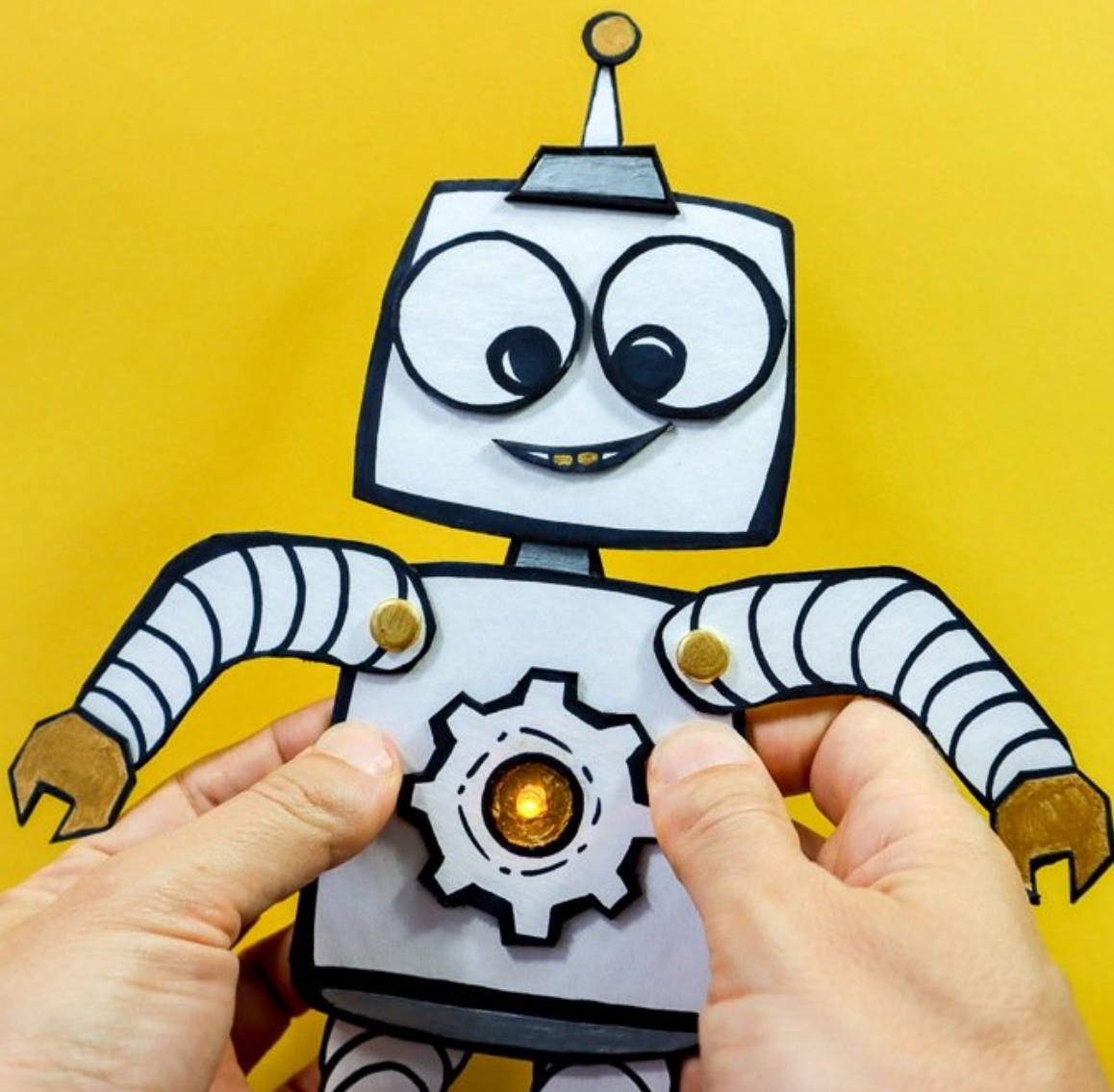# Light-Up Robot Toy

Make this chipboard robot light up when you find his secret tickle buttons. (psst..... they are under his armpits. Tee hee!)

Written By: Natasha Dzurny

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Page 1 of 9

INTRODUCTION

Build a simple circuit with Maker Tape, an LED, and a coin cell battery to make a robot toy light up.

TOOLS:

- Scissors (1)
- Tape (1)

PARTS:

- Paper Circuits Kit (1)
- Chip Board (1)
- Black Magic Marker (1)
- Brass Fasteners (1)
- Paint or Markers (1)

