

PLUGGING IN

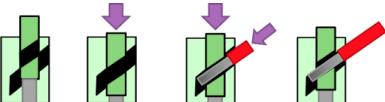
Single Color LED

Where:

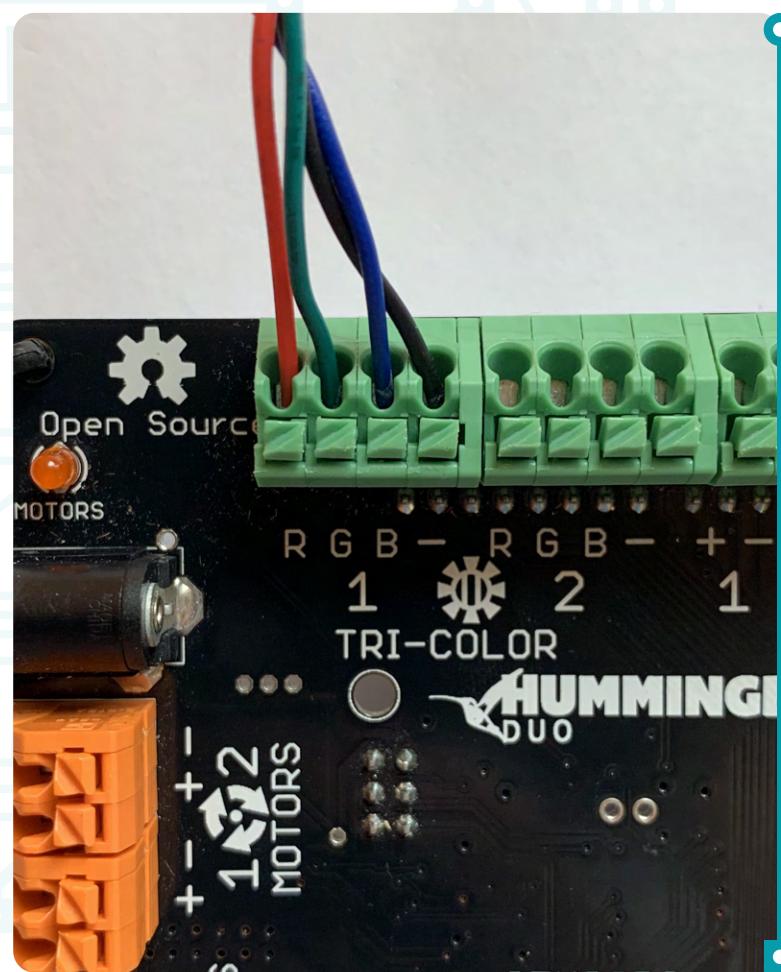
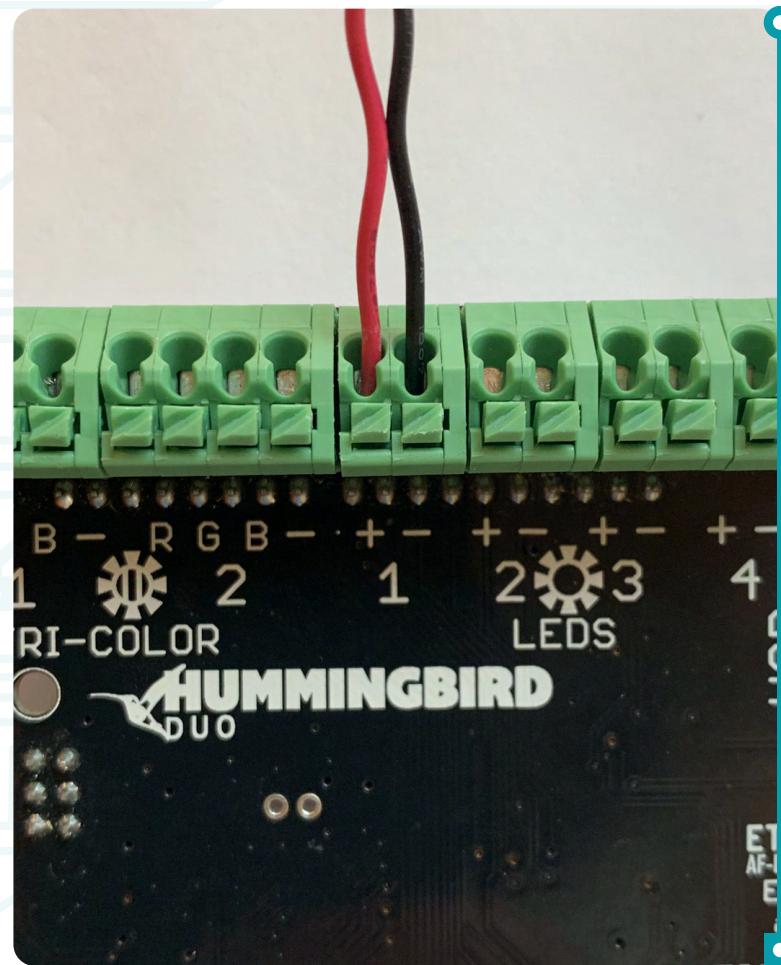
- LED Port 1
- (+) Other Color Wire
- (-) Black Wire

