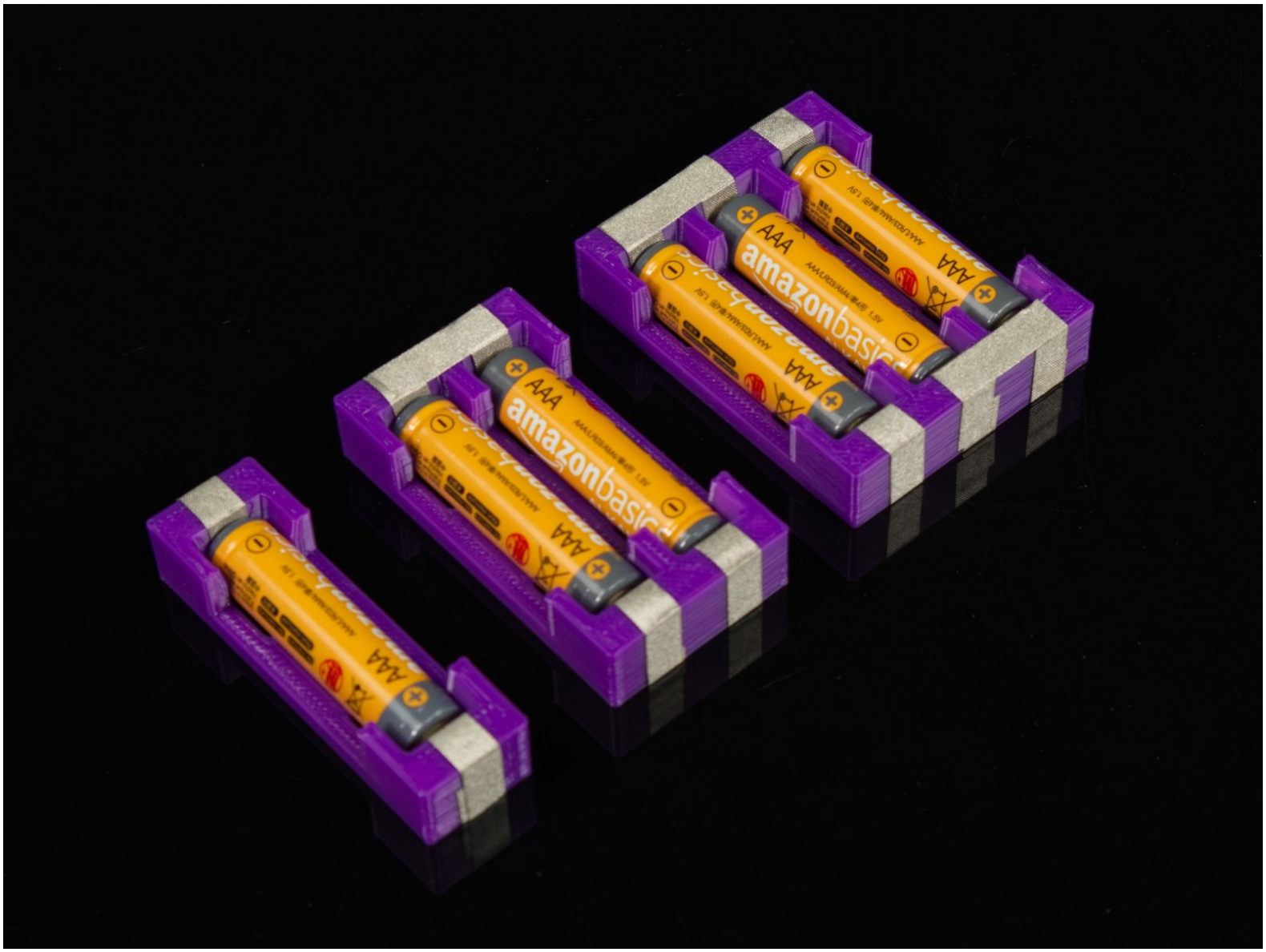
Maker Tape Battery Holders

Make your own battery holder with 3D printing and some Maker Tape.

Written By: Pete Prodoehl



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INTRODUCTION

Make your own battery holder with 3D printing and some Maker Tape. This can be a fun project if you've got a 3D printed in your classroom and some of our Maker Tape on hand.

