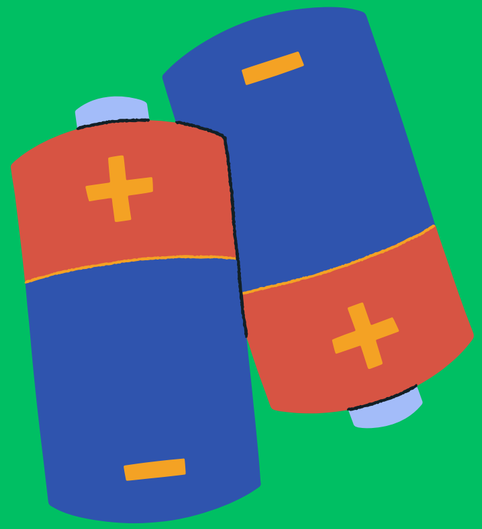
Science is awesome

ENERGY WARRIOR

CONTENTS

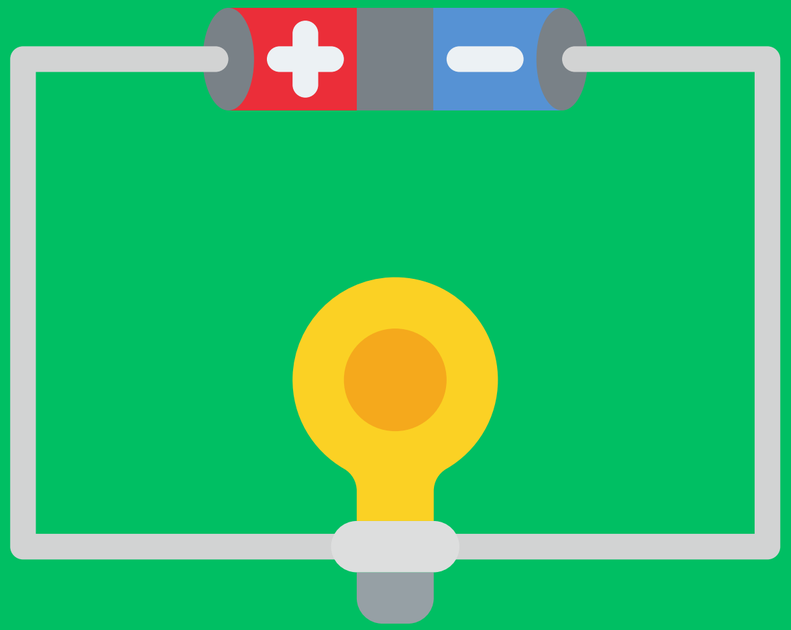
Overview

Explore the wonders of electricity with the Basic Electric Circuit STEM kit! Connect wires, batteries, and bulbs to create a circuit that lights up. Discover the magic of switches and experiment with different components. This hands-on activity for students sparks curiosity and illuminates the exciting world of basic electric circuits, making learning electrifyingly fun!

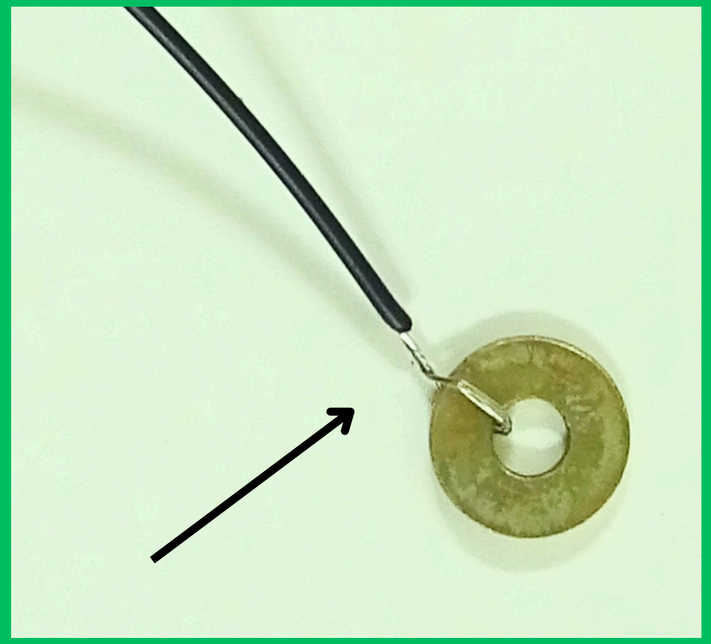


Engineering challenge

Ignite your curiosity with the Basic Electric Circuit STEM kit! Engineer a challenge by connecting wires, batteries, and bulbs to create a working circuit. Experiment with switches and multiple components to design a circuit that lights up with creativity. Can you build a circuit that powers different elements? Unleash your electrical engineering skills and brighten up your understanding of circuits!



