

# LESSON 1 ENTER ROBOT WORLD

## Lesson Overview

Students will learn what is a robot, hardware and software, use tools and experience a robot.

## Lesson Target

1. Share robots in daily life, and learn what is robot.
2. Learn the hardware and software of WeeeBot.
3. Reach out the team spirit through teamwork.

## Lesson Tag

GRADE LEVEL	SUBJECTS	DIFFICULTY	DURATION	GROUP
Elementary, middle	STEAM, computer science	Beginner	2 x 50 mins	1-2 students

## Supplies

WeeeBot	Accessories	Other Material	Tools Used
WeeeBot Kit		PC with WeeeCode software; Line-following map; IR remote control	

## Lesson Outline

INTRO: Recognize robot, WeeeBot, and WeeeCode.

Learn what is hardware and software.

CREATE: Write the first code.

PLAY: Control WeeeBot with IR remote controller.

EXPLORE: Explore different way to play with WeeeBot.

### 1. INTRODUCE ROBOT

#### Student discussion:

Q: What is robot? Share robots they see in TV or in life.

A: TV - Transformers, Baymax, Doraemon, etc.

Life - service robot for guiding guest, serving dinner, sweeping floor, etc.

A robot is a machine—especially one programmable by a computer— capable of carrying out a complex series of actions automatically. Robots can be guided by an external control device or the control may be embedded within.

Q: What is robot's job?

A: The term “Robot” comes from a Czech word, *robota*, meaning “forced labor”; so robot's job is help human with work.

### 2. HARDWARE INTRODUCTION

#### Robot

Robot	Human	Function
Mainboard	Brain	Process information, and give command to body.
Motors and wheels	Legs and arms	Make body move.
Battery	Heart	Offer power.
Sensor	Five sense organs	Receive information
Circuit	Neuron	Link every part of body to form a whole system



#### Mainboard

Sensor port: connect sensors such as IR sensor, Light sensor, Sound sensor, etc.

Power port: connect to battery or AC/DC power adapter.

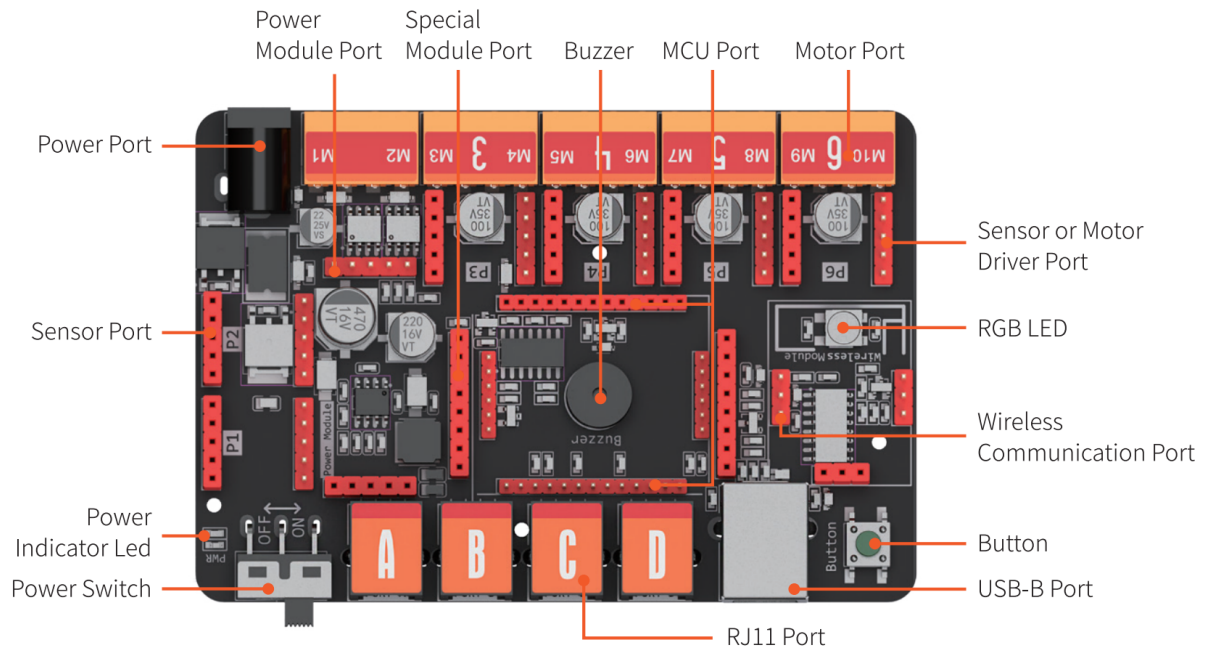
Motor port: connect to motors.

USB-B port: connect to computer via USB cable, upload firmware.

RJ11 port: connect to RJ11 port electronic modules such as sensors, adapters, etc.

