

# Getting a computer setup to program the Adafruit Gemma v2

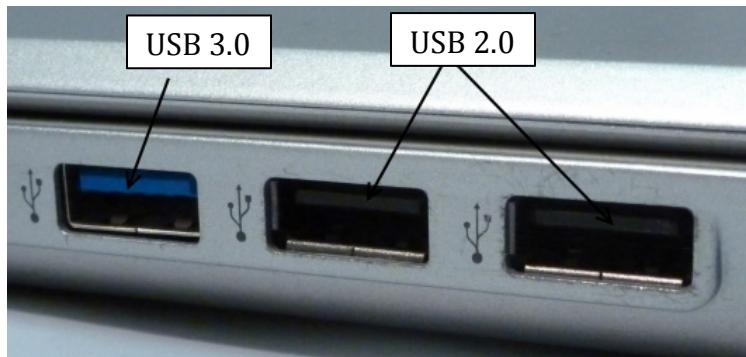
**Do not plug the Gemma into your computer until the appropriate step in this guide.**

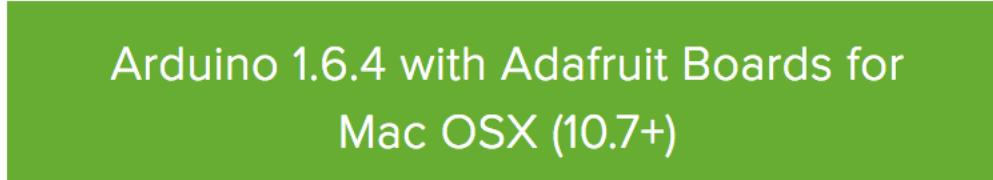
Terminology:

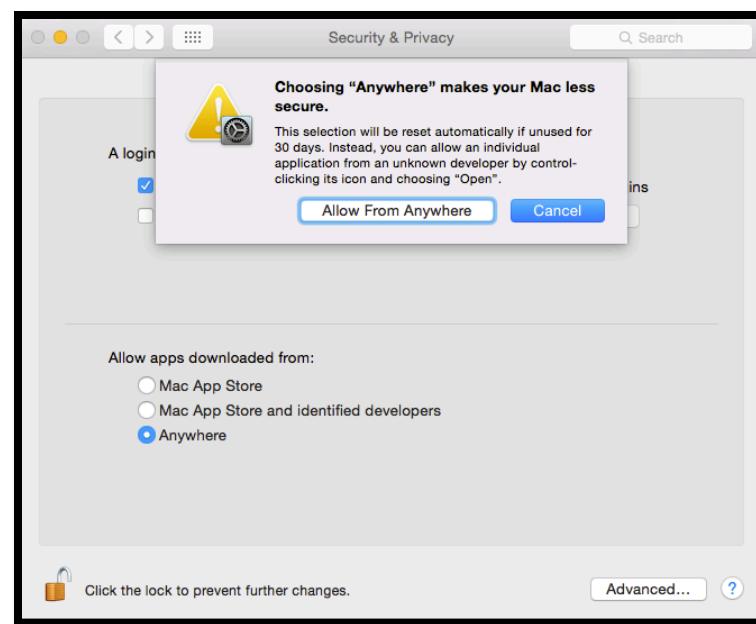
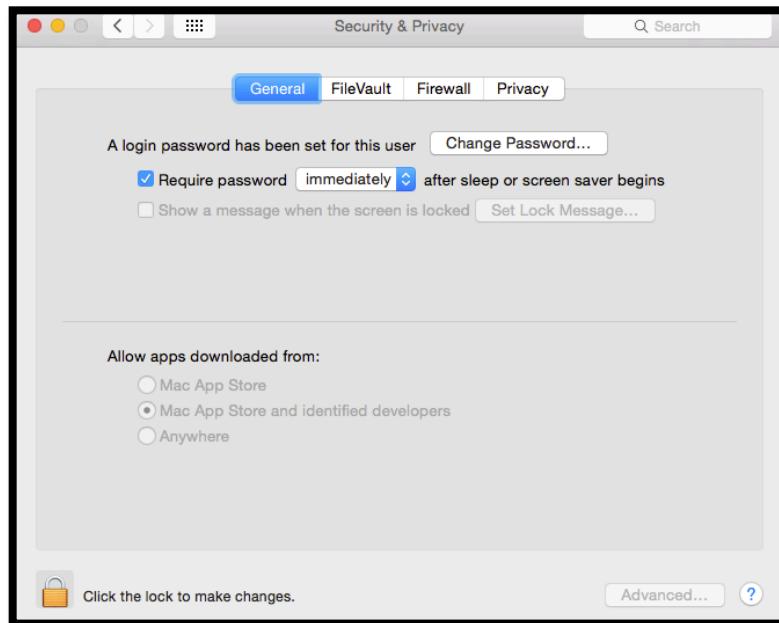
- **Gemma**<sup>1</sup> is the quarter-sized black circle controller board
- The **Arduino IDE**<sup>2</sup> is the software you will install to write and load programs onto the Gemma
- **MicroUSB cable** is shorthand for a [USB A Male to Micro Male cable](#) – It's a common (Android, not iPhone) cell phone cable.  
HOWEVER, you'll want one that can transfer data from your phone to your computer (not just charge your phone)

