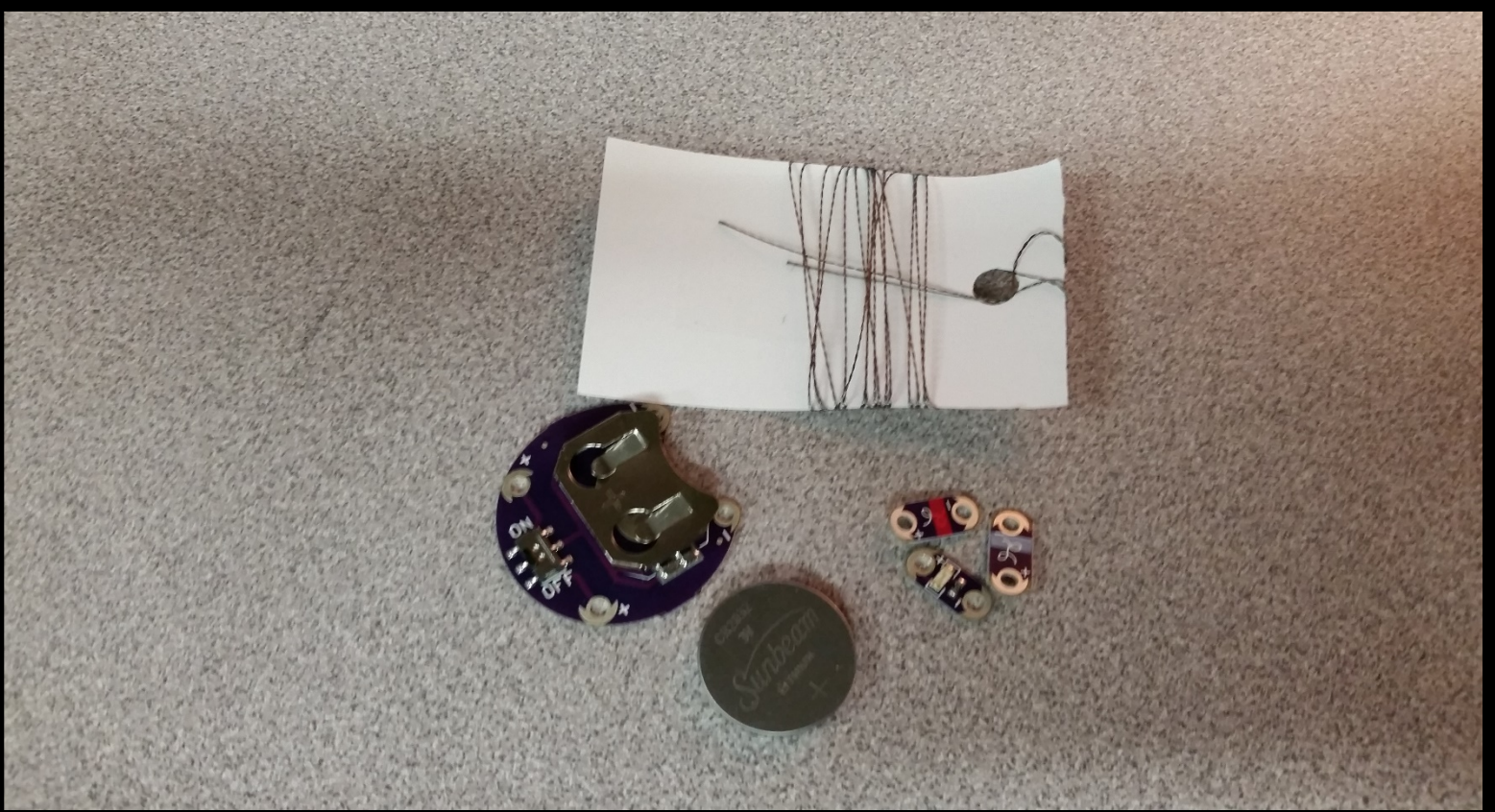


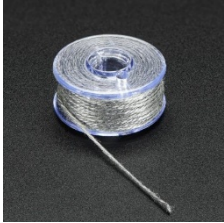
FASHIONING TECHNOLOGY

INCORPORATING TECHNOLOGY WITH SEWING
-AN INTRODUCTION-



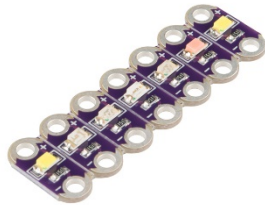
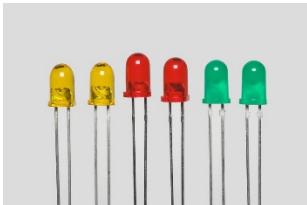
TOOLS & MATERIALS:

