



LED Noodle Shop Sign

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<https://learn.adafruit.com/led-noodle-shop-sign>

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Overview



3D Printed LED Noodle Sign

3D print parts to make a glowing neon-like noodle shop sign. This features flexible LED filaments that are press fitted into channels in the 3D printed sign.

This 3D printed sign features three LED noodles that are press fitted and shaped like a noodle, bowl and chopsticks.



Light-up LEGO Builds

Wires are cleverly routed behind the sign and it's powered by a coin cell battery holder.

The wires from the LEDs are routed through the built-in door on the roof top of the noodle shop.



Hidden Battery

This 2x CR2032 coin cell battery holder features a on/off switch and fits nicely inside the LEGO noodle shop.



LEGO Compatible Add-on

The 3D printed noodle sign features a mounting bar that can be fitted onto an existing LEGO brick for easy attachment.

Prerequisite Guide

Take a moment to review the LED noodle guide to gain information on usage.

- [Uber LED Noodle Guide \(https://adafru.it/18cs\)](https://adafru.it/18cs)
- [All About LEDs \(https://adafru.it/e3K\)](https://adafru.it/e3K)

Parts



nOODs - Flexible LED Filament - 3V
300mm long - Yellow

Our favorite food when hacking on code or electronics is a hot bowl of noodles - and around NYC these are often called 'noods'! What we've got here are flexible LED...

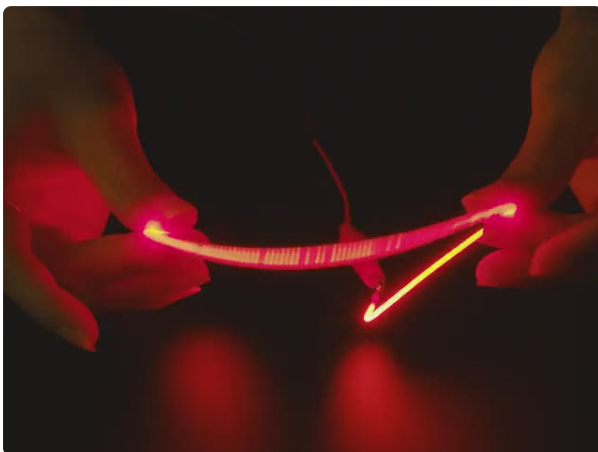
<https://www.adafruit.com/product/5509>



nOODs - Flexible LED Filament - 3V
300mm long - Blue

Our favorite food when hacking on code or electronics is a hot bowl of noodles - and around NYC these are often called 'noods'! What we've got here are flexible LED...

<https://www.adafruit.com/product/5508>



nOODs - Flexible LED Filament - 3V
300mm long - Red

Our favorite food when hacking on code or electronics is a hot bowl of noodles - and around NYC these are often called 'noods'! What we've got here are flexible LED...

<https://www.adafruit.com/product/5506>



[Silicone Cover Stranded-Core Ribbon Cable - 4 Wires 1 Meter Long](https://www.adafruit.com/product/3891)

For those who are fans of our silicone-covered wires, but are always looking to up their wiring game. We now have Silicone Cover Ribbon cables! These may look...

<https://www.adafruit.com/product/3891>



[Silicone Cover Stranded-Core Wire - 50ft 30AWG Red](https://www.adafruit.com/product/3165)

Silicone-sheathing wire is super-flexible and soft, and its also strong! Able to handle up to 200°C and up to 600V, it will do when PVC covered wire wimps out. We like this wire...

<https://www.adafruit.com/product/3165>



[2 x CR2032 Coin Cell Battery Holder - 6V output - On/Off switch](https://www.adafruit.com/product/783)

This tiny coin cell battery holder is ideal for small portable or wearable projects. It holds two 20mm coin cells (2032 or CR2032 are the most popular size) in series to generate 6V...

