

# Light-Up Origami Hat

## Supplies

Large piece of square paper

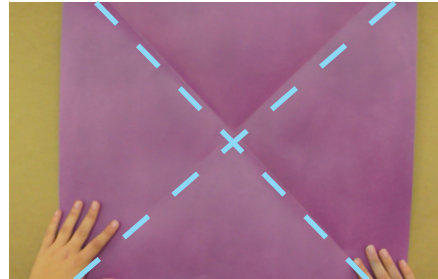
Copper tape

LEDs

Coin cell battery



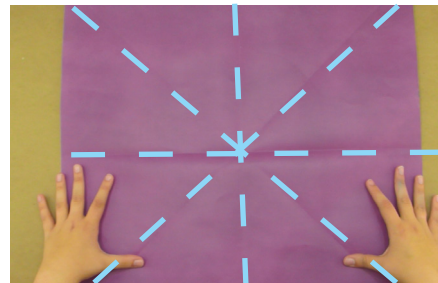
**1.** Fold your paper in half diagonally both ways.



**2.** You should now have an X-shaped crease in your paper.



**3.** Now fold your paper in half both ways again, but this time not diagonally.



**4.** Your paper should now be folded into eighths. Repeat steps 1-3, but fold your paper in the opposite direction so that all of the creases go both ways.



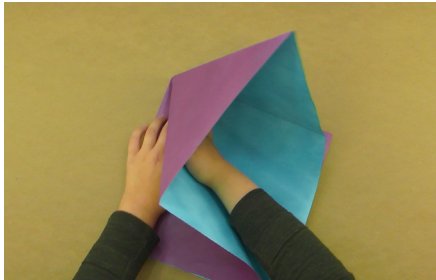
**5.** Fold the top edge of your paper down to the bottom. There should be two diagonal lines on the top half of the folded paper. Fold the right diagonal line back up so that the bottom middle point of the top half now touches the upper right corner.



**6.** Now fold the bottom left corner over so that it is on top of the bottom right corner.



# Light-Up Origami Hat, cont.



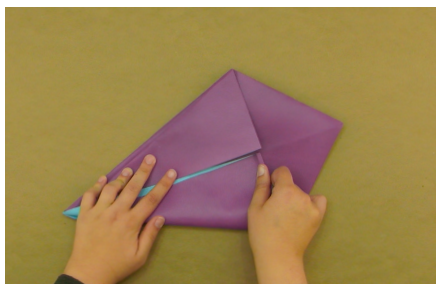
**7.** Now fold the middle point along the right edge of your paper to the bottom left corner. Your origami should flatten out after this fold.



**8.** Press everything down and smooth all folds.



**9.** Orient your paper so that the crease in the middle is vertical. Fold the left and right corners to the crease.



**10.** Flip your paper over and repeat step nine. Your origami should now resemble a diamond.



**11.** Lift one of the corners that you folded and stick your hand into the cone. Now flatten the cone out.



**12.** Repeat step eleven on all four corners that you folded in steps 9-10.



**13.** Fold your paper in half so that that the two flattened cones are now pressed together. Flip your paper over and repeat this on the other side.



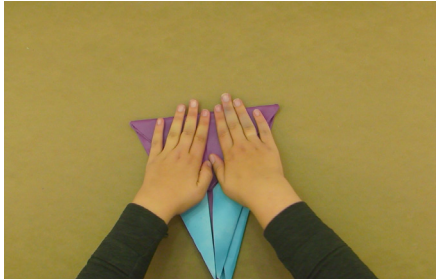
**14.** Now bend each corner on both sides backwards along the existing diagonal creases.



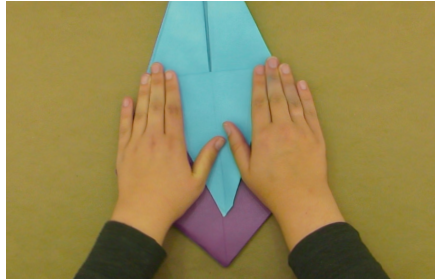
**15.** If you did all of the folds in step fourteen correctly, your hat should now look like a diamond again.



