Backpack Light

Have you ever dropped your pencil inside your bag and couldn't find it? Make a backpack light to illuminate your bag so your stuff is always in sight!

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INTRODUCTION

Make this backpack light. Be seen on the trail, or use it as a handy source of light to dig small objects from the bottom of your pack! The entire project takes under an hour and requires just basic sewing skills to complete.

TOOLS:

- Scissors (1)
- X-ACTO Knife (1)
- Pen or Marker (1)

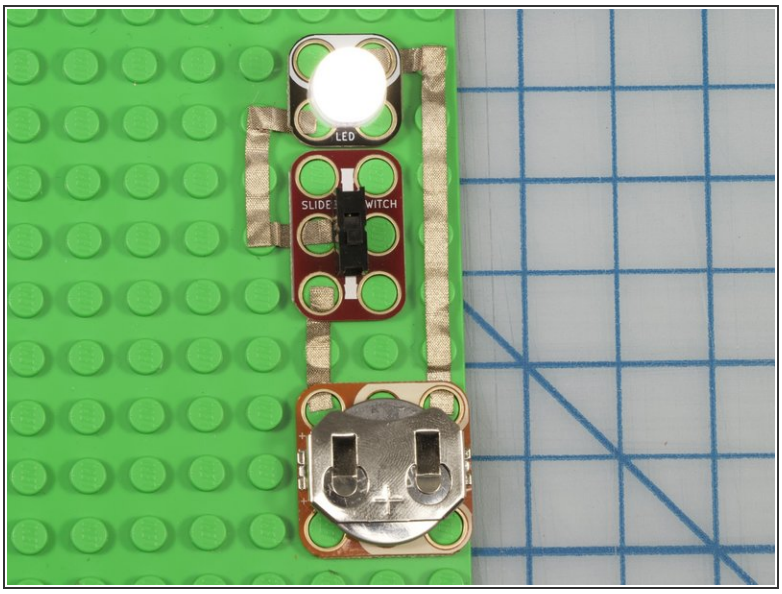
Something that can write on felt

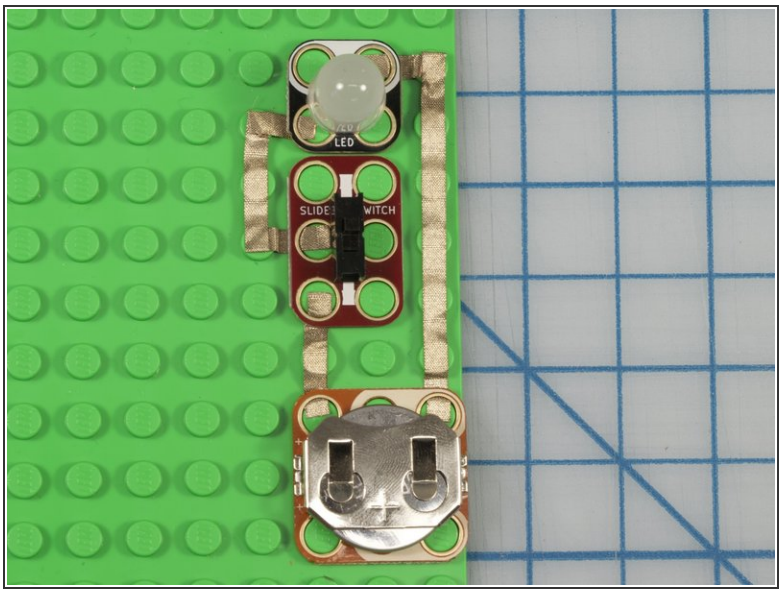
PARTS:

- Crazy Circuits Starter Sewing Set (1)
- Sewing Circuits Kit (1)

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Step 1 — Make a circuit prototype

