

Name:

Date:

Class:

## Part 6A: Arduino Traffic Light Challenge

### Introduction:

In this activity you will construct a circuit and program the Arduino to connect three LEDs and get them to go on and off in sequence to model a traffic light. The goal is to use your code and wiring from previous activities to complete the challenge.

### Required materials:

- laptop with USB port
- Arduino Uno
- USB 2.0 cable, type A/B
- red, yellow, and green LEDs
- 3 220 ohm resistors
- mini breadboard
- 4 jumper wires

### Setup of circuit:

Start with the setup you used for two LEDs. You will want to put the three LEDs in order from top to bottom on the breadboard the way they are aligned on a real traffic light. It's okay to look that up online if you need to.

You will **add your third LED** in a similar manner to the first two. Use an additional **220 ohm resistor** and **one more wire** to connect to the pin you will be using on the Arduino.

### Coding the model traffic light:

1. Start with the code you saved for the two LEDs.
2. Name this new sketch **Traffic Light** and save it in the folder on your desktop. (That will keep your other code intact.)
3. If you don't remember how we added the second LED to the code, try watching the video again. [Adding 2nd LED in Arduino Video](#)
4. Once you have your traffic light working, have it checked off by your teacher.

### Reminder...

*If you get stuck it's okay to ask a classmate for some help, but remember it's best to try to figure this out for yourself, and definitely to work on the coding and wiring yourself. DON'T LET SOMEONE ELSE TAKE OVER—you've got this!*