ATTENTION PLEASE



How to add washer to wire ?

When adding a washer to a wire, ensure that only the conducting part (metallic part) of the wire is connected to the washer, as shown in the reference image.

ATTENTION PLEASE

1. Red wire represents the positive terminal, indicated as +ve.

2.Black wire represents the negative terminal, denoted as -ve.

MDF stands for Medium Density Fiberboard

- If MDF parts are loose, use cello tape to fix the segments.
- If MDF parts are tight or unable to insert into each other, utilize sandpaper and scissors wherever necessary to adjust.

ATTENTION PLEASE

Precautionary Measures for Handling Circuits and Batteries :-

1.Do not touch any circuit connection terminals immediately after connecting the battery to the battery clip. There is a risk of electric shock if you touch the circuit while it's live.

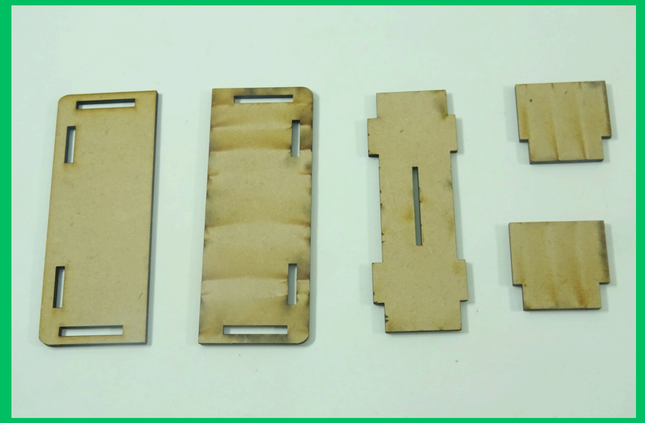
2.If you need to make changes to the circuit connections or perform any related tasks:

a. First, switch off the circuit using the designated switch.

b. After ensuring the circuit is powered off, remove the battery from the circuit.

c. Only then proceed to make changes or modifications to the circuit.

1



2

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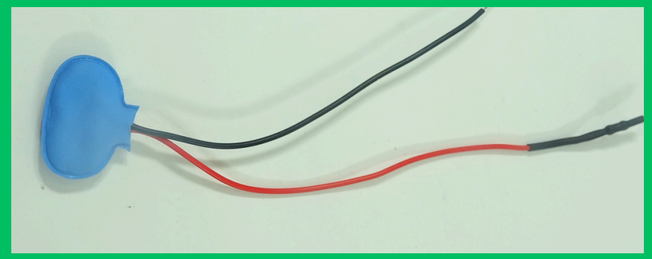