- **Conductive Thread:**



This conductive thread is made entirely of stainless steel fibers. To make things easier, coat the end of the thread with a small amount of bees wax to keep the thread ends together. Stainless steel conductive thread has the lowest resistance making it easy to work with.

- **LEDs (Light emitting diode):**



LEDs are compact mini lights. They have an exceptionally long life span, and best of all, do not get hot. They are easily incorporated into projects in a variety of ways.

- **Batteries:**



Small, circular batteries that are most often found in watches and small toys. They are flat and light weight and are available in 1.5v- 3v options.

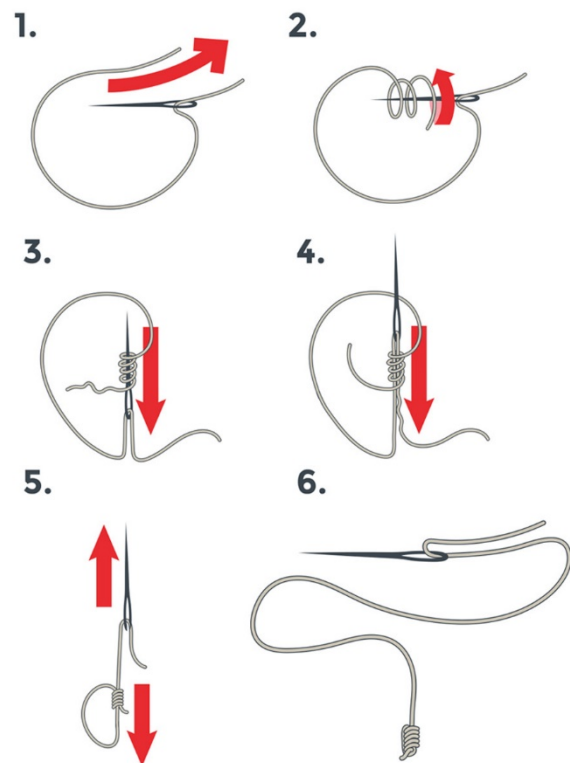
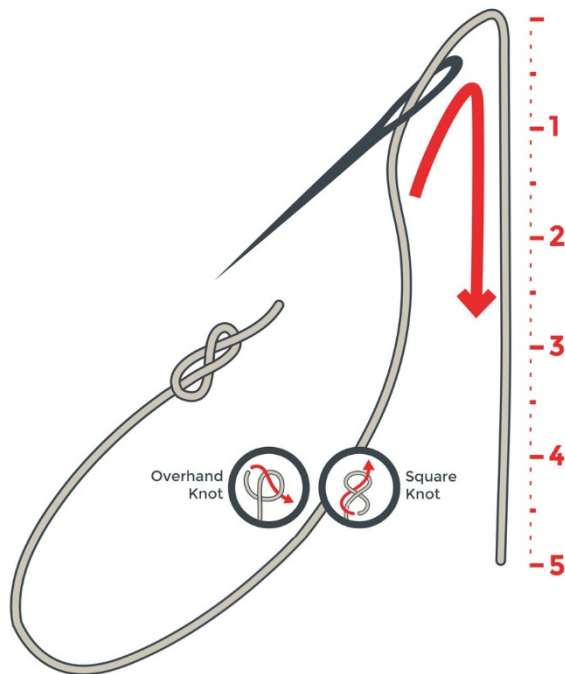
- **Battery Switch/ Holder:**



