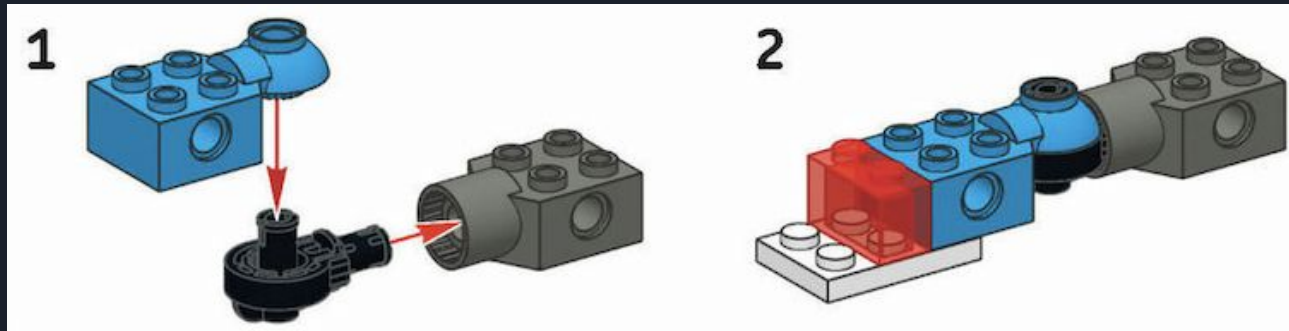# Voice Activated Robot

Programming MARIO

1st - Build MARIO
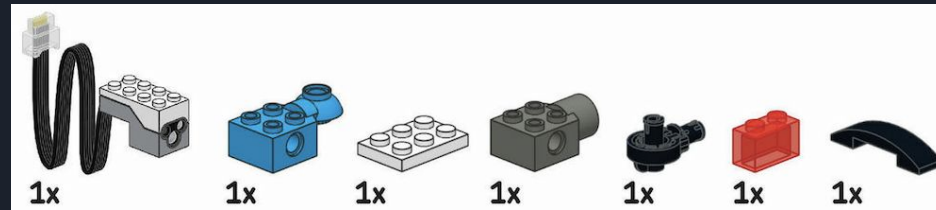
Find the directions in the activity
or on the
Enrichments Page -
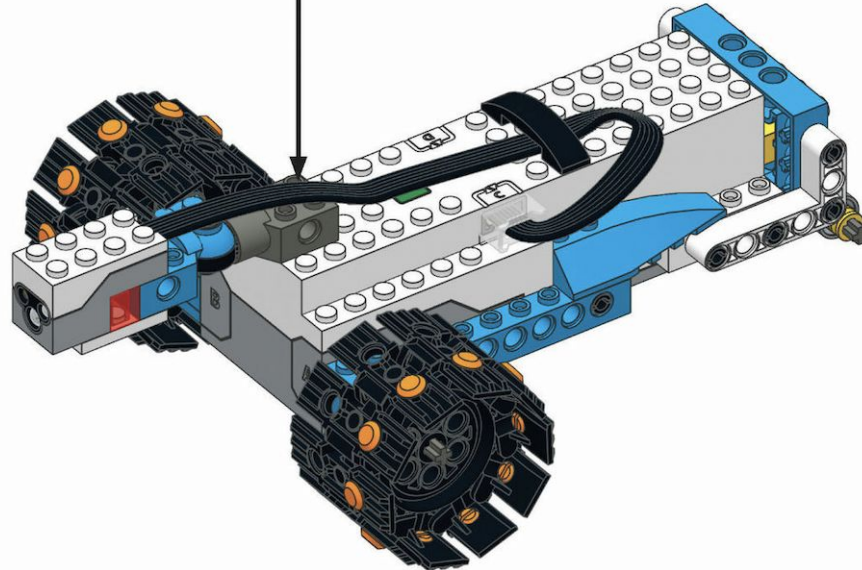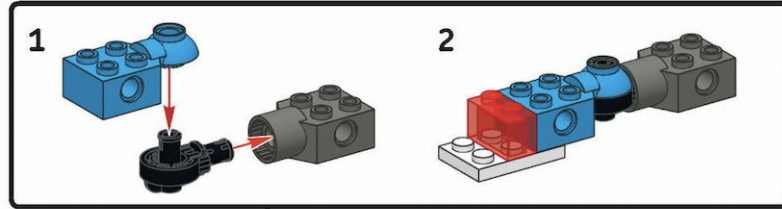http://lowerschooltech.sites.da.org/enrichments/

Then add the sensor.

(Directions on next two pages.)

# Building the Sensor Head Part 1

Building the Sensor Head Part 2

Control MARIO with Sound

- Use the Sound Sensor blocks with your voice or by clapping your hands.

- The Move Hub does not have a built in microphone. The LEGO Boost app measures the sound level detected by the microphone on your device.