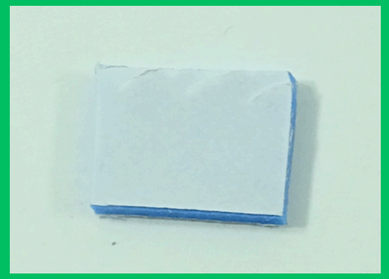
4

Materials Required

Sr.No	Name	Qty
1	MDF Parts	1
2	9v Battery	1
3	Battery Clip	1
4	LED	1

Materials Required

5



6

7

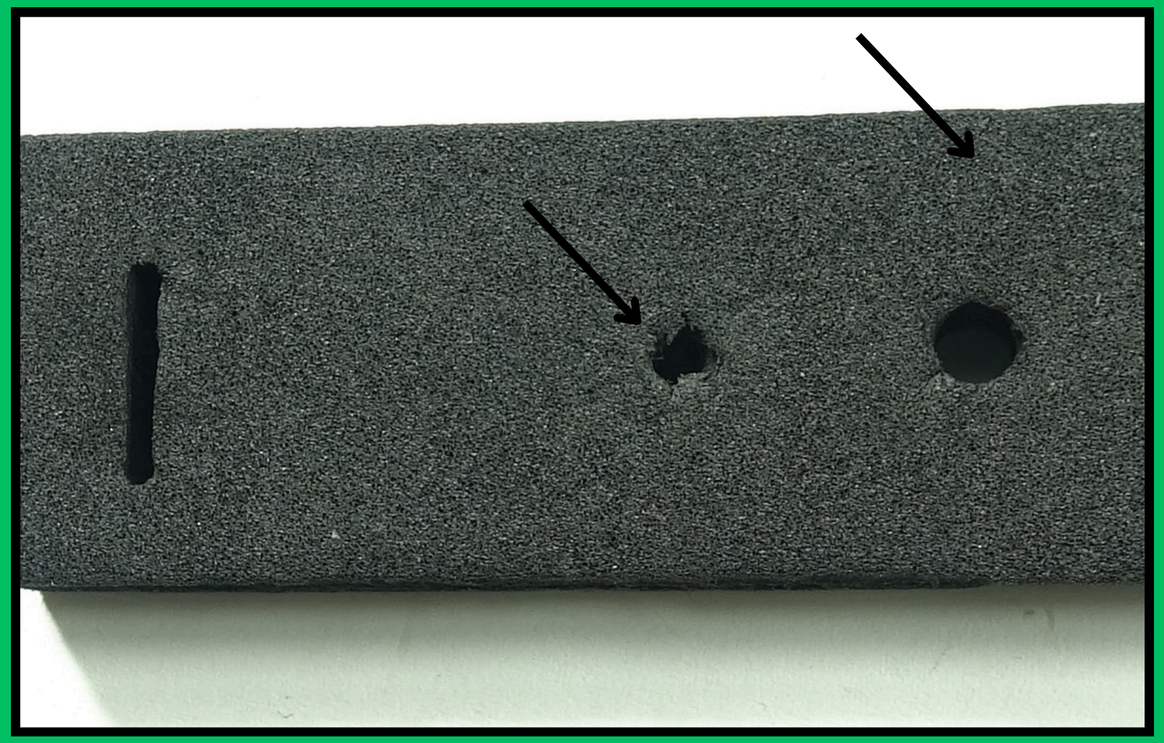
8

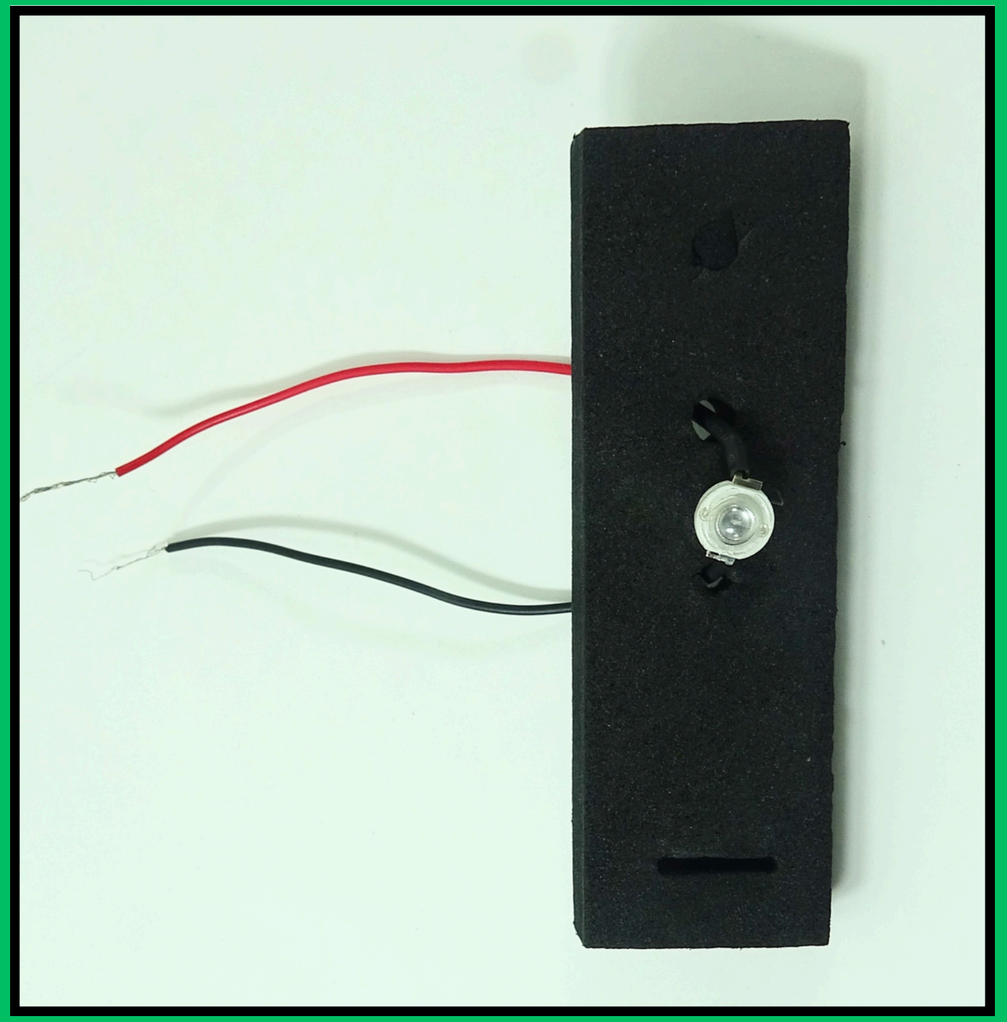