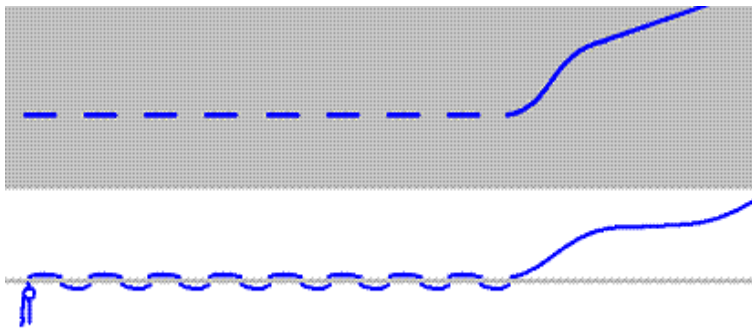
Coin cell Lily-pad battery holder with switch. This product has large holes coated with conductive material making it easy to sew through and create connections. The convenience of the switch makes building a project simple and easy to manage.

THREADING A NEEDLE:

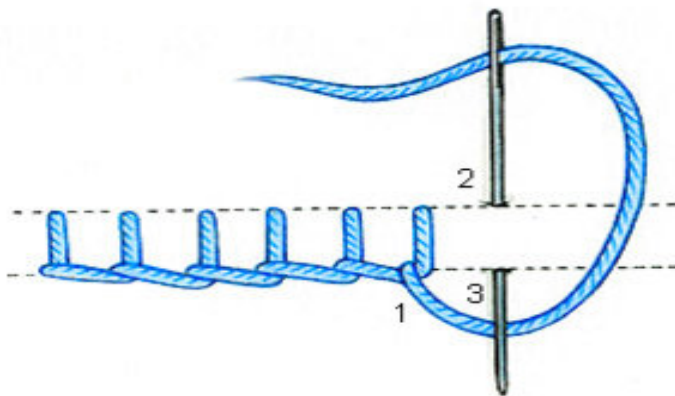
- Measure about 2 feet worth of thread.
- Cut from your spool – Conductive thread frays easily so be sure to make it a clean cut.
- Insert the thread through the eye of the needle – use a bit of bees wax if the thread seems to be separating.
- Push the needle through to the middle of the thread and fold in half
- Securely knot one end of the conductive thread – See images below for examples.



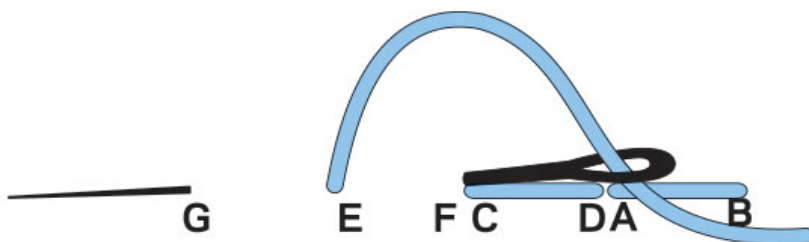
GENERAL INFORMATION ABOUT STITCHES:



Straight stitch or running stitch, a basic stitch made without crossing or looping the thread.



Blanket stitch traditionally used to finish the edge of blankets or raw materials.



Back stitch is used to create what appears as a solid line of stitching from the top side.

FABRIC CIRCUITS PROCEDURE:

1. Measure and cut approximately 12" of base material.
2. Divide length in half and mark accordingly using a pencil and ruler.



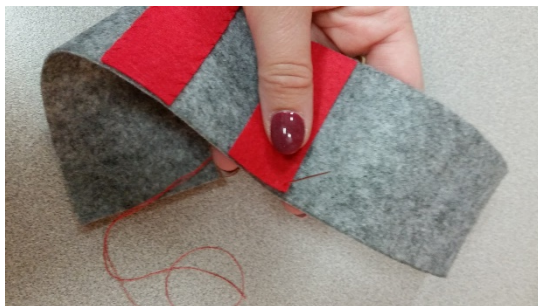
3. Cut along your line.



