Experimenter Challenge: Multiple Fades

This experiment builds on the skills covered in the *Analog Input Lesson*. If you're unsure on any parts in this challenge, feel free to experiment and see if you can figure it out. If you're still having trouble, refer back to the previous lesson for some tips and tricks!

In fact, you could even have the lesson guide open while you work through this project!

Skills Involved:

- analogWrite()
- Variable usage
- Wiring a multiple LED circuit

Base Activity: Multiple Fades

For this activity, you'll be building on the concepts you used in the *Fading LED* activity, except this time you'll be using (and fading) more than 1 LED!

Think of this as a combination of the *Traffic Light* and the *Fading LED* projects.

There is no set direction for *how* your LEDs should fade. The goal is to experiment and come up with a fun pattern!

Supplies:

- Uno board and breadboard
- Jumper wires
- 220 or 560 Ohm resistor
- LEDs of your choice
- Breadboard diagram from *Fading LED* project

Steps:

There aren't any set steps for this experiment, but here is an outline to help you get started:

- Wire up the circuit from the *Fading LED* project
- Make a new sketch if you want to keep the original code, if not make your changes in your previous sketch
- Instead of having a single variable for the LED, you'll need to create a variable for every LED that you're using.
- Make sure that you're using the correct **pinMode()** and that the pin numbers in your code match the pins you're using on the board!