<https://www.adafruit.com/product/783>

[1 x JST PH 2-Pin Cable](https://www.adafruit.com/product/3814)

Male Header 200mm

<https://www.adafruit.com/product/3814>

[2 x CR2032 Lithium Coin Cell Battery](https://www.adafruit.com/product/654)

Coin Cell Battery

<https://www.adafruit.com/product/654>

[1 x LEGO Downtown Noodle Shop](https://www.lego.com/en-us/product/downtown-noodle-shop-31131)

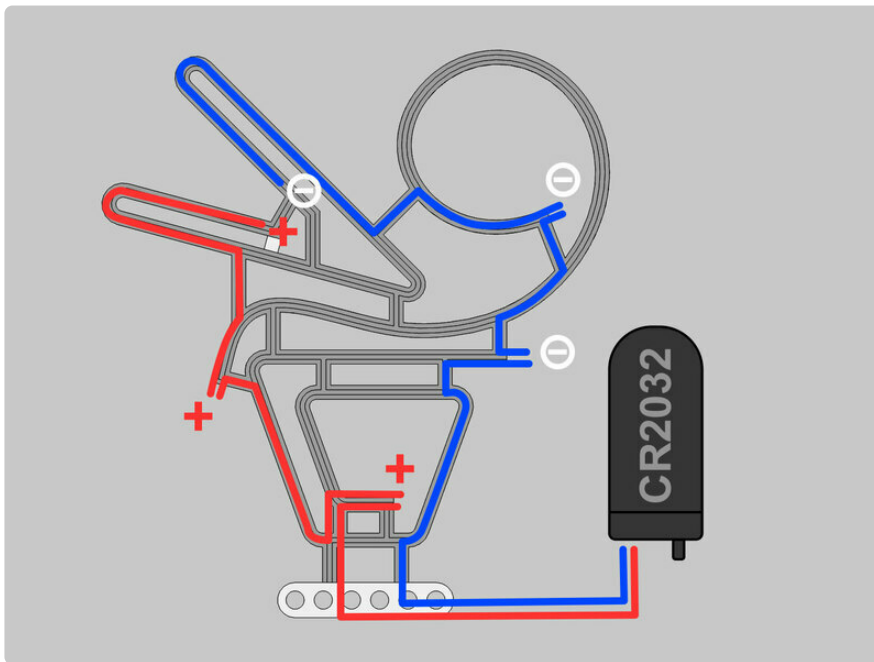
Creator 3-in-1 set #31131

<https://www.lego.com/en-us/product/downtown-noodle-shop-31131>





Circuit Diagram



The diagram depicts routing of the LED noodle VCC and GND wires. The various wires are press fitted into the channel of the 3D printed holder.

The LED Noodles are wired in parallel with the voltage and ground wires connecting together.

The red and blue lines represent wires that will be connected to the LED noodles pins.

Each wire will require a unique length that can be cut to size when installing to the 3D printed holder.

CAD Files

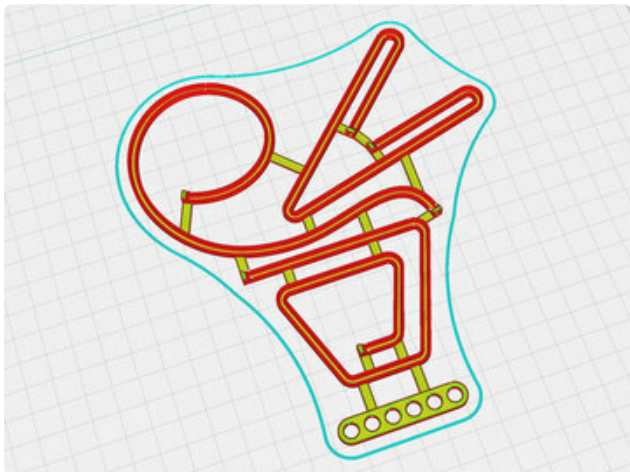


CAD Parts List

STL files for 3D printing are oriented to print "as-is" on FDM style machines. Parts are designed to 3D print without any support material. Original design source may be downloaded using the links below:

Noodle Shop Sign.stl

Wire Holder.stl



Build Volume

The parts require a 3D printer with a minimum build volume.

146mm (X) x 164mm (Y) x 50mm (Z)



Transparent Filament

For best illumination, we suggest printing the parts in translucent / transparent PLA filament.