9

Sr.No	Name	Qty
5	Double side sticker	3
6	Washer	3
7	Acrylic Parts	2
8	Foam Segment	1
9	Sticker	1

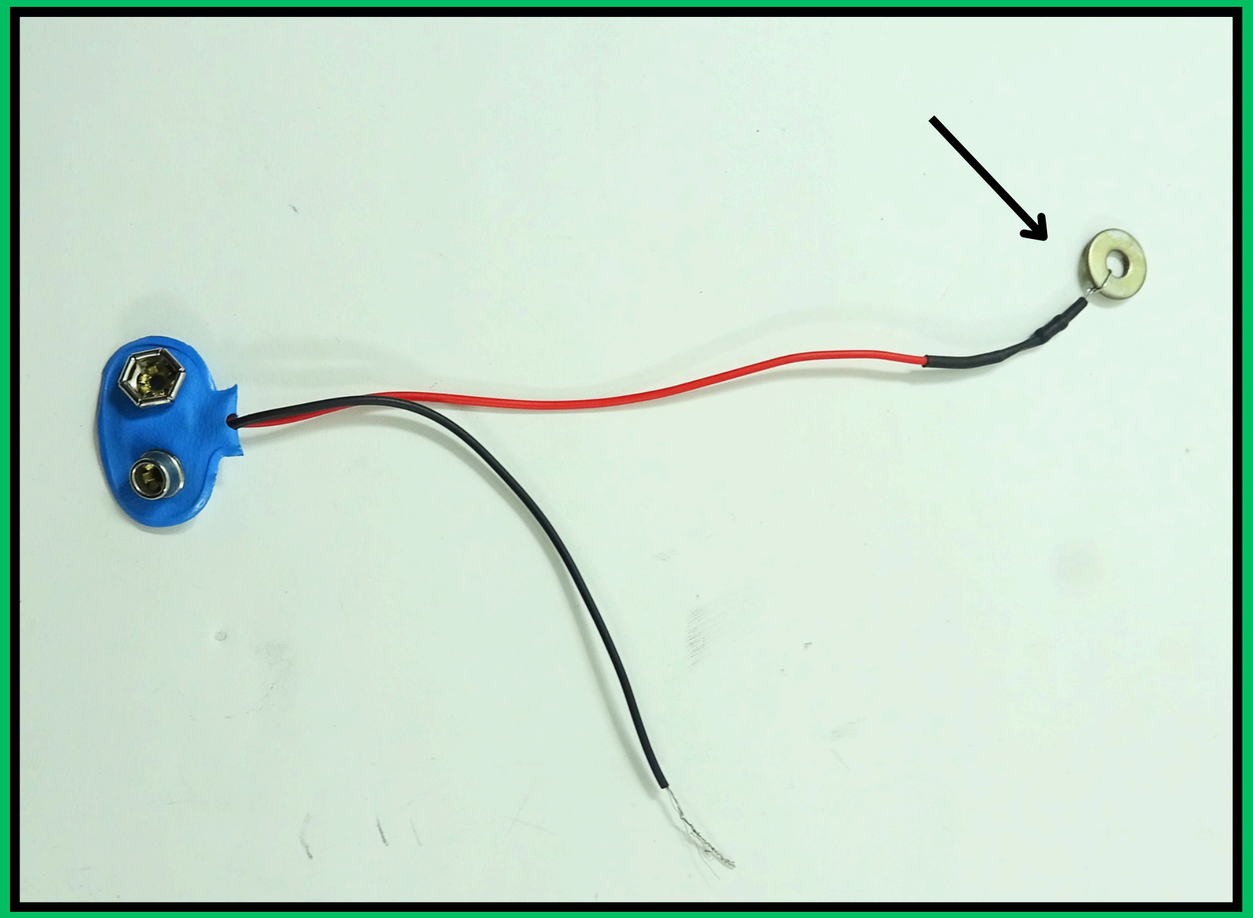
Procedure

Insert the LED into the foam hole as indicated by the arrow mark, as shown in the image

