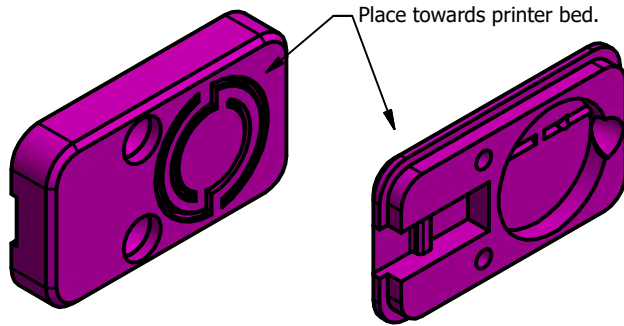


Parts you need:

1) 3D-printed battery holder (top and bottom).

STL files are downloadable from ScienceEnvy.com
PLA, PLA+, or any "toughened" PLA is a recommended material. Print without support.



2) Two (2) CR2016 battery cells (3 Volts).

Available in most computer, hardware, auto part, department, and grocery stores.

3) Two (2) M3 screws, 6 mm long.

Alternatively, two (2) 5-40 or 6-32 screws, 1/4" long

4) LED strip suitable for 5-6 Volts.

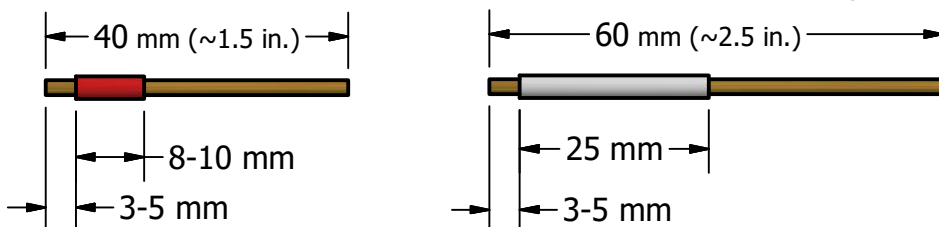
Max width ~8 mm (~5/16 inches).
Available in many electronics and computer stores, as well as online.
If it is designed to be powered from an USB port, it will be perfect.

5) Foam mounting tape.

6) 100 mm (4 inches) of thin electrical wire.

Outside diameter maximum 1.5 mm.

Note, diameter is increased in the illustration below for visibility.



Tools you will need:

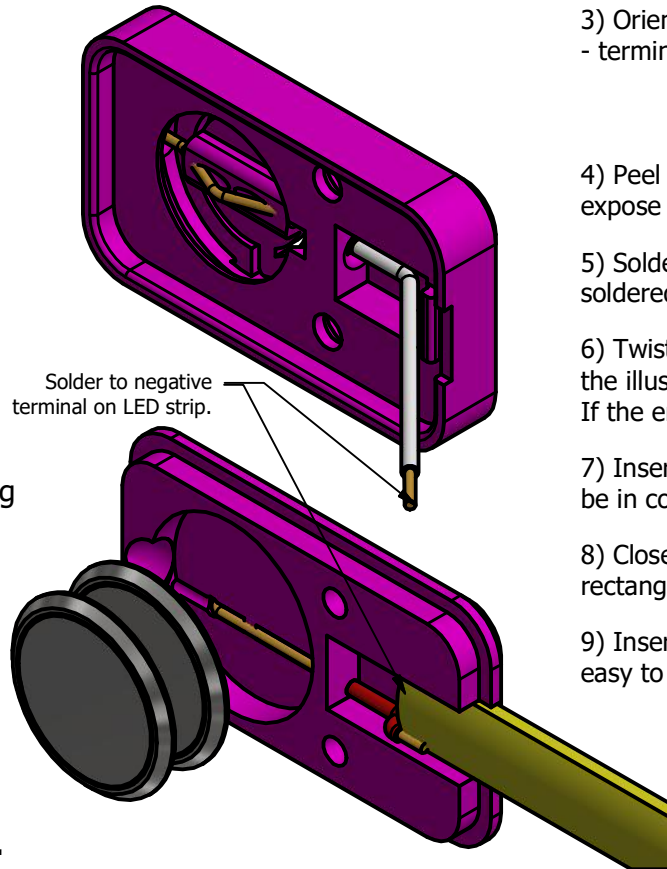
Soldering iron and solder

Wire stripper/cutter

Scissors

Screw driver

Safety glasses



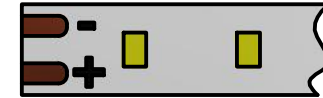
Solder to negative terminal on LED strip.

Assembly instructions:

1) Put on your safety glasses (and keep them on until finished). Cut and strip two pieces of wire according to the drawing in the lower left-hand corner. The two pieces may be of the same colour.

2) Cut the LED strip to length. Note that it should only be cut in certain locations.

3) Orientate the strip as below. Pay particular attention to the + and - terminals.



4) Peel up and cut back the transparent rubber cover 3-5 mm to expose the copper terminals.

5) Solder the wires to the terminals. The shorter wire should be soldered to +.

6) Twist the ends of the wires firmly. Insert the wires as shown in the illustration. Make sure the two wire ends don't touch each other. If the ends fray, you can add a bit of solder/tin to the tip.

7) Insert the batteries. Note the polarity. The side labeled + should be in contact with the wire connected to the + terminal.

8) Close the holder and simultaneously curl up the longer wire in the rectangular cavity. Cut off any copper wires sticking out.

9) Insert the two screws. Push relatively hard but tighten gently (it is easy to strip out the threads, so be gentle with the torque).

10) Push the button and make sure the light works. If it doesn't, take out the battery cells and make sure the polarity is correct.

11) Add foam mounting tape to the back of the LED strip. Insert in your handbag and stick the strip to the wall. Enjoy your lighted bag!

LED light for 3D printed handbag

Rev. 1.0. For complete instructions, Health & Safety advice, and to download files, go to www.ScienceEnvy.com

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