TOOLS:

- 3D Printer (1)
- Scissors (1)

PARTS:

- Maker Tape (1)
  1/4" Wide

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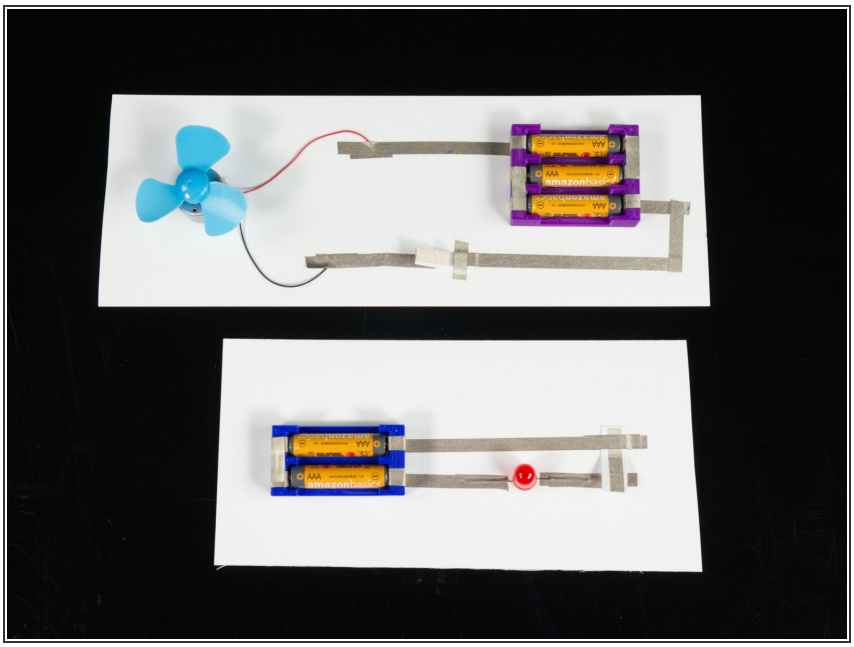
Step 1 — Overview



- Circuits need power, and if you need a battery pack, or a convenient holder for a single AA or AAA battery, you can make your own as long as you've got a 3D printer and some Maker Tape.
- This project will provide files and demonstrate how to create your own battery pack, including how to create a conductive path for multiple batteries.

⚠ Note! Like any project utilizing batteries there is some danger. Please read Step 2 for some warnings about working with these battery holders.

Step 2 — Warning!

⚠ While this project is safe if done properly, it can also cause batteries to overheat, tape to burn, and plastic to melt.

⚠ These battery packs are mean for **educational purposes** and should not be used *permanently* or without proper supervision.

⚠ For safety it is recommended to **remove the batteries from the holder when not being used** in a circuit. Store them safely when not in use.

⚠ Do not stack battery holders while batteries are inserted!

⚠ Do not put battery holders into a bag or box when batteries are inserted!

⚠ Do not place battery holders on conductive surfaces such as a metal table.

⚠ While **Maker Tape** is designed (and works perfect) for low-power circuits, it can only handle so many amps of power.