This tutorial is for a:

- **Mac** user (pictures are for OSX Yosemite 10.10.5 – but need 10.7+)
- With a **USB 2.0 port**<sup>3</sup> (look in the port, typically 3.0 ports are blue or marked with an "SS" – Gemma DOES NOT WORK with 3.0 ports, you'll need a [2.0 hub](#))



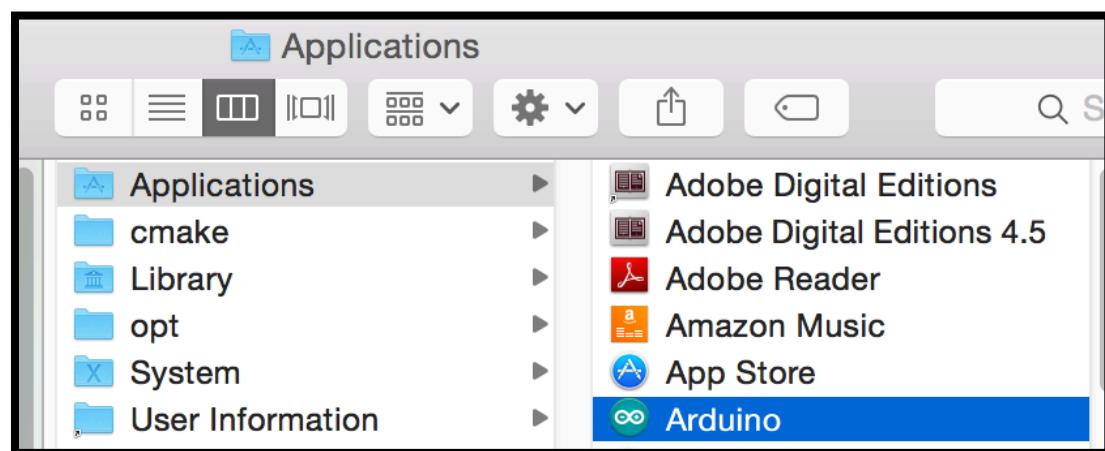
Instructions	Corresponding screenshot
<p>Download the Adafruit All-in-1 installation for Arduino IDE</p> <p><a href="https://s3.amazonaws.com/adafruit-download/adafruit-arduino-1.6.4-macosx.zip">https://s3.amazonaws.com/adafruit-download/adafruit-arduino-1.6.4-macosx.zip</a></p> <p>You will NOT receive the latest IDE, however, it will work for this project. SHOULD you want the latest IDE and are willing to do more troubleshooting, see <a href="#">[this link]</a></p>	
<p>If you're using Mac OS Mavericks or later you may need to update the setting to permit running Arduino IDE</p> <ol style="list-style-type: none"> <li>1. Open the, <b>System Preferences</b> from the Apple Menu.</li> <li>2. Open the, <b>Security and Privacy</b> control panel.</li> <li>3. Click on the <b>General</b> tab.</li> <li>4. Click the <b>Lock Icon</b> in bottom left corner and log in</li> <li>5. Change <b>Allow Apps Downloaded From</b> to <b>Anywhere</b></li> <li>6.</li> </ol>	



Open the downloaded ZIP and the application “Arduino” will appear in your Downloads folder.