- You can use the Sound Sensor blocks to make a robot measure and react to changes in the sound level.
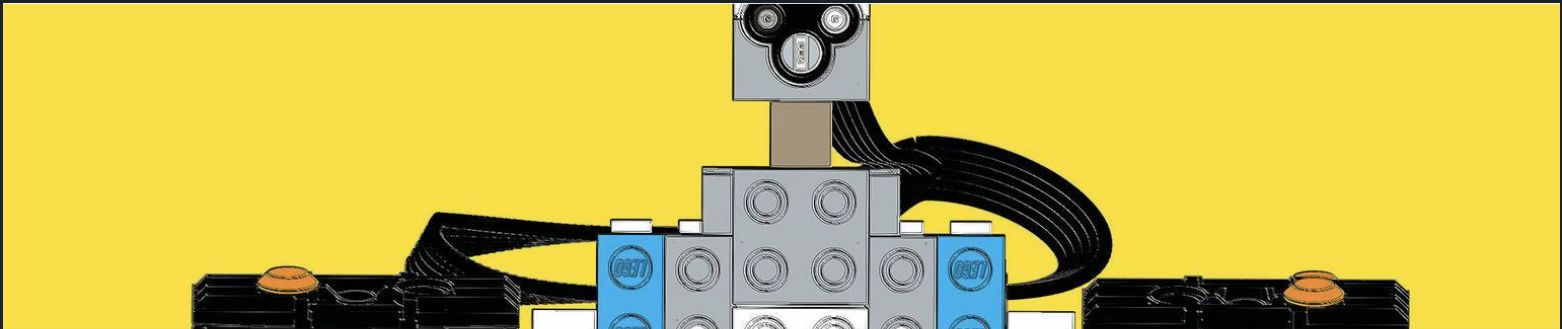
Sound Sensor Blocks Explained

- **Trigger on Sound Level** (A) Starts the sequence when the sound level is greater than the input number.

- **Wait for Sound Level** (B) Pauses the programming sequence while it waits for the sound level to exceed the input number.

- **Sound Level Reporter** (C) Shows you the current sound level detected. 0 = Silence, 10 = Loud Noise
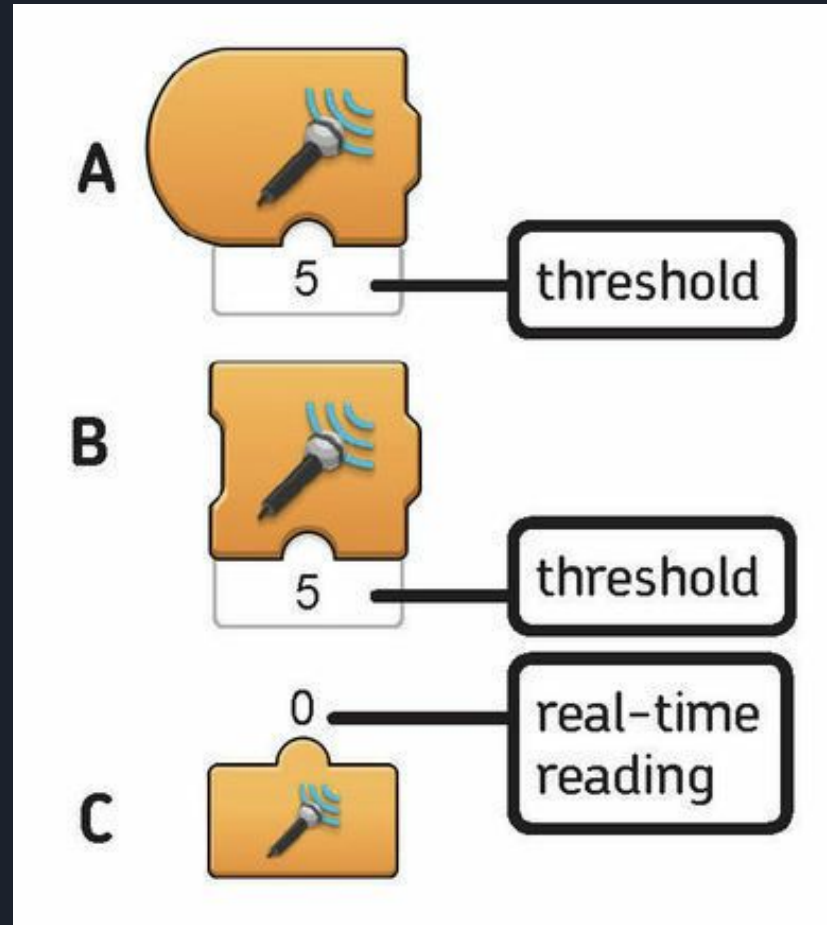
Clapper Switch

This program lets you start and stop the robot by clapping your hands or by saying something aloud, like "Start" or "Stop."

*Create a new program and call it Clapper.

You can use the Sound Sensor blocks with any program to start and stop the actions.

This sequence controls movement.

Clapper Navigator

This program uses sound to make MARIO switch between straight and curved movement.

*You can add this sequence on the same project as the Clapper Switch.

- Drivebase Movement Steering Unlimited block #1 moves MARIO straight forward.

- Drivebase Movement Steering Unlimited block #2 makes MARIO back up and turn.

- MARIO continues steering until another sound is detected.

What You Have Learned

- There are three Sound Sensor blocks:
    - Trigger on Sound Level
    - Wait for Sound Level
    - Sound Level Reporter

- How to program a robot to be controlled by sound.
    - Start a sequence of code with sound.
    - Stop motion with sound.
    - Change steering based on sound.