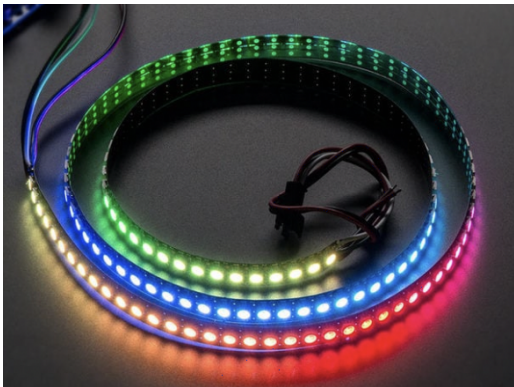


# Controlling LEDstrips with Arduino

## LED Strips and Arduino

With the Adafruit Neopixel library, it is very easy to work with controlling different types of LED's using Arduino. Adafruit has a very extensive "[Adafruit NeoPixel Überguide](#)" available online, where you can follow a step-by-step guide for controlling LED strips, panels and individual led's.

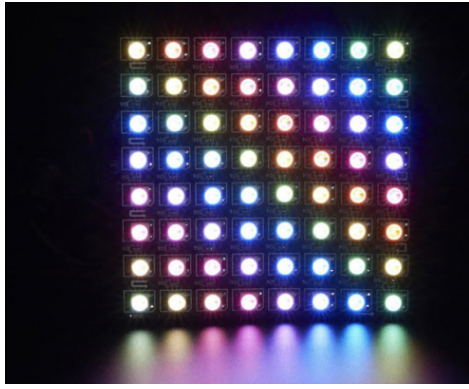
NeoPixel options:



**Strips**

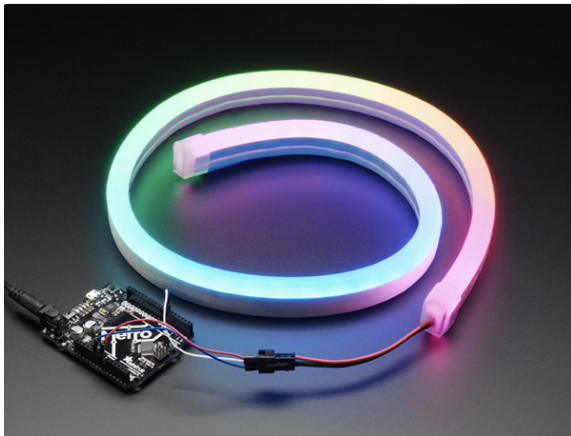


**Rings**



**Matrices**

**Pins**



[ETC...](#)