Drag and drop to your Applications folder.

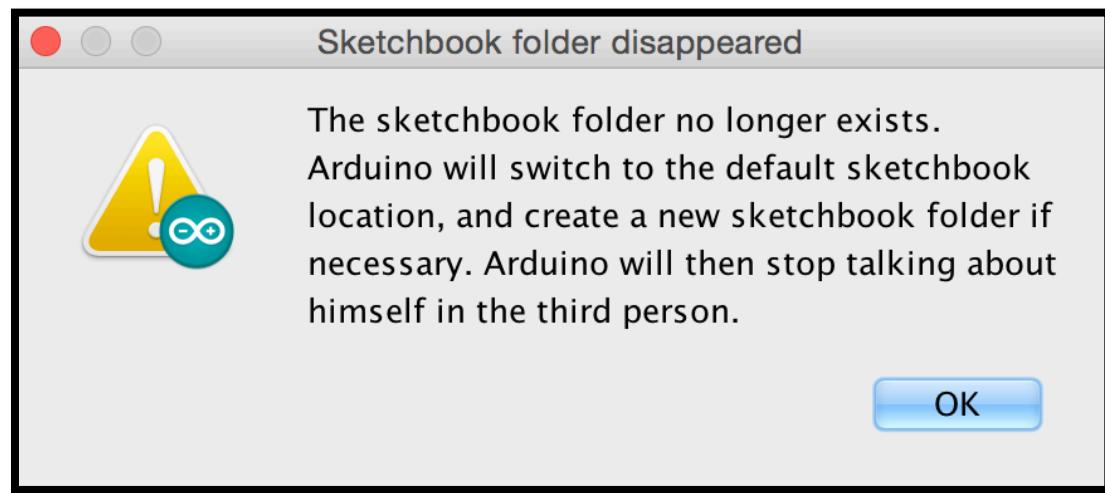
(Optional, for your own security) Go back to the Security preferences and change the selection back to **Mac App Store and identified developers**. You only need to go through this procedure once. OSX will remember that it's OK to run the app.



Open the Arduino application so that the “sketchbook” can be created.

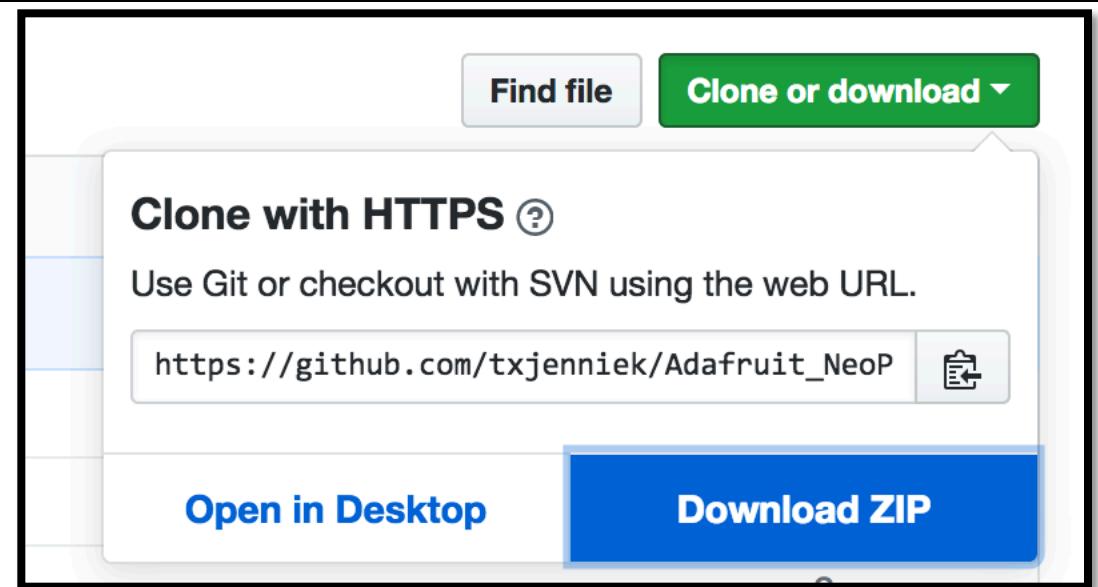
It's really just the Arduino directory in the Documents directory.

