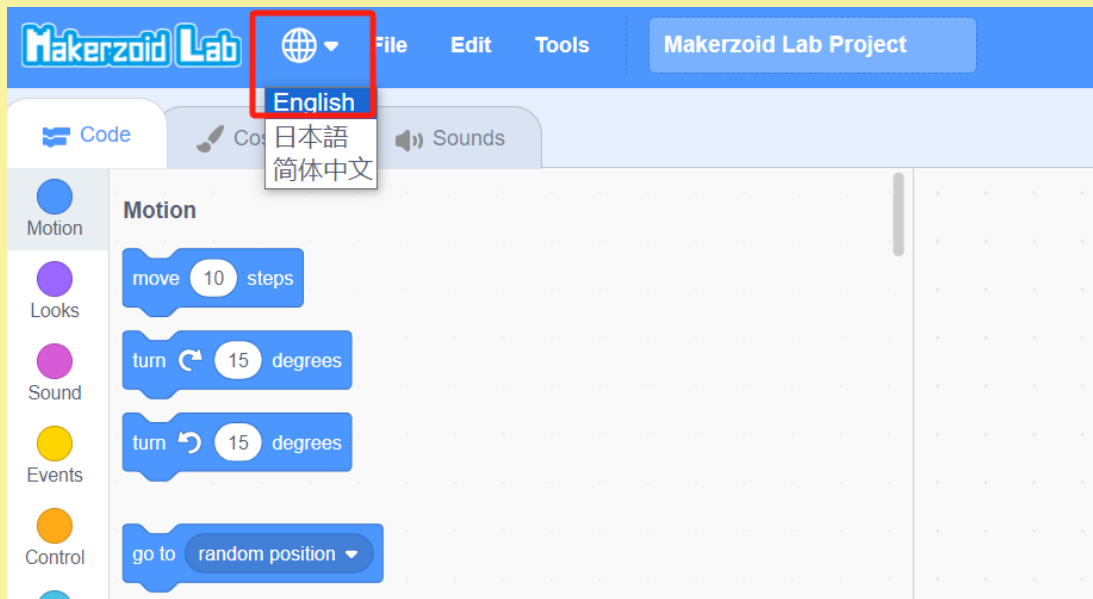
B. Click "Let's start programming"

IMPORTANT:
Make sure the
Bluetooth on
the PC/laptop
is enabled.

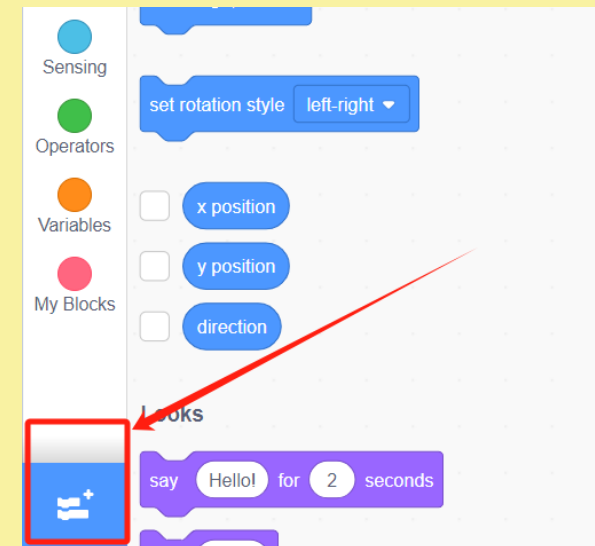


Makerzoid Lab Instructions (PC)

C. Connect to the control unit

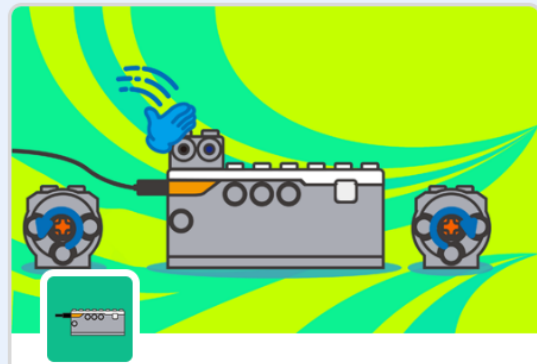


Change language to English



Choose Add Extension

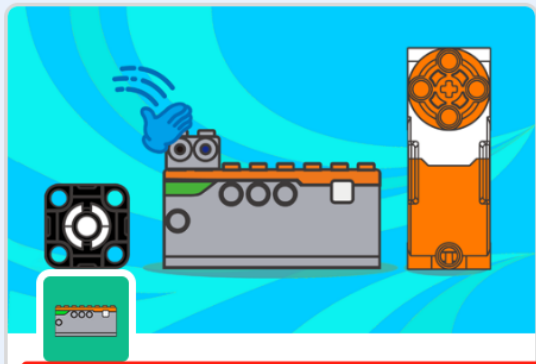
Makerzoid Lab Instructions (PC)



RobotMaster(USB Mode)

A robot that can be controlled by connecting a USB cable.

