

SCRATCH TO WE DO CHEAT SHEET

In Scratch 2.0, you can add a LEGO WeDo extension within the "More Blocks" category. Click "Add an Extension" and choose "LEGO WeDo."

EXTENSIONS

Extensions allow you to connect to hardware devices or web services. To add an extension, go to the **More Blocks** palette.

IMPORTANT: Install the Plug-In

You need a plug-in to use any hardware extension. Download and then open the installer file for **Mac** or **Windows**. You will need administrator access on your computer to install it. (A Unix version will be available soon.)

Status: Hardware Devices

LEGO WeDo ●

Red light means that the browser plugin has not been installed.

LEGO WeDo ●

Yellow light means that the device is not connected or detected.

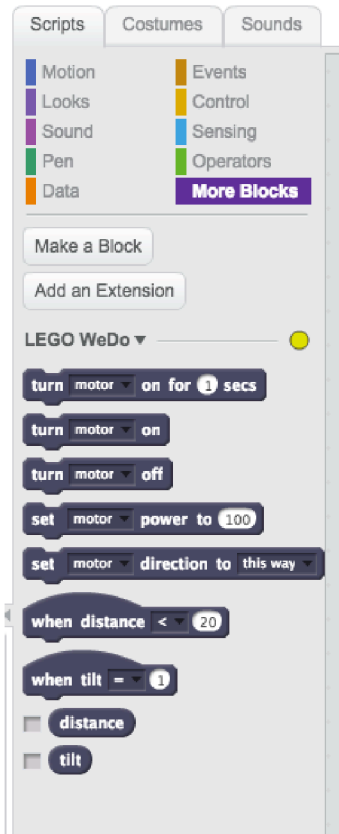
LEGO WeDo ●

Green light means the device is ready to go!

Troubleshooting

If it's not working, try:

- Make sure you have opened and installed the plug-in file.
- Restart your browser.
- Make sure that you don't have Scratch open in another tab or browser.
- Make sure the hardware is plugged in.



LEGO WeDo Extension Blocks

turn motor on for 1 secs

Turns a specific motor or the lights on for a certain amount of time. There are five options for the block, listed as "motor", "motor A", "motor B", "light" and "everything".

turn motor on

Turn a specific motor or the lights on indefinitely.

turn motor off

Turn a specific motor or the lights off.

set motor power to 100

This block sets the power of a specific motor or the lights, controlling the speed at which the motor is spinning or the brightness of the lights.

set motor direction to this way

This block sets the direction that a specific motor should turn with. There are three options for the direction, listed as "this way", "that way", and "reverse". The first two are equivalent to clockwise and counter-clockwise. Reverse switches the direction.

All motor blocks have a menu that allows you to control two WeDo motors and lights separately. If you have only one motor, use the "motor" option, which will control the motor regardless of where it is connected on the WeDo hub. If you have two motors which you want to control separately, you can use "motor A" with one and "motor B" with the other. "light" controls the lights regardless of where they are connected on the WeDo hub. "everything" controls all connected motors and lights.

when distance < 20

This hat block runs a script when the distance becomes less (or greater) than a specified value.

when tilt = 1

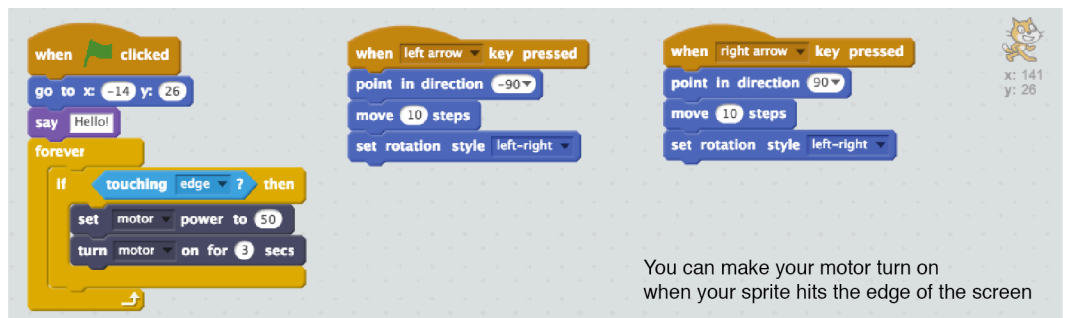
This hat block runs a script when the tilt value becomes equal (or not equal) to a specified value. The tilt sensor returns 0-4, with 0 indicating not tilted, 1 tilted down, 2 tilted right, 3 tilted up, and 4 tilted to the left.

distance

It reports the distance sensor value.






tilt

It reports the tilt sensor value.