Close the Program after you open it.

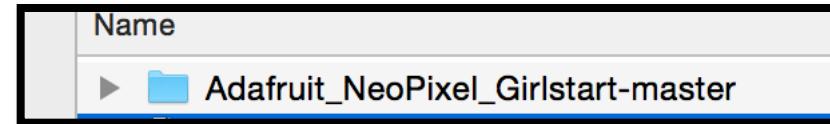


Download the Github repo in ZIP format:

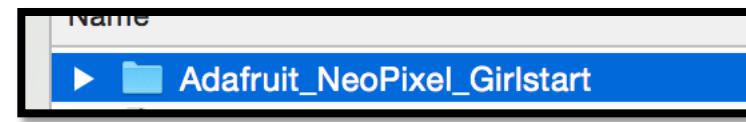
[https://github.com/txjenniekt/Adafruit\\_NeoPixel\\_Girlstart](https://github.com/txjenniekt/Adafruit_NeoPixel_Girlstart)



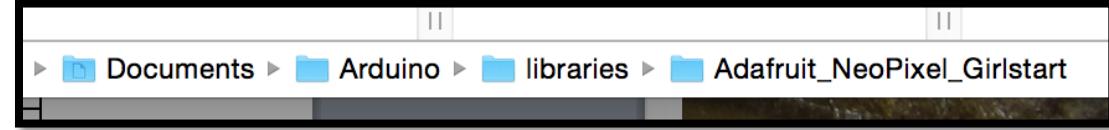
Unzip the Repo

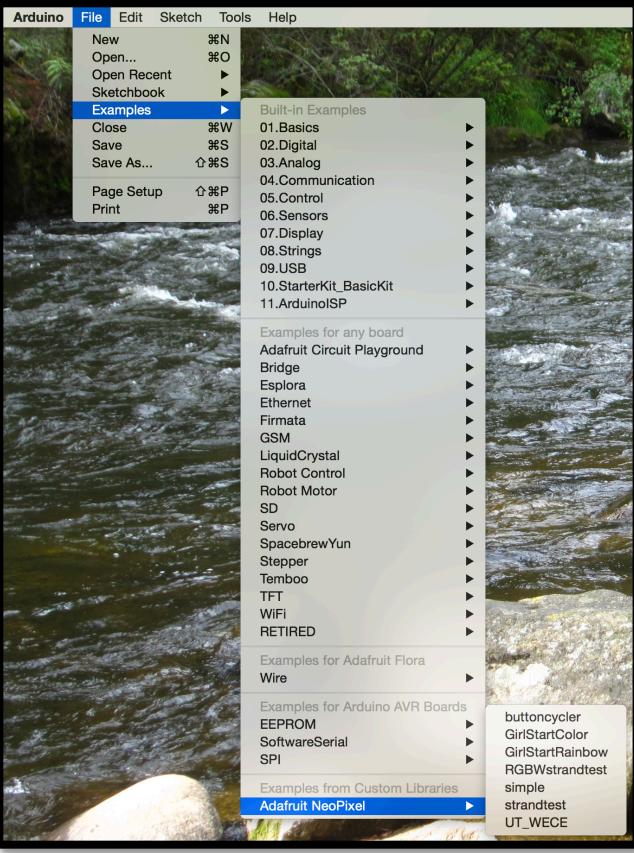


Rename the folder  
“Adafruit\_NeoPixel\_Girlstart”  
(remove the “-master”)