[Download STLs.zip](#)

<https://adafru.it/18ct>

Download CAD source

<https://adafru.it/18cu>

Wiring



Join Halves

The sign and wire holder are glued together with super glue. Join the two halves together with the flat bottoms facing each other.

Super Glue is tricky stuff! Don't get it on you, especially your face (wear goggles).



Assembled Sign

Allow the glue to dry before handling.



Install Noodles

Reference the photo for correct placement. Install the noodles into the sign by insert the ends through the loops using tweezers or flat nose pliers.

Press the rest of the noodle into their corresponding channels.

Red noodle for the bowl. Yellow noodle for the noodle. Blue noodle for the chop sticks.

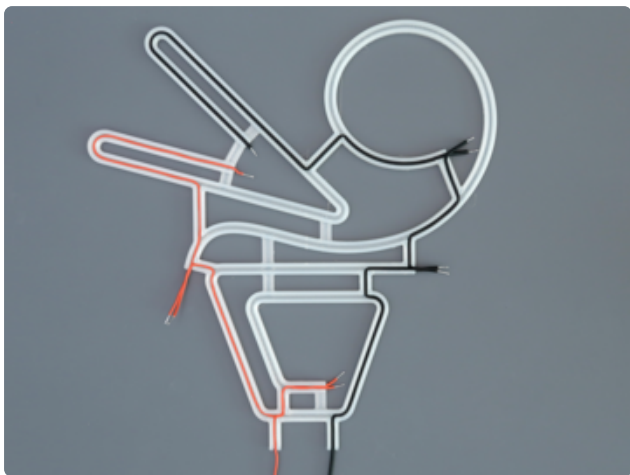


Noodle Wires

Flip the sign to show the wire holder face up.

Measure and cut wires to create the channels for the three noodles.

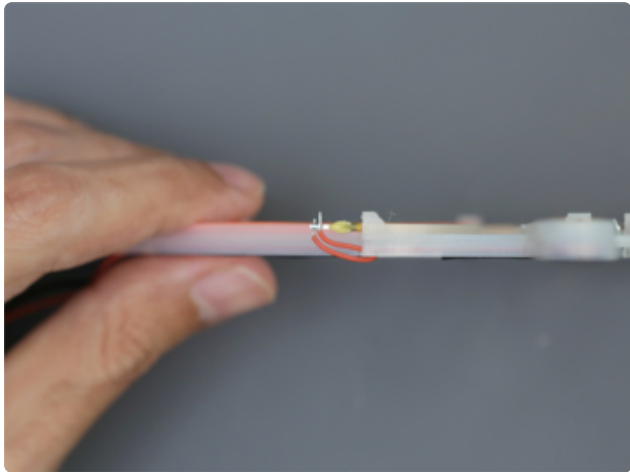
Leave a minimum of 3in(76mm) of length for the last VCC and GND wires so they can be connected to the JST battery socket.



Tin Wire Tips

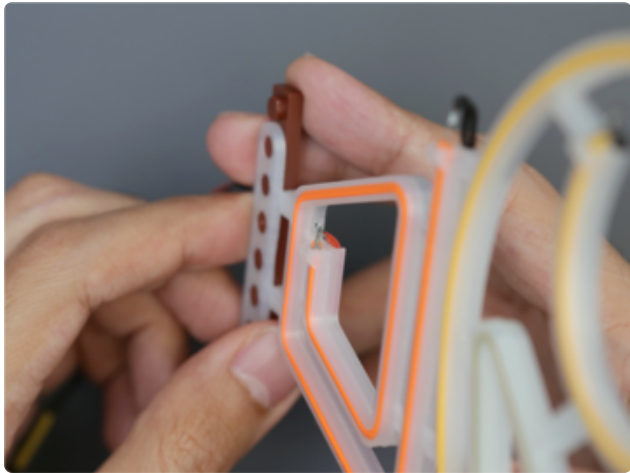
Use wire strippers to remove a bit of insulation from the tip of each wire.

Add a bit of solder to the tips of each wire. This helps prevent the strands of wire from fraying.