Collaboration with
Makerzoid

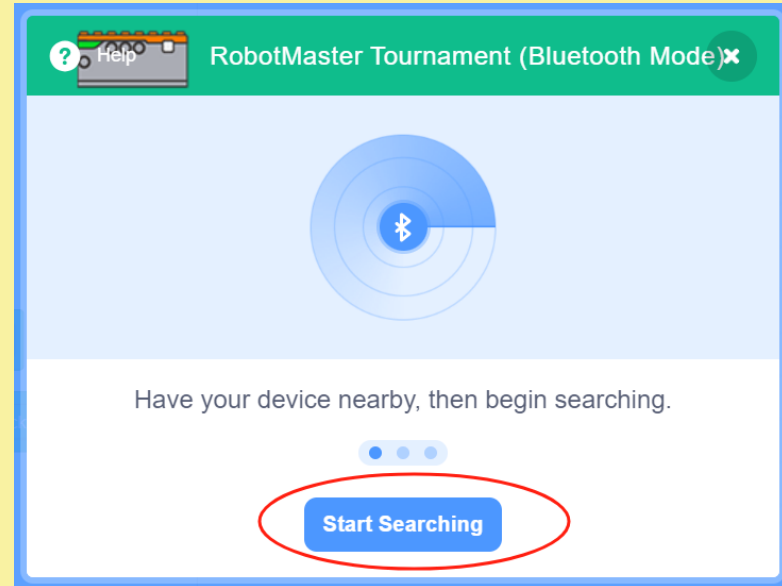


RobotMaster Tournament (Bluetooth)

A robot that can be controlled by a Bluetooth LE connection.

Requires

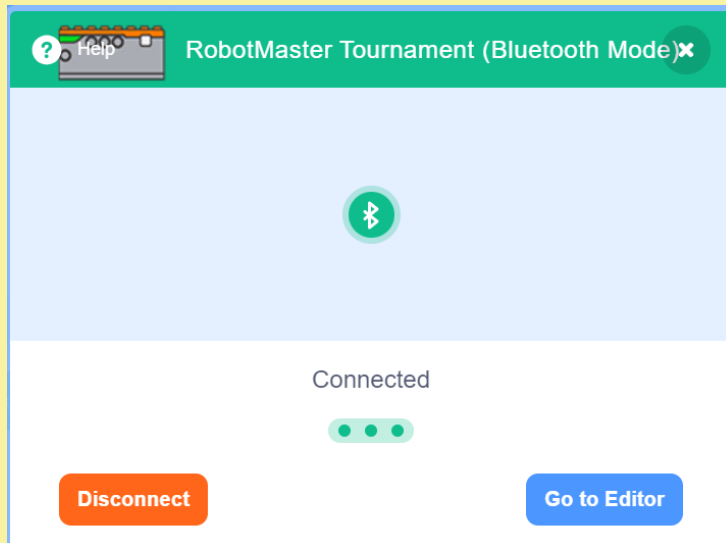

Collaboration with
Makerzoid



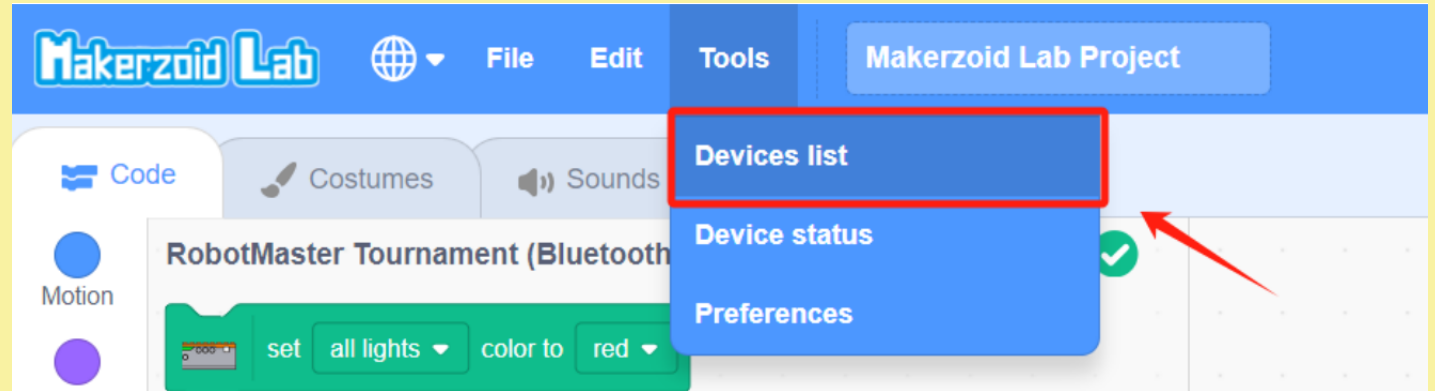
Choose "RobotMaster Tournament(Bluetooth)"

