

STEP 1. **BACK**

Glue battery holder on one side of the felt circle close to the bottom as shown. Make sure on/off is on the left side.

STEP 2. **FRONT**

Flip felt over and decide where the LED will go. Make sure the + side of the LED lines up with the + side of the battery holder. Glue to the felt.

Don't cover holes with glue - you'll need to sew through them.

Don't glue on top of the battery holder.

STEP 3. **BACK**

Sew + hole on battery holder to felt with conductive thread. Loop 4 times for a tight connection to the metal and continue to the + hole on the LED. Tie knot and cut thread.

STEP 4. **BACK**

Repeat STEP 3 to connect the - hole on battery holder to the - hole on the LED. Make sure the + and - thread lines do not touch and stitches are tight. Tie knot and cut thread.

Materials:

LilyPad LED Coin Cell Battery 20mm (CR2032) LilyPad Coin Cell Battery Holder - Switched ~14' Conductive Thread

Sewing Needle Pin Back

Felt Circle Printed Fabric Circle

e-Textile Pin

Instructions Placemat

TeachEngineering.org

STEP 5. **BACK**

Insert battery into the holder as shown and slide the switch to the ON position to test the circuit. The LED should light up.

TROUBLESHOOTING:

- * Try a new battery/check that the switch is set to ON position.
- * Check for any loose threads/ends that are touching other thread or components causing a short circuit.

STEP 6. **FRONT**

Glue your fabric design to the front of the felt so the LED shines through.

STEP 7. **BACK**

Peel backing from pin and stick to the back of the felt. Congratulations you just sewed a circuit and created a wearable piece of electronic art!