^^ link to more options available via kiwi electronics

**Neon-Like Strips**

Images from Adafruit

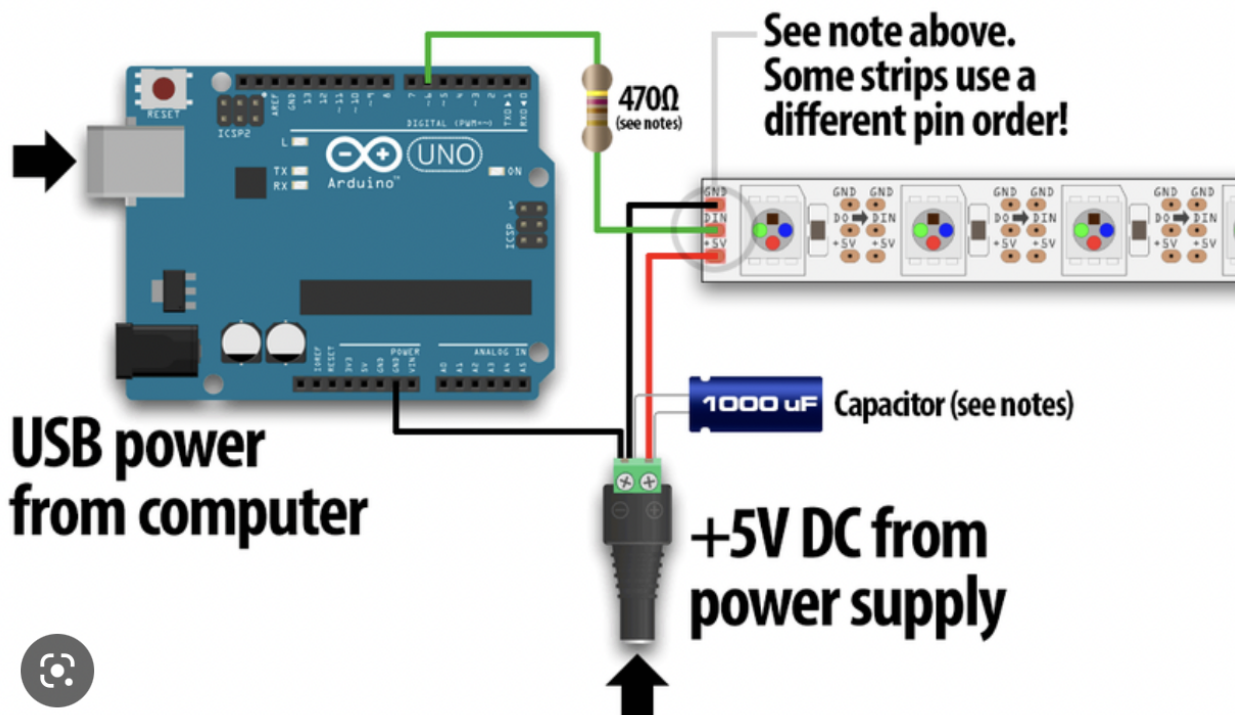
# Basic NeoPixel LED strip setup

## HARDWARE

### Materials needed:

- Arduino Uno (or other available Arduino, but Nano is most beginner friendly)
- 1x 300 to 500 Ohm Resistor
- 5V power supply ([this type](#) is recommended for simple setup)
- 1x 500-1000  $\mu$ F Capacitor

For controlling LED strips and Arduino you can build the following hardware:



[Usefull video until 3:50](#)

## SOFTWARE

Launch the Arduino IDE.

If you have not installed the NeoPixel Library for Arduino, first make sure to do that first.

## Video

<https://learn.adafruit.com/adafruit-neopixel-uberguide/arduino-library-installation>

If you want to understand more about Arduino and [Libraries?](#) [Read more here...](#)

From the **File** menu, select

**Examples**→**Adafruit NeoPixel**→**strandtest**

# Powering NeoPixels in different ways

Other methods for powering ledstrips beside the simple standard power supply are:

- DC wall wart adapters (5v)
- lithium-polymer battery (Lithium Ion Polymer Battery - 3.7v 2500mAh)

- Three alkaline cells (such as AA batteries)
- Four nickel-metal hydride (NiMH) rechargeable cells

You must use a 3-5V DC power supply to power these strips, do not use higher than 6V or you can destroy the entire strip- yikes!

Example 1 AA or AAA = 1,5 V

[LED Power calculator here!](#)

When choosing any option for powering the ledstrips, always take into account that you have enough amperage provided for the strips. Checkout the [Adafruit page for more details regarding power options.](#)

## Powering Arduino in different ways

If you want to use a powerbank in some cases depending on how much power the arduino needs from the bank it might turn off after 1 - a few minutes even though the powerbank is fully charged. It depends on the kind of powerbank. Some have a safety built in. But most of the time it is not mentioned in the description.

Try different types of powerbanks or use info from these links:

<https://www.youtube.com/watch?v=I7MrL5Q7zvY>

<https://forum.arduino.cc/t/simplest-battery-power-to-arduino-nano-solution/530242>

Im still experimenting with this myself once i find more info i add it to this book.

At the moment i have tried 2 powerbanks (5000 & 10000 mAh) for Arduino Nano with seperate power for my small Neopixel Jewel (7 leds). Both dont work. Using batterypack 4xAA atm.

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