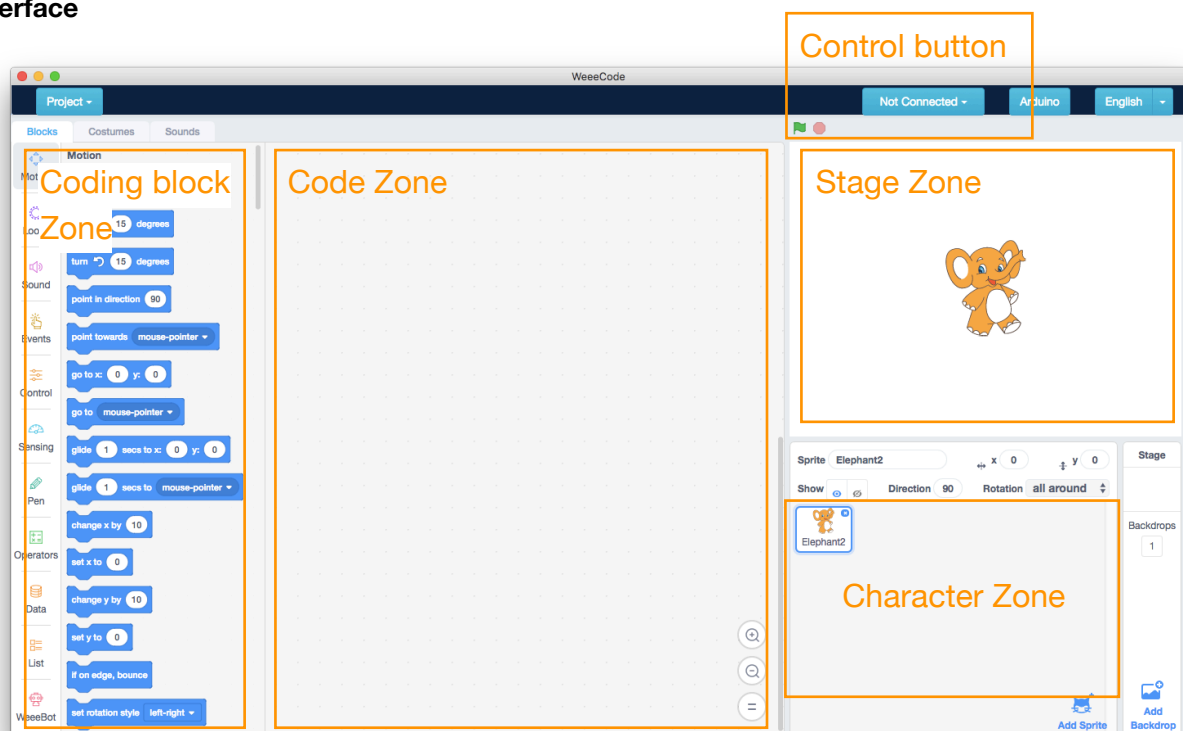
## WEEEMAKE

Power switch: turn on/off power.



## 3. SOFTWARE INTRODUCED - WEEECODE

### Interface



## WEEEMAKE

Control button: click green flag to start running codes, click red dot to finish running codes.

Stage Zone: a field to show the result of codes running, an interactive place for users and characters.

Character Zone: all character, object will be displayed here. You can see character's name, position, direction, etc.

Coding block Zone: select coding block, drag and drop the blocks to code zone and put them together to create a project.

Code Zone: put coding block here in order, design blocks like LEGO to tell characters what they should do in stage.

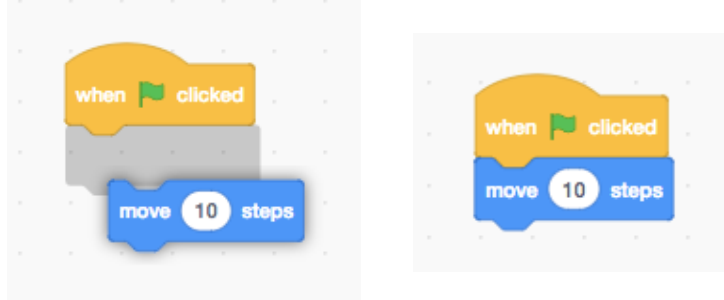
### Write the first program



Write your first project. Find the right code block, drag and drop them to code zone. Click green flag button to see what will happen.

Tips: 1. Watch the color of blocks to find them.

2. In Coding Block Zone, the category "WeeeBot" can be used to control robot.



### PLAY WEEEBOT

1. Turn on WeeeBot, if RGB LED on mainboard and LED matrix panel lights up, the pre-set program works.
2. Control WeeeBot with direction buttons marked in orange.
3. Control WeeeBot with eight different mode.
4. Explore the function of number button 1-9.