4. Decide on a pattern/decoration for the top side of your bracelet/armband.

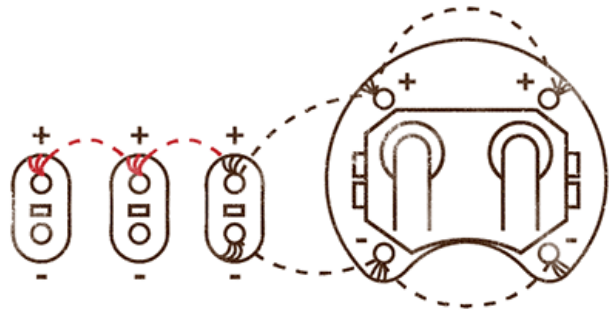


5. Carefully stitch your decorations on using regular thread.



FABRIC CIRCUITS PROCEDURE:

6. Layout your components in a parallel circuit – Keep positive contacts all on the same side and negative contacts all on the same side.

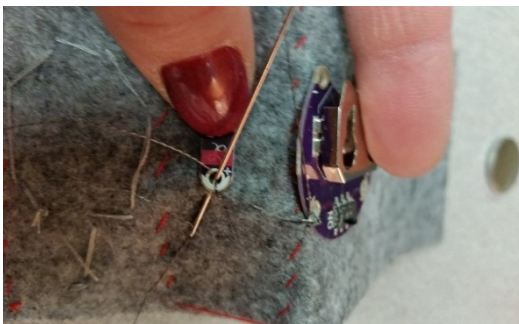


7. Layout coin cell Battery holder. Stitch the + side in place using the conductive thread.



Be sure to loop the thread through hole 3-4 times to ensure good contact is established.

8. Once the + connection of the battery holder is in place, stitch a straight or running stitch until you reach your location for the 1st LED. Layout the first LED with light facing the fabric and the + contact lined up with your battery holder + contact.



Be sure to loop the thread through hole 3-4 times to ensure good contact is established.

FABRIC CIRCUITS PROCEDURE:

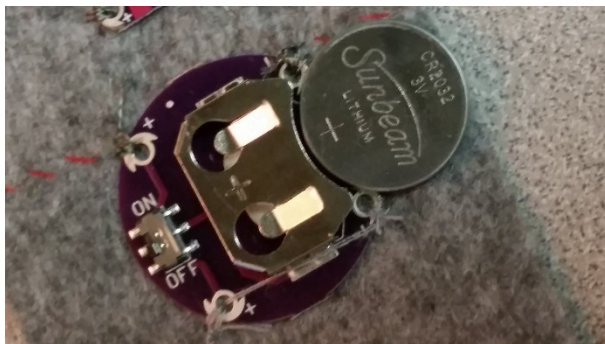
9. Continue to stitch each LED component in place, connecting the positive contact to each other using straight stitches in between. Once you have sewn all positive contacts, tie off the end and CUT the thread close to the fabric.



10. Repeat steps 7 through 9 for the – negative contact side. Be sure to trim any loose ends. Once complete it should look similar to the picture below.



11. Now that you have completed the circuit, with the switch in the OFF position insert the battery into the holder. Ensure the contacts line up with the polarity of the battery.



FABRIC CIRCUITS PROCEDURE:

12. With the battery in place turn your circuit ON. It should light up and show through your design on the front side.



13. Now that everything lights up we can put in the button and hole to complete the bracelet. Wrap the bracelet around your wrist and mark where it feels comfortable.



14. Choose a button and sew it in place securely using regular thread. Trim ends of thread close to the button.

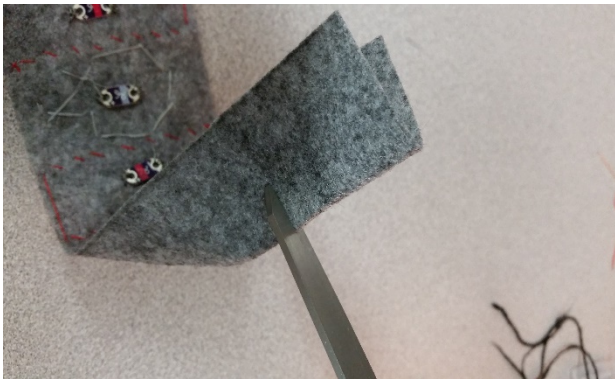


FABRIC CIRCUITS PROCEDURE:

15. With your button in place fold over the opposite end of your bracelet and mark out where to make your button hole.



16. Fold your bracelet in half along the long edge, and using sharp scissors slice your marked out button hole. Be sure to start small and check with your button as to not have a hole too large.



17. Your Wearable technology is now complete.