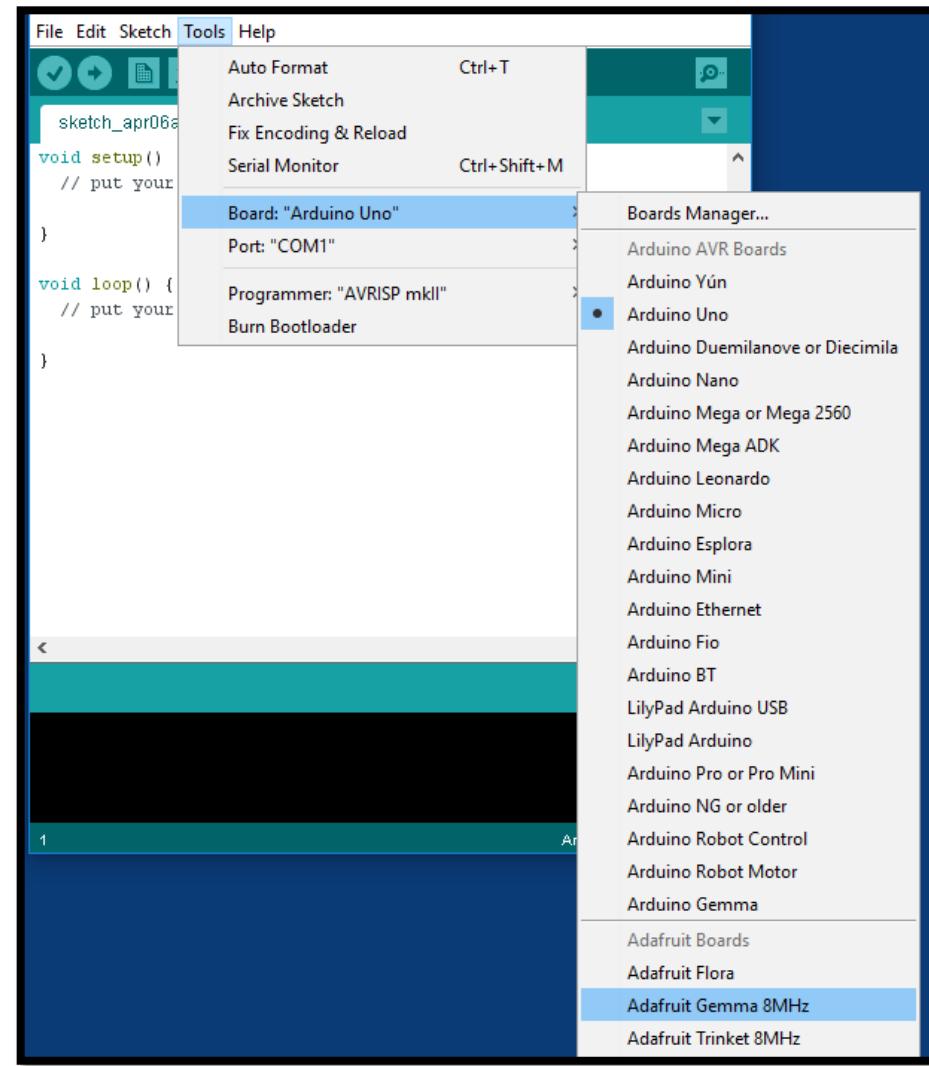


Move this folder under  
Documents -> Arduino -> libraries ->  
(this folder won't exist if you haven't  
opened the Arduino folder before)