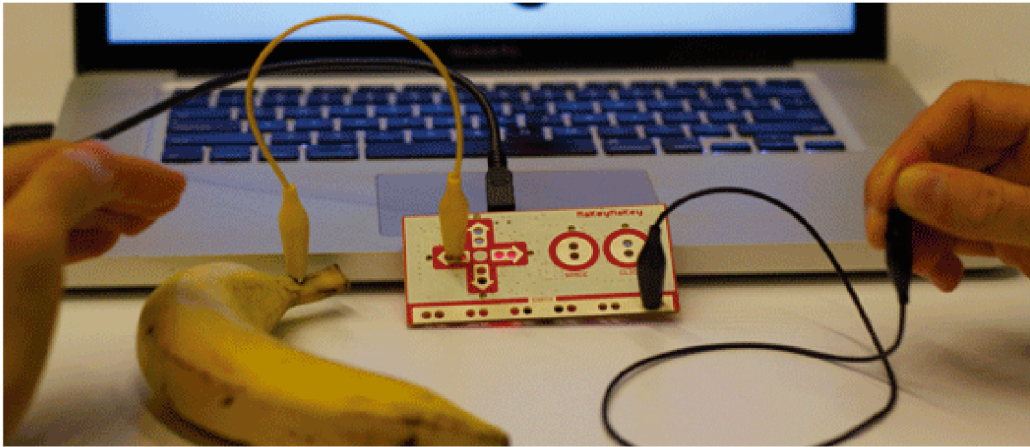


You can make your motor turn on when your sprite hits the edge of the screen

SCRATCH TO WE DO CHEAT SHEET

WeDo part	What it looks like	What you can use it to do
Motor	 A grey cylindrical motor with a black cable and a connector.	Make things turn
Light	 A black cable with a connector and a small light component.	These are LEGO Power Function lights that are not included in the WeDo kit, but can still be connected to the WeDo hub and controlled using Scratch.
Distance sensor	 A grey sensor module with a black cable and a connector.	Interact by moving closer and further from this sensor
Tilt sensor	 A grey sensor module with a black cable and a connector.	Interact by tilting this sensor
Hub	 A grey hub module with a black cable and a connector.	Connect the WeDo parts to your computer

SCRATCH TO MAKEYMAKEY CHEAT SHEET

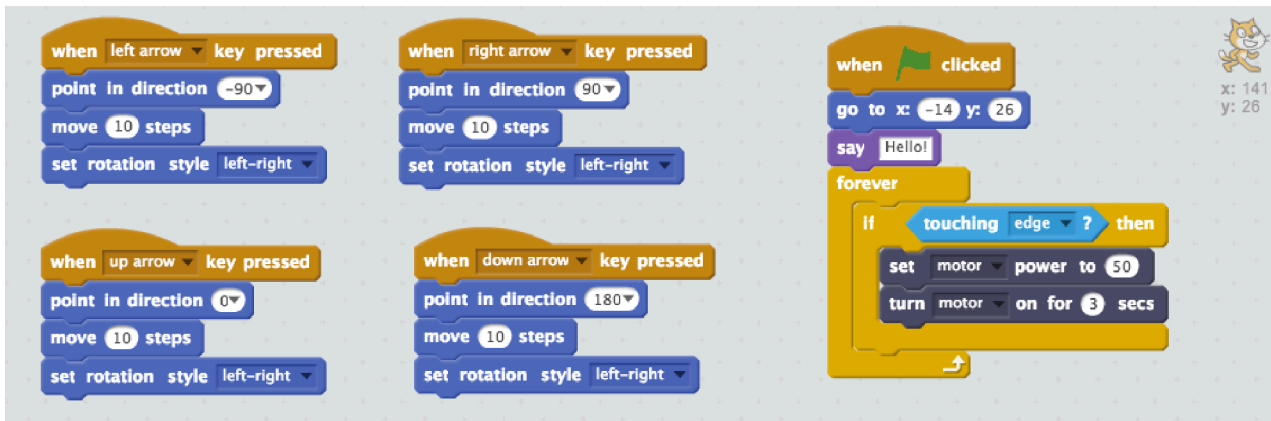
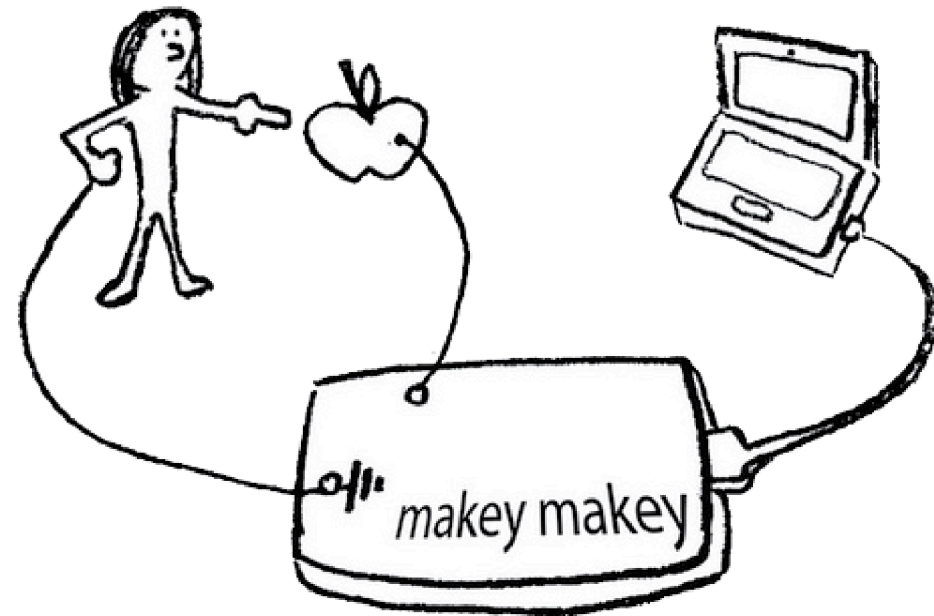


To make MaKey MaKey work with Scratch, plug in the USB to your computer and create a program like you normally would in Scratch. For example, when the right arrow key is pressed, the sprite moves 10 steps.

Then connect one of the alligator clips to Earth at the bottom of the MaKey MaKey board and touch the metal at the other end of the alligator clip with your finger.

Next connect another alligator clip to the apple and the right arrow on the MaKey MaKey board.

When you touch the metal clip and apple at the same time, you complete a circuit and MaKey MaKey sends a signal to your computer saying a key is pressed. Every time you touch the apple your sprite will now move 10 steps



You can control your character by using your new set of physical keys using makey makey. With the same WE DO program I can push a banana to trigger a WE DO motor.