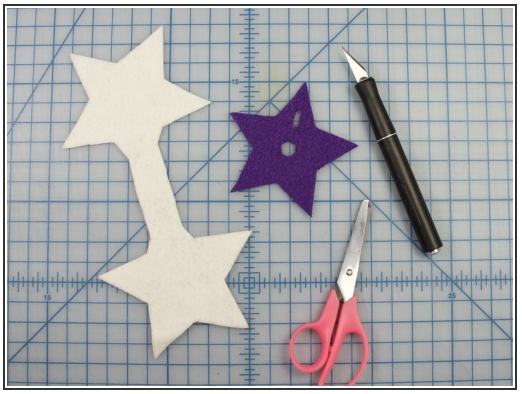




- Prototype your circuit with lego and Maker Tape

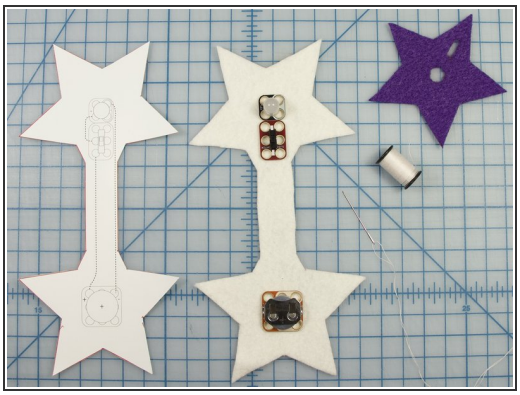
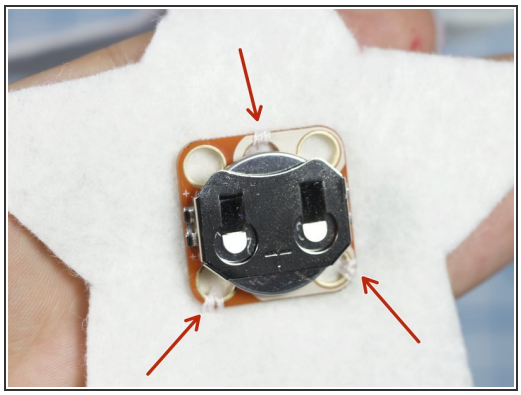
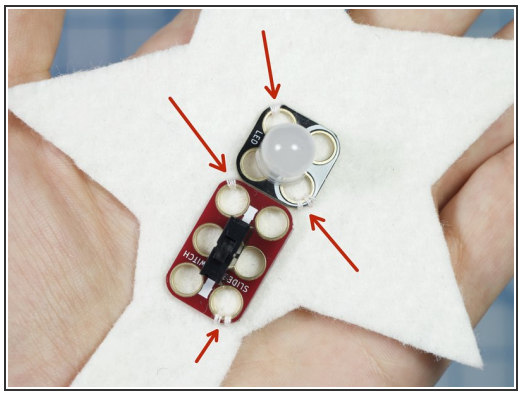
Step 2 — Gather supplies





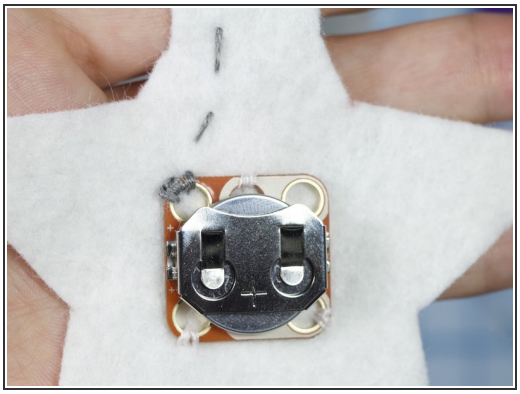
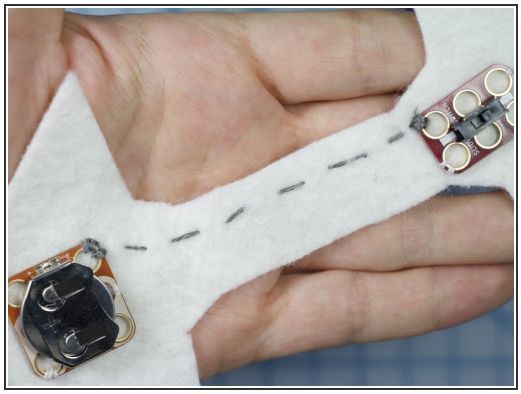
- Cut out the template
- Trace the shapes onto the felt. (The shape with the two attached stars, pictured in white, should be in contrast to the star shape, pictured in purple.)
- Cut out the felt shapes