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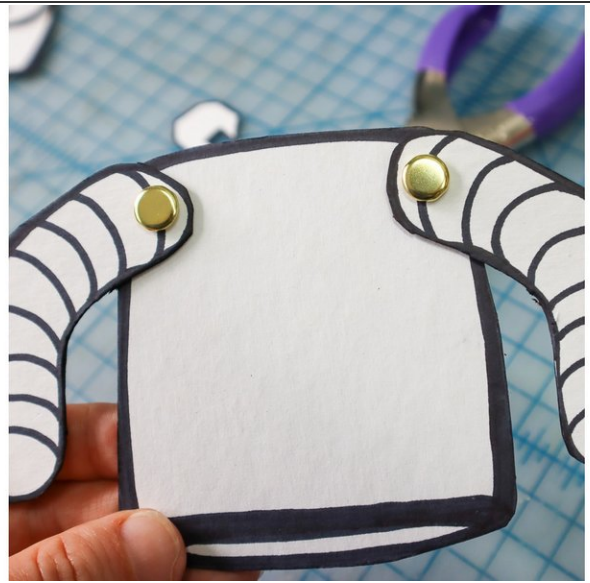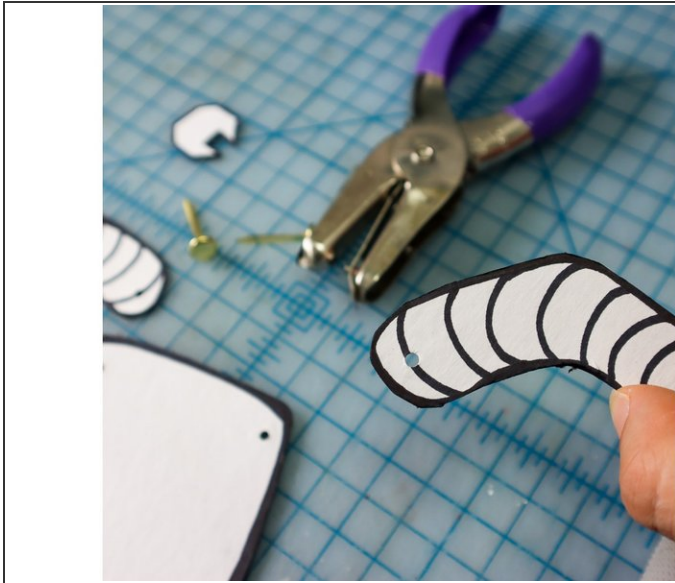
Step 1 — Design Your Robot

- Print and trace the robot parts onto a white chip board with a black permanent marker.

- Or, design your own! The body should be at least 4 inches wide to leave enough space for the circuit.

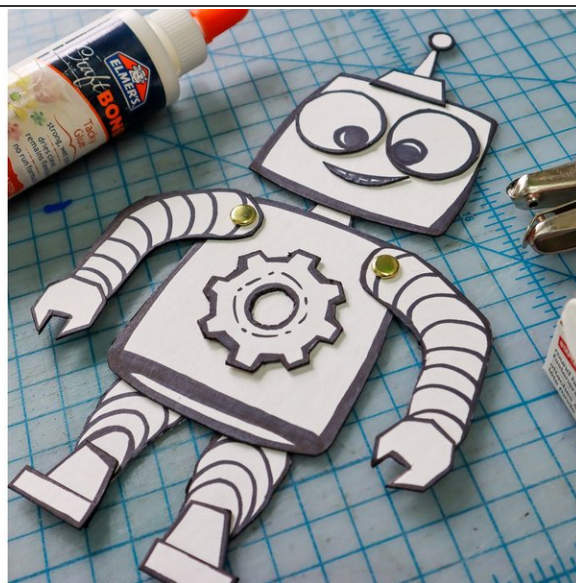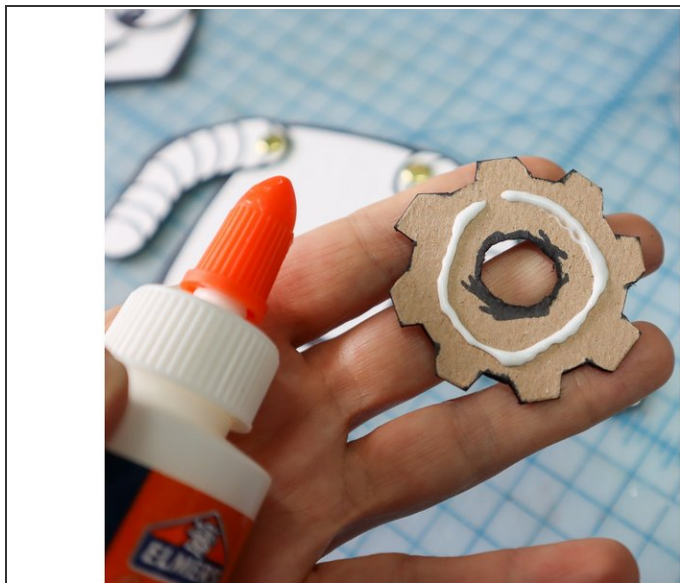## Step 2 — Cut out the shapes

- Cut out the shapes using heavy-duty scissors or a craft knife.

- Once the shapes are cut, go over the edges with the permanent marker to make them look finished.

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Step 3 — Attach the Arms: Paper Fasteners

- Use a hole punch to put a small hole in the arm and the body. If you have one, use an 1/8 inch hole punch.

- Insert the Paper Fastener through the holes in the arms and then the body. Flatten the legs on the other side making sure that they don't go over the edge.