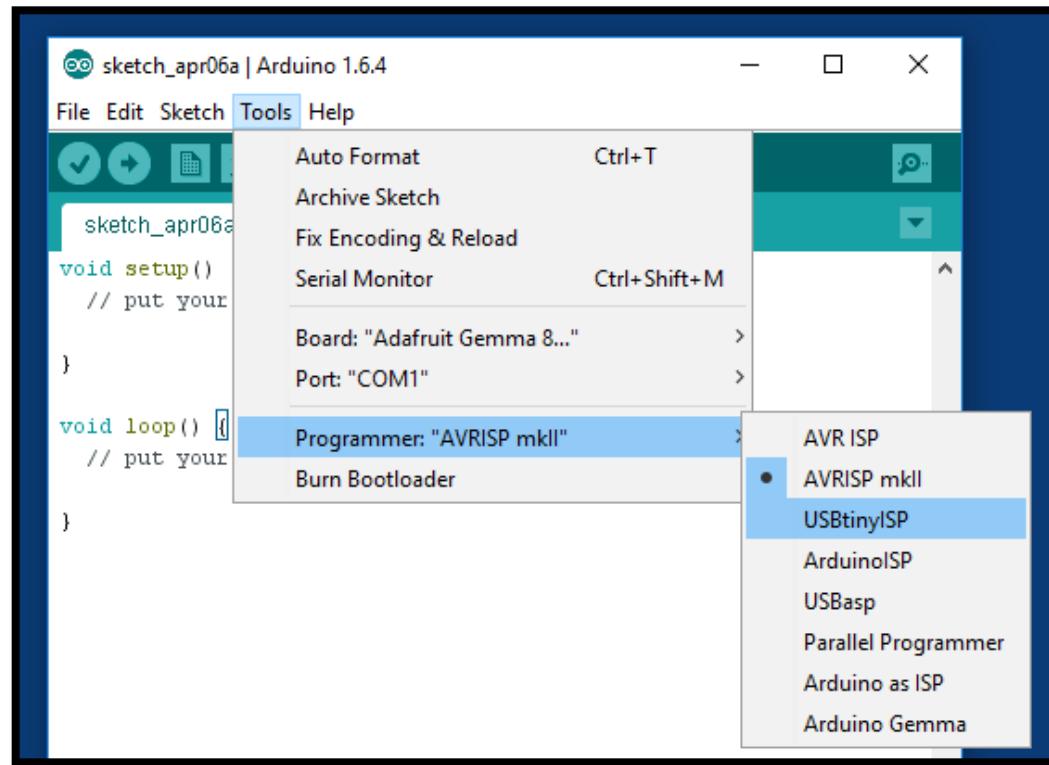


<p>Open the Arduino.exe and select the starter code you wish to open</p> <p><b>Files → Examples → Adafruit NeoPixel → WECE</b></p>	 <p>The screenshot shows the Arduino IDE interface with the 'File' menu open. The 'Examples' option is selected, revealing a list of built-in examples and examples for Adafruit Flora, AVR boards, and custom libraries. Under 'Examples from Custom Libraries', the 'Adafruit NeoPixel' library is listed, with the 'WECE' example highlighted.</p>
<p>Make any changes to the code you'd like – Optional!</p>	

Select the Adafruit Gemma  
8MHz board from the Tools  
→ Board menu.<sup>4</sup>



Then, select **USBtinyISP**  
from the **Tools →**  
**Programmer** sub-menu



### Now plug in the Gemma using the micro USB cable

Press-and-release (don't hold!) the tiny onboard button with a fingernail

The green power LED should be lit. If not, check that the switch is pushed ON.

Click "Upload" in Arduino IDE

The red LED should blink. If not, press the tiny onboard button again.

You have upload within **10 seconds** of pressing the tiny onboard button. If you don't make it, just press the tiny button again.

<sup>1</sup> <https://learn.adafruit.com/introducing-gemma/introduction>

<sup>2</sup> <https://www.arduino.cc/en/main/software>

<sup>3</sup> <https://learn.sparkfun.com/tutorials/connector-basics/usb-connectors>

<sup>4</sup> <https://learn.adafruit.com/introducing-gemma/setting-up-with-arduino-ide#adafruit-gemma-black-gemma>

Need more help? Adafruit supports their products through their forum:

<https://forums.adafruit.com/viewforum.php?f=51&sid=0afe22143395eeafdd28c8c0dc434619>

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**Practice good cybersecurity habits; don't include your first or last name in your username when signing up for the forums!**