⚠ Check out this video for more info: Conductive Tape Destructive Testing

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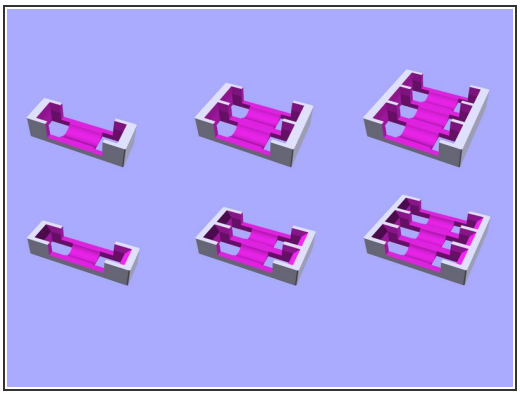
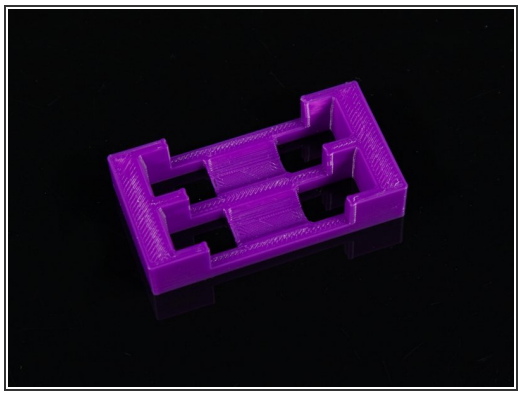
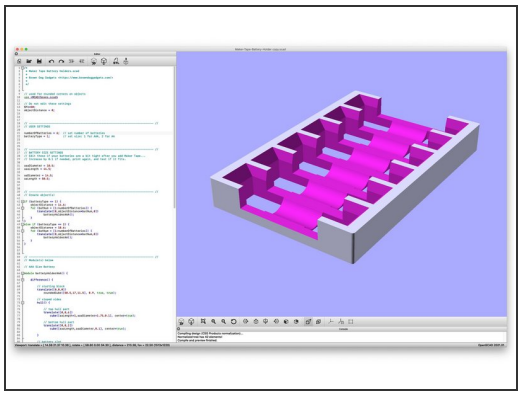
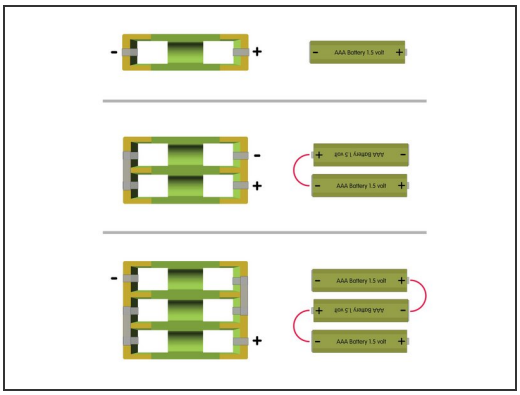
Step 3 — Download and Print

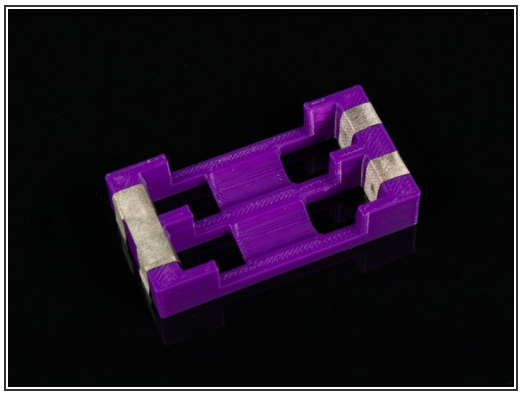




- You can download the file and print it on your own 3D Printer.
- Find it in our GitHub repository: https://github.com/BrownDogGadgets/3D-Pr...
  - You can also find the files on Printables: https://www.printables.com/model/232721-...
- You'll find ready-to-print STL files for one, two, and three AAA and AA batteries.

ⓘ There's also a .scad file so if you're comfortable editing OpenSCAD code you can also easily create versions that hold 4, 5, 6 or more batteries!

Step 4 — Add Maker Tape





- For the single battery holder you just need to add a piece of tape looped around each end so the positive and negative side of the battery will make contact with the tape when pressed in place.
- For multiple batteries you'll need to connect the negative of one battery to the positive of the next battery. This connects the batteries in **series**.

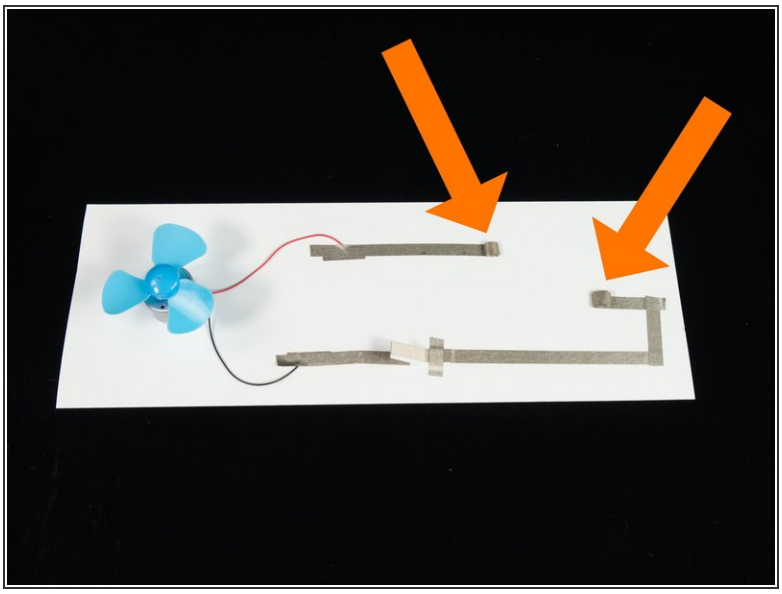
ⓘ Tip! If your battery fits a bit too loose you can just add another layer of Maker Tape around the end of the holder for a tighter fit.