How To:

1. Press down button
2. Insert wire
3. Release button



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PLUGGING IN

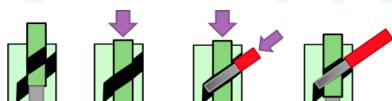
Tri-Color LED

Where:

- Tri-LED Port 1
- (R) Red Wire
- (G) Green Wire
- (B) Blue Wire
- (-) Black Wire

How To:

1. Press down button
2. Insert wire
3. Release button



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GETTING STARTED

Single Color LED

Program your single color LED to blink on and off every half of a second.



CHALLENGE

Write a program that makes the LED blink faster.

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GETTING STARTED

Tri-Color LED

Program your tri-color LED to change from red to blue every half of a second.



CHALLENGE

Write a program that changes the color of the LED from purple to teal to green.

when green flag clicked

forever

HB LED 1 intensity 100

wait .5 secs

HB LED 1 intensity 0

wait .5 secs

when green flag clicked

forever

HB triLED 1 R: 100 G: 0 B: 0

wait .5 secs

HB triLED 1 R: 0 G: 0 B: 100

wait .5 secs



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Servo Motor

Where:

Servo Port 1
(S) **Yellow** Wire
(+) **Red** Wire
(-) **Black** Wire

How To:

Plug the end into place in the port



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PLUGGING IN

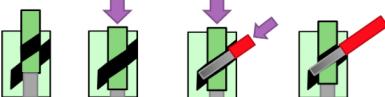
Gear Motor

Where:

Motor Port 1
(+) **Orange** Wire
(-) **Orange** Wire

How To:

1. Press down button
2. Insert wire
3. Release button



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GETTING STARTED

Servo Motor

Program your servo motor to move from 90° to 180° every 1 second.



CHALLENGE

Write a program that makes the servo move to 3 different positions.

