

Name:

Date:

Class:

## Day 5: Programming Robot Movements Sheet **Answer Key**

Group Members: \_\_\_\_\_

### Translating EMG Data to Robot Movements

You will program both micro:bits in the [Micro:bit MakeCode editor](#) online. Use the following tips to write your code:

- The micro:bit attached to your muscle sensor should be programmed to send EMG data to your robot using radio signals. Review the [micro:bit page on radios and pins](#) for more information.
  - Use an if-else statement to set a threshold for which numbers in the EMG data should trigger movement in your robot. If your data is over that threshold, it should send a specific radio signal, and if it's below, it should send a different signal.
- The micro:bit attached to your robot should be programmed to move the robot forward based on the radio signals it receives. Review the [Cutebot wiki](#) for more information on programming the robot to move.

Paste screenshots of the code for each micro:bit below.

Code may vary. As long as the code accomplishes the task of moving the robot in response to EMG signals, it is acceptable. A sample program is shown below.

Name:

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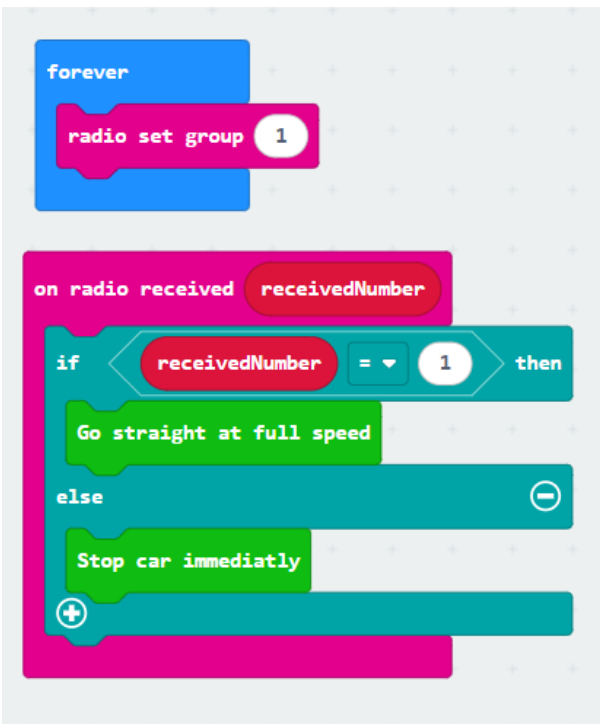
Class:

### Muscle Sensor Micro:bit Code:



```
forever
  radio set group 1
  serial write value "emg_signals" = analog read pin P2
  set EMG_Readings to analog read pin P2
  if EMG_Readings >= 100 then
    show icon [LEDs]
    radio send number 1
  else
    show icon [LEDs]
    radio send number 2
```

### Robot Micro:bit Code:



```
forever
  radio set group 1

on radio received receivedNumber
  if receivedNumber = 1 then
    Go straight at full speed
  else
    Stop car immediatly
```