Step 3

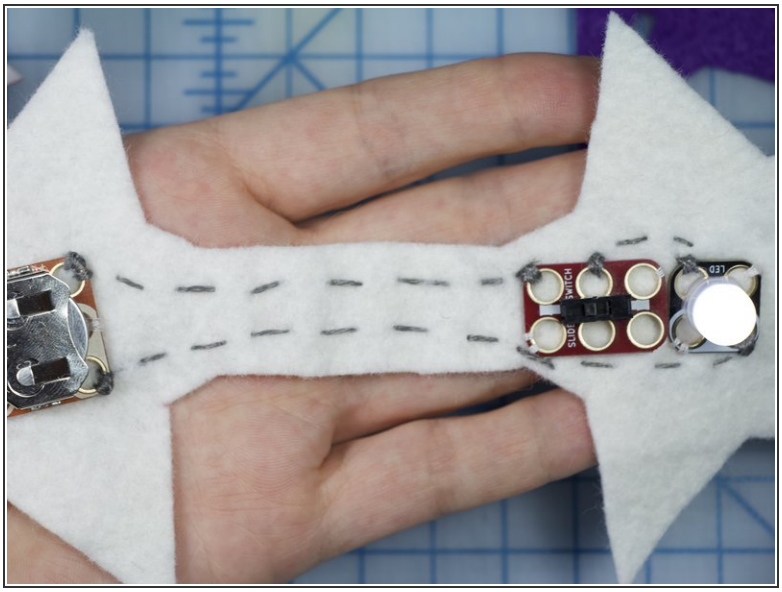
- Place your crazy circuits according to the diagram on the template
- Use a needle and thread to tack the crazy circuits components in place as shown.

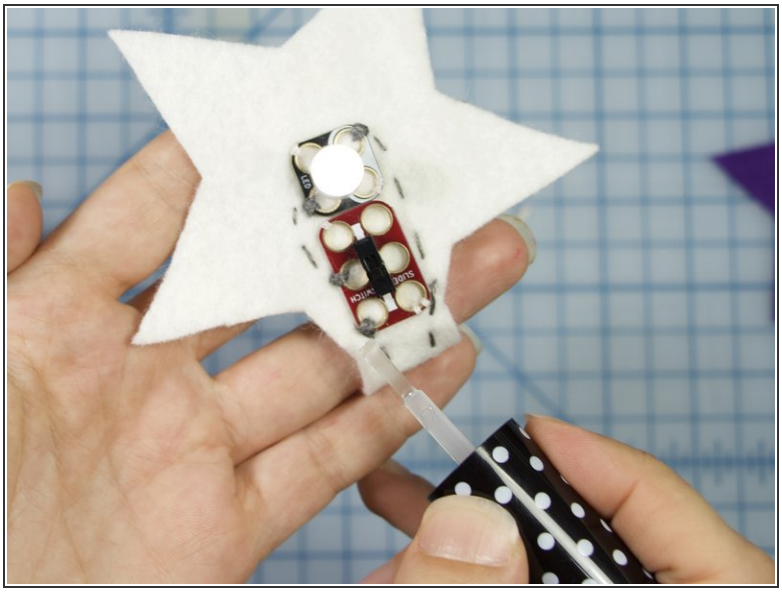
Step 4


- Using conductive thread, stitch a secure connection to the battery's positive hole.
  - Tip: Use a series of finishing knots for this step. To create a finishing knot, pass the needle back through each stitches loop just before you tighten the stitch. This will help prevent your knot from untying.
- Sew a running stitch to the switch's bottom hole and secure with multiple finishing knots. Trim the thread.
- Starting with a new piece of thread, stitch a secure connection from the switch to the LED using the same method.