Connect Wires

Solder the wires to the various noodles.
Use Tweezers to help keep wires in place while soldering.



Solder Wires

Continue to solder the wires to the ends of the various noodle.

Orient the sign for better handling for more comfortable soldering.



Continue Soldering

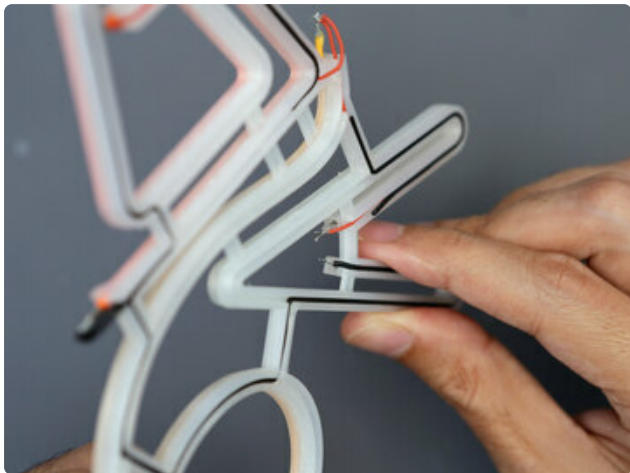
Get the next round of wires soldered.

Take your time, soldering two wires to a single pin can be tricky!



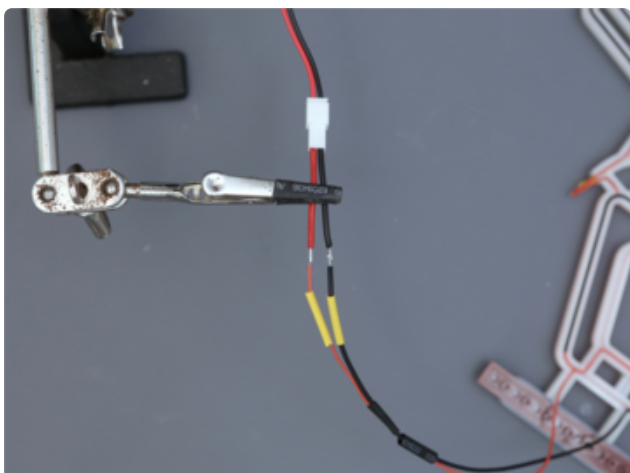
More Soldering

Keep going. Almost there.



Last Ends

Finally, solder the remaining wires to the LED noodles anode and cathode.



Connect 2-pin Cable

Solder the last two wires to the 2-pin JST cable. Add pieces of heat shrink tubing to help insulate the exposed wire.



Wired Noodles

Take a moment to take all of the wires have been properly soldered.

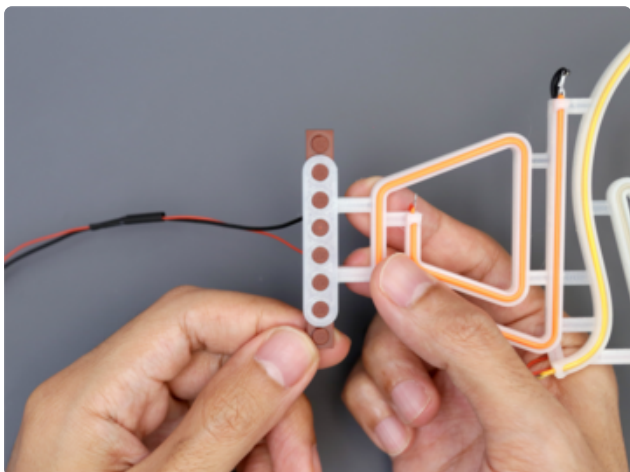


Circuit Power Test

Connect the 2-pin cable from the LED noodles to the coin cell battery holder.

Use the built-in slide switch to turn the circuit on and off.

Assembly



Install LEGO plate

The sign features six holes that press fit onto existing LEGO pieces.



Cable Management

The cable can be fitted through the door on the top of the roof.



Store Battery

The coin cell battery holder can be stored away inside the apartment upstairs.