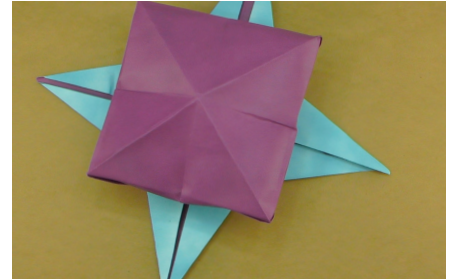
# Light-Up Origami Hat, cont.



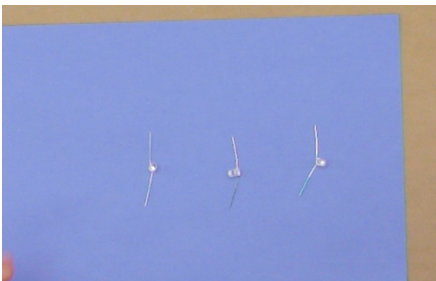
**16.** Fold the top half of the diamond down, then unfold it. Flip it over and repeat this step on the other side. Be sure to unfold it once more.



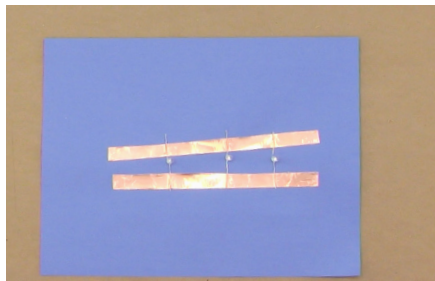
**17.** Now fold the tip of the diamond shape up on all four sides of your hat.



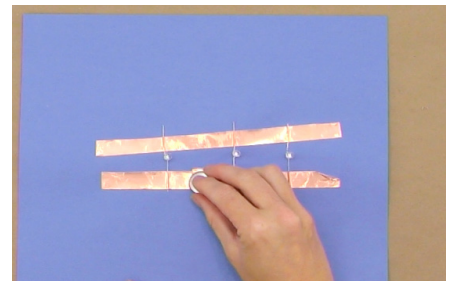
**18.** Open up your futuristic origami hat and try it on!



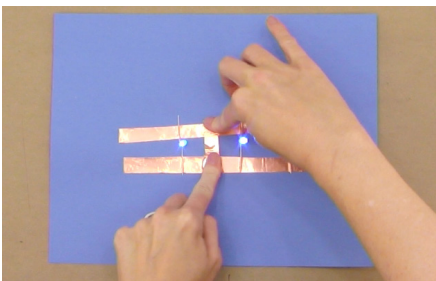
**19.** To add LEDs to your hat, pick three of the same color and line them up side by side with their positive legs on the same side. The positive legs are the longer ones.



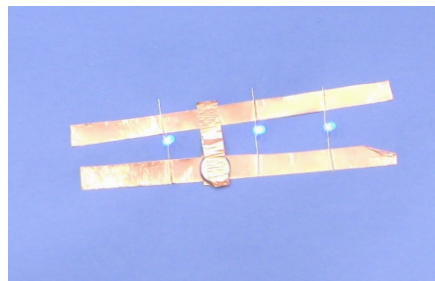
**20.** Cut two pieces of copper tape that are long enough to span across your three LEDs. Tape one across the negative legs and the other across the positive legs.



**21.** Fold a piece of copper tape so that it's inside out and sticky on all sides. Use this to tape the positive side of the coin cell battery onto the strip of copper tape that runs along the positive legs of the LEDs.



**22.** Add a piece of copper tape to the negative side of the battery and connect it to the strip of copper tape that runs along the negative legs of the LEDs.



**23.** Your simple circuit is now complete! Use this method along with more batteries and LEDs to decorate your new hat. What designs will you come up with?