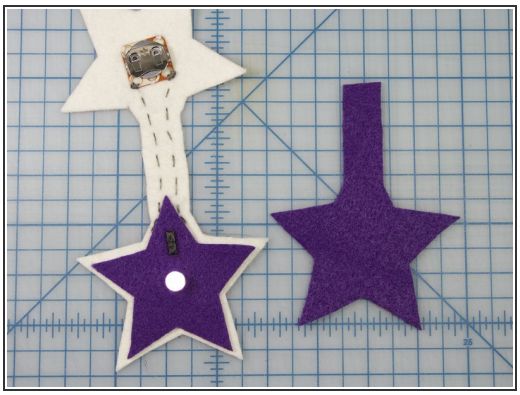
Step 5

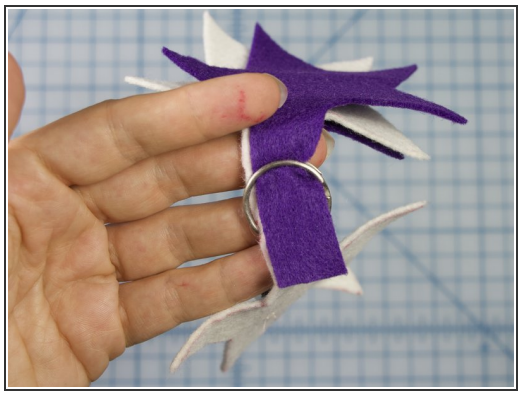




- Starting with a new piece of thread, connect the negative hole of the LED to the negative hole of the Battery.
  - Tip: Be sure that the thread doesn't go underneath the switch component so that the metal pads are not connected accidentally.
  - Test your circuit by sliding the switch
  - When all connections are working, seal your knots with clear nail polish or a similar adhesive like super glue.

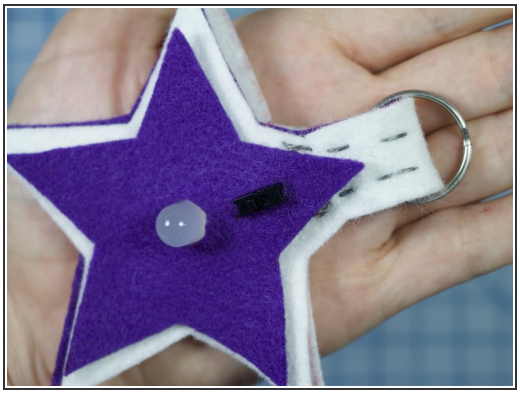
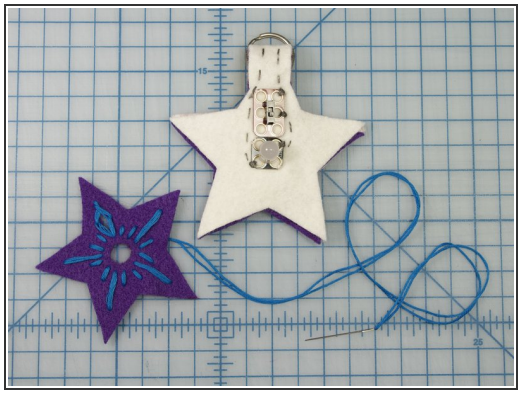
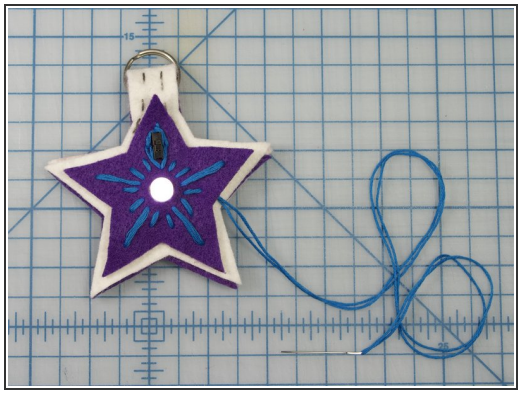
Step 6





- Place the small star over the LED and switch
- Place the interior star underneath the main star
- Attach the keychain around both pieces, just like you would add a key to the loop.

Step 7

- Now it's time to decorate!
- Use embroidery floss to add stitches and embellishments.
  - Tip: Embroider the top star before connecting it to the project for easy stitching.
- Test your circuit one more time before the next step.

Step 8





- Whip stitch around the edge of your star to hold the project together.
  - Tip: To do a whip stitch, insert your needle through the same side of the felt for each stitch, and allow the thread to wrap over the edge.
- Add a few more stitches to tack the top star in place.

Step 9





- You're ready for backpack bling!

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