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```
when green flag clicked
forever
    HB servo 1 angle 90
    wait 1 secs
    HB servo 1 angle 180
    wait 1 secs
```

GETTING STARTED

Gear Motor

Program your gear motor to move at maximum speed for 2

seconds and pause for 2 seconds, repeating forever.

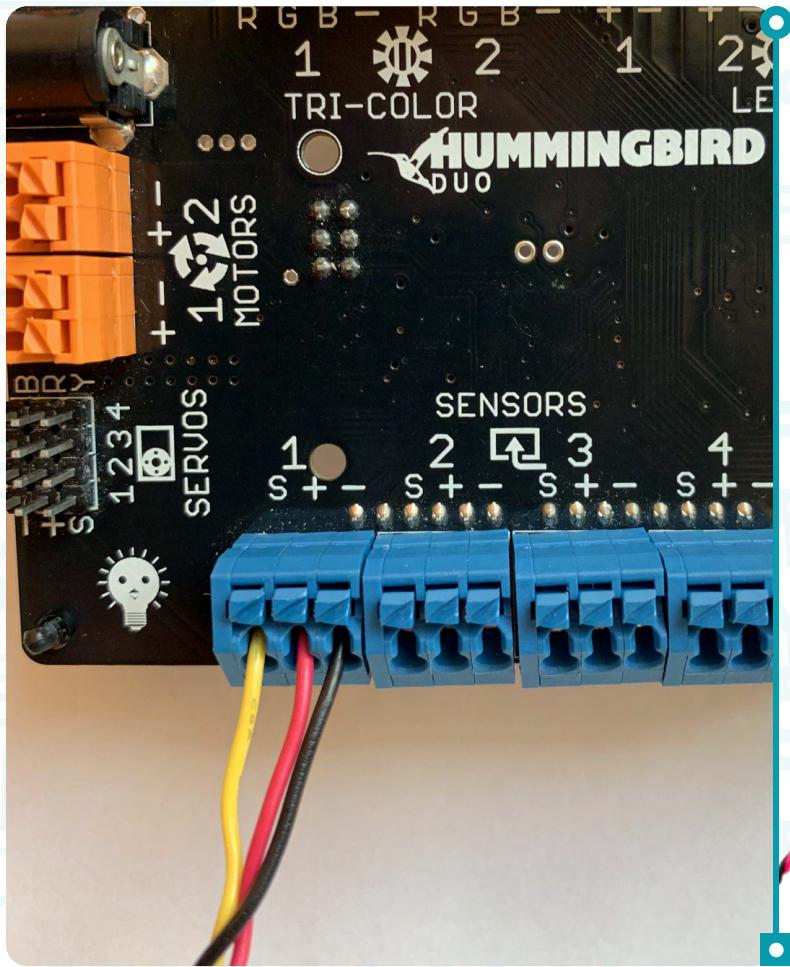


CHALLENGE

Write a program that makes the motor spin counterclockwise quickly for 1 second then clockwise slowly for 3 seconds.

```
when green flag clicked
forever
    HB motor 1 speed 100
    wait 2 secs
    HB motor 1 speed 0
    wait 2 secs
```

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PLUGGING IN

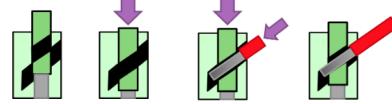
Sensor

Where:

- Sensor Port 1
(S) **Yellow** Wire
(+) **Red** Wire
(-) **Black** Wire

How To:

1. Press down button
2. Insert wire
3. Release button



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GETTING STARTED

Sensor

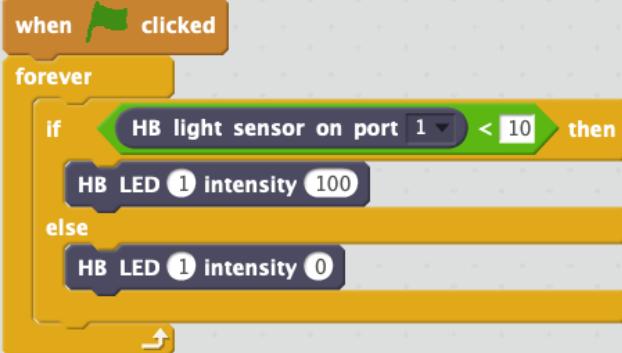
Program your light sensor to control your single color LED. When it is dark, the LED will turn on. Otherwise, the LED will be off.



CHALLENGE

Write a program that makes an LED turn on and off with a different sensor.

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```
when green flag clicked
forever
  if [HB light sensor on port 1 < 10] then
    [set HB LED 1 intensity to (100)]
  else
    [set HB LED 1 intensity to (0)]
```

Use these logic blocks:



Use these Hummingbird blocks: