

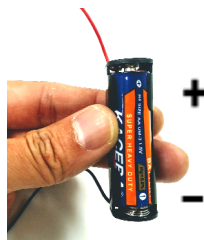


## PART 1: PREPARE YOUR MATERIALS

- 1 x AA Battery Holder (with exposed leads)
- 1 x AA Battery
- 1 x Clothespin
- 5 x Double-Stick Foam
- 1 x Cardboard (5 x 6 inches)
- 2 x Aluminum Foil pieces (small)
- Scissors
- Glue
- Tape (Scotch or Masking)
- Construction Paper
- Pens/Markers

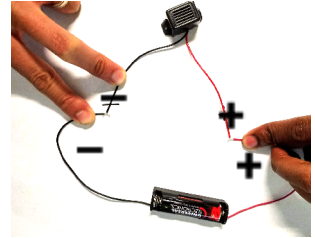
## PART 2: TEST YOUR BUZZER

**A)** Put a AA battery into the battery holder. Make sure to match up the end with the red wire to the positive (+) side of the battery and the end with the black wire to the negative (-) end of the battery. ~ ***WARNING*** ~ ***Do NOT touch the tips of the red and black wires of the battery holder together, as this could cause the battery to get too hot.***



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**B)** Locate the red and black wires on your buzzer. Touch the red wire from the buzzer to the red wire of the battery holder. While holding the red wires together, touch the black wire of the battery holder to the black wire of the buzzer. When the two connections are made at the same time, the buzzer should make a sound. Now that you have tested your parts, you are ready to start building!



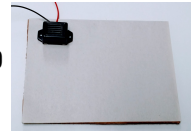
### PART 3: BUILD YOUR BUZZER PANEL

**A)** Cut out a 5 x 6 inch piece of cardboard for the base of our buzzer panel.

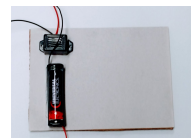
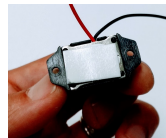
**B) *Optional*** - Cut out a piece of construction paper to cover your buzzer panel. Glue the paper onto the cardboard.



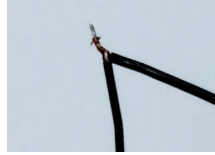
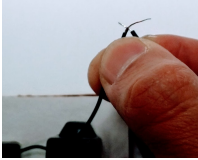
**C)** Use a piece of double-stick foam to attach the buzzer to the top of the buzzer panel.



**D)** Use a piece of double-stick foam to attach the battery holder to your cardboard below the buzzer.

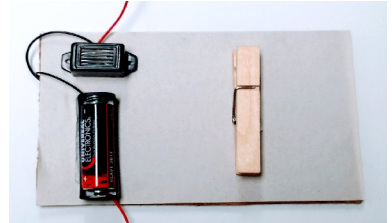


**E)** Connect the two black wires together by twisting the exposed metal tips of the wires together. Tape down the connected wires to the back of the cardboard panel.



**F)** Test that the connection is working by touching the red wires together. If it's done right, the buzzer should make a sound.

**G)** The “button” for your doorbell will be a wooden clothespin. Attach a clothespin on to the cardboard panel using a piece of double-stick foam.



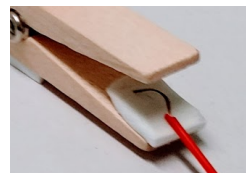
**H)** Decorate the doorbell panel with pens, markers, and/or embellishments. *(See example.)*



## PART 4: WIRE YOUR DOORBELL BUTTON



**A)** Cut a piece of double-stick foam in half. Put a half-piece of double-stick foam on the “Button Bottom” (see above diagram)

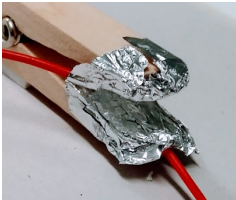


of the clothespin. Place the exposed metal tip of the red wire from the battery on the double-stick foam.

**B)** Cover the “Button Bottom” with aluminum foil. The aluminum foil should stick to the double-stick foam.



**C)** Put a half-piece of double-stick foam on the underside of the “Button Top.” Place the exposed metal tip of the red wire from the buzzer on the double-stick foam.



**D)** Cover the “Button Top” with aluminum foil.

**E)** Now push down the “Button Top” so that the top and bottom foils touch. Your doorbell should sound!

## DO-IT-TOGETHER

### *Robotics Kits*

Inside this packet is a creative robotics project designed for kids (ages 6-10) to build under the supervision and guidance of an adult.

If you have any questions or feedback during the robot-building process, you can reach us via the following ways:



**BY EMAIL**

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