Holding Hands

Materials needed:

- regular fabric
- 1 snap (with both sides)
- conductive thread
- regular thread
- 1 or 2 LEDs
- needle
- 3V coin battery
- glue gun (optional)
- stuffing
- scissors
- marking pencil

Step 1: Plan and Sketch Out

Get a piece of paper and plan out the design of your doll. Draw out where you want the LEDs to be placed and where you want to place the battery. Make a note of where the positive and negative conductive thread will go. There are many ways to make this doll. Note that the negative thread will go straight to where the battery is located and the positive will head towards one of the arms and be sewed on to one side of the snap. On the other arm the positive thread will continue on after the other side of the snap. Then make a note of where this thread will follow to the battery. Remember the positive and negative threads cannot cross! If crossing is necessary, glue the thread that is on the bottom with a glue gun. Wait for it to dry and then place the other thread on top. This will help prevent interference. But be careful: the glue gun is HOT and too much might ruin your project.
Step 2: Gather Materials and Get Started

Grab a piece of fabric of your choice and double it up so you have a front and a back. Draw your doll’s body out on the fabric using the design you sketched. Make sure that you leave about 2 centimeters where you can fold and sew the fabric. Take your scissors and cut out the fabric doubly until you have two complete halves of the doll. Review your notes and visualize where everything will go on your doll. In this document’s example, we will start with connecting the conductive thread and then sewing up the doll. You could sew up the doll first and then add your conductive thread so that it is on the outside.

Step 3: Placing LEDs and Conductive Threading Process

If your fabric is thin, go ahead and push the LEDs through. For thicker fabric use your needle to create a hole and then push the LED through. Make a note of which side is positive and which is negative. Remember that the negative side has a flat surface at the head. Once you spot the difference, begin to curl the LEDs legs. Use different curling styles for the positive and negative legs to not get them confused. Make sure that the positive legs line up so that connecting them with conductive thread will be easier.

When your LEDs are secure, begin connecting them with the conductive thread. Make sure to follow the sketch you made. You can think of creative ways to place your battery. In this example, a pocket was created and the thread was sewn in so that the battery touched the wire when placed in.
Step 4: Check Check Check

Make sure to check that your threads are connecting. You don’t want to finish and not have a working project. Remember, the negative side will go straight to the battery. Make sure your connection with the positive wire is secure. Sew the thread to the end of the arm and sew on one side of the snap. The snap is conductive so electricity will be able to travel to the other side. In order for this to work, the snap must have a good connection with the thread. This is important. Connect everything to the battery. If all goes well, you should be able to place the ‘hands’ together and have the LEDs light up.

Step 5: Stuff It Up

If all works great, begin sewing up your doll with regular thread. Partly sew your doll and stuff it as you finish each part. Make sure to be careful with the stuffing. Be gentle as not to move the conductive thread. Make sure to test that everything is working fine. When done, add any last minute touches.

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