Turn on the control unit, click "Start Searching"

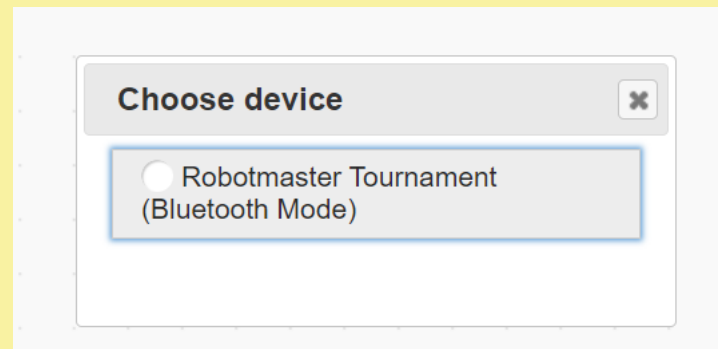
Makerzoid Lab Instructions (PC)



Choose the ID of the control unit and Connect.



Select "Tools-Devices list"



Check the box, and wait for a few seconds.



Makerzoid Lab Instructions (PC)

Makerzoid Lab

File Edit Tools Makerzoid Lab Project

Code Costumes Sounds

RobotMaster Tournament (Bluetooth Mode)

Motion

Looks

Sound

Events

Control

Sensing

Operators

set all lights color to red

turn the all lights off

set all traffic lights to closed

set 1# white ext light to 50 (0~100)

set 1# ext servo's circumference to 10 mm

set 1# ext servo to rotate 10 mm on clockwise at 50 (0

Set module's ID

| Name | Name |
|-----------|------|
| Ext servo | 1 |

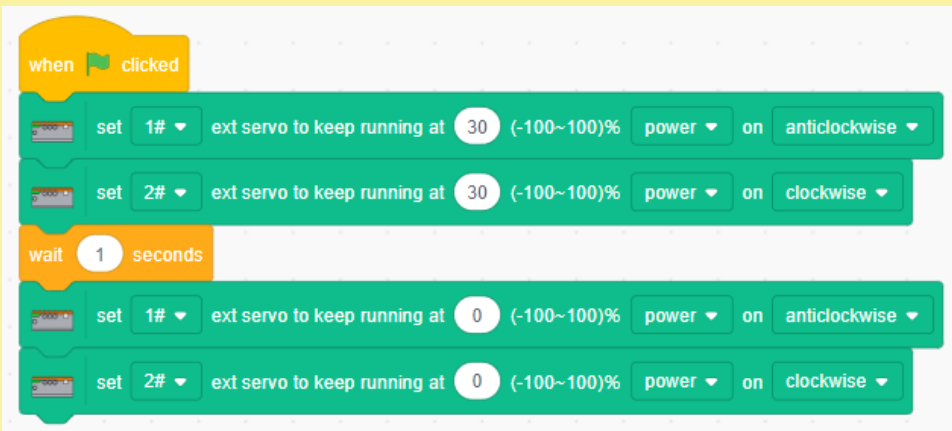
*Only one module can be connected in the setting. Module's ID must be unique.

After a few seconds, "Set module" s ID will pop up. This is where you modify the device ID, such as servo motors, grayscale sensors.

Practice

Set the vehicle to go forward

Option 1 : by setting the time to control it to go forward



A Scratch script starting with a 'when clicked' event. It contains two 'set ext servo to keep running at' blocks. The first block is for servo 1#, set to 30% power, anticlockwise. The second block is for servo 2#, set to 30% power, clockwise. This is followed by a 'wait 1 seconds' block, and then two more 'set ext servo to keep running at' blocks. The first block is for servo 1#, set to 0% power, anticlockwise. The second block is for servo 2#, set to 0% power, clockwise.

When you choose the **Power** and the power is too low, the motor will stall.



A Scratch script starting with a 'when clicked' event. It contains two 'set ext servo to keep running at' blocks. The first block is for servo 1#, set to 30% speed, anticlockwise. The second block is for servo 2#, set to 30% speed, clockwise. This is followed by a 'wait 1 seconds' block, and then two more 'set ext servo to keep running at' blocks. The first block is for servo 1#, set to 0% speed, anticlockwise. The second block is for servo 2#, set to 0% speed, clockwise.

When you choose the **Speed**, the vehicle can go more straight.