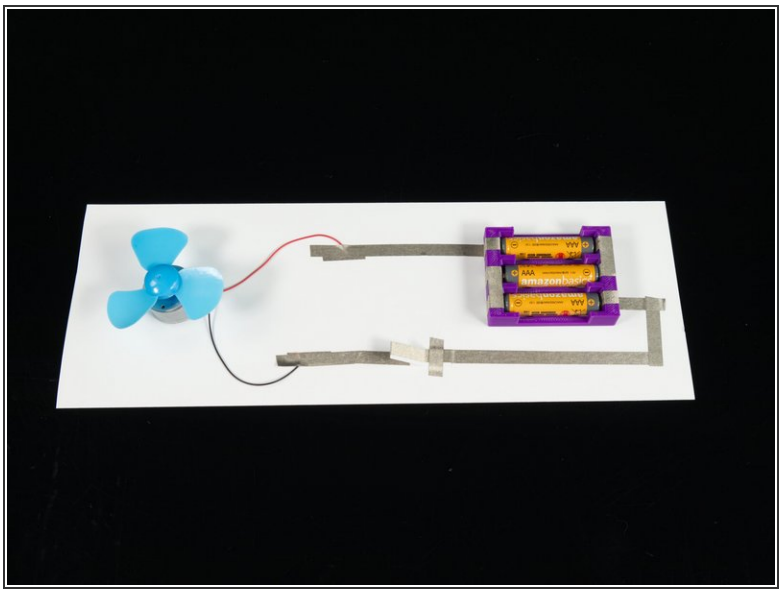
Step 5 — Add Batteries

- Once you have your tape (or tape paths) in place you can add the batteries.
- They should fit in snug so that the ends are touching the Maker Tape. (If they do not, you can just add another layer of tape.)

Remember, Maker Tape is conductive on both sides and all the way through, so layering it works just fine. (This is not the case with most copper tapes.)

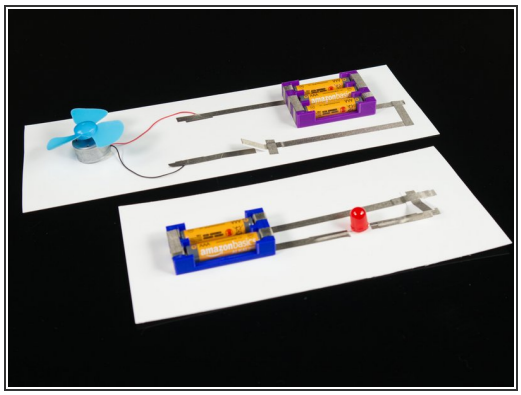
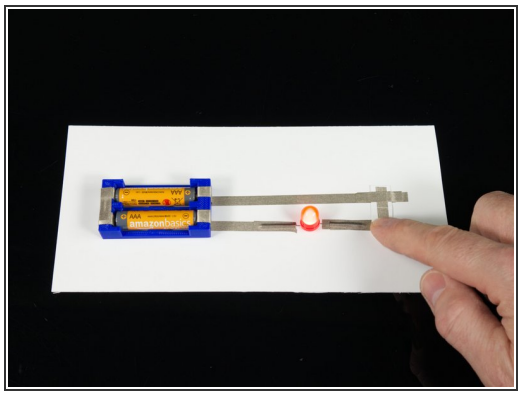
Step 6 — Add to Circuit





- You can use these battery packs in a circuit the same way you would use any battery pack.
- You can even use a tape loop to stick the battery pack right down to your Maker Tape pathways.

Step 7 — Take it Further

- Maybe you'll come up with some new ways to use these battery packs.
- Got some batteries that are down to just one volt? Put three of them in a holder together and you've got a 3 volt battery pack which is equal to a battery pack with two fresh batteries. A great way to get a bit more use out of old batteries.
- Could you connect the packs in parallel? Sure! It's just a matter of running Maker Tape for a specific pathway.
- One of our favorite uses is to pop one battery into a holder to check it with a multimeter. This solves the problem of trying to hold the battery and the meter probes at the same time.