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Page 4 of 9

Step 4 — Glue the other parts together

- Glue the remaining parts together with tacky glue.
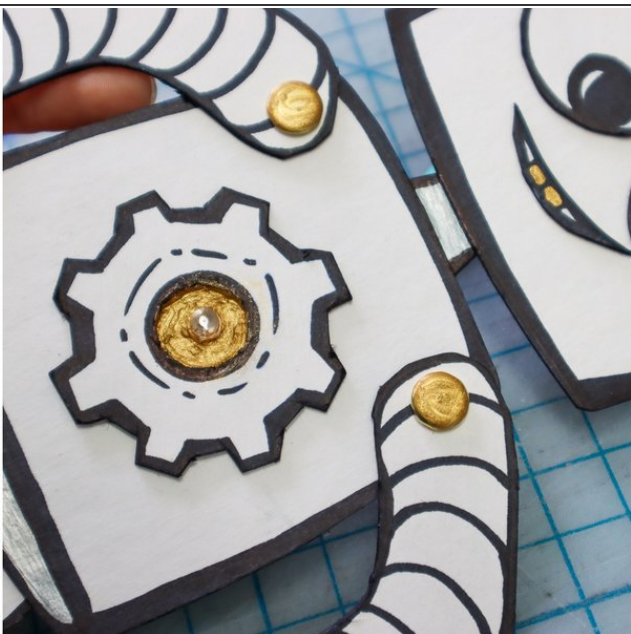
- Let dry.

Step 5 — Paint the accents

- Paint or color in the accents. I used silver and gold paint in the example.

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Page 5 of 9

Step 6 — Make a place for the LED

- Make two holes in the center of the body where you would like the LED to go.

- Place the LED through the holes from the front of the robot's body.

- Fold the LED's legs flat against the back of the chip board.

Step 7 — Paint around the LED

- Adding paint, glitter, or metallic marker around the LED will amplify its light.

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Step 8 — Create the Circuit

- Add clear or electrical tape on top of the paper fasteners to prevent them from shorting the circuit.

- Reference the circuit diagram in the PDF file. Use a black marker to sketch the circuit onto the back of the robot.

- Start by wrapping the negative leg of the LED with a piece of Maker Tape.
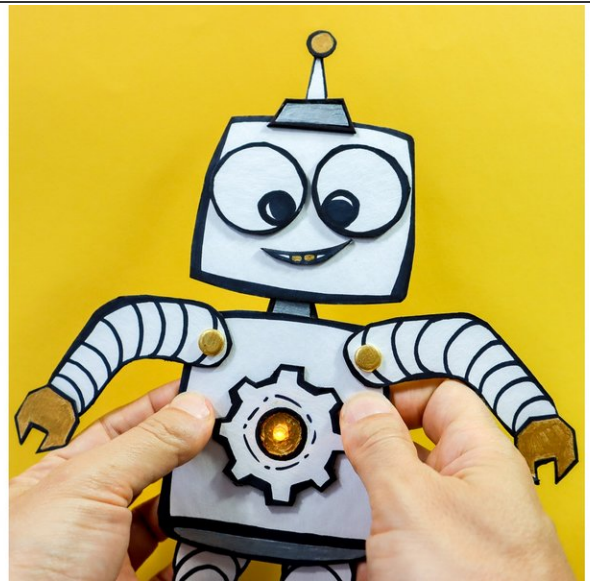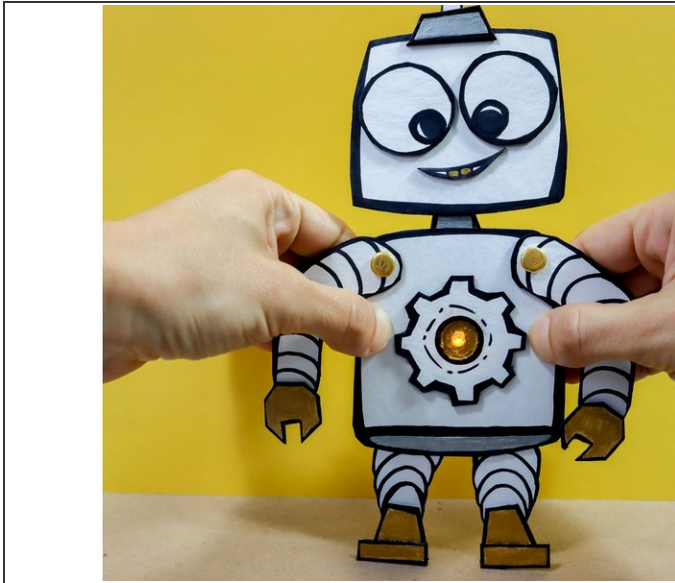
Step 9 — Add the Maker Tape

- Place the battery on top of the Maker Tape with the negative side down.

- To secure the battery, place enough Maker Tape over it to keep it in place.

- Continue laying the Maker Tape as shown.

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Step 10 — Add the switches

- Make a paper flap by placing a piece of Maker Tape onto a small square of paper and folding over the edges as shown.

- Tape the flaps in place over the two spots where the circuit is broken. Squeezing both of these switches will now close the switch.

- The LED will turn on if you squeeze his armpits. tee hee!

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Page 8 of 9

Step 11 — Light it up!

- Now your new robot friend is ready to play and light up!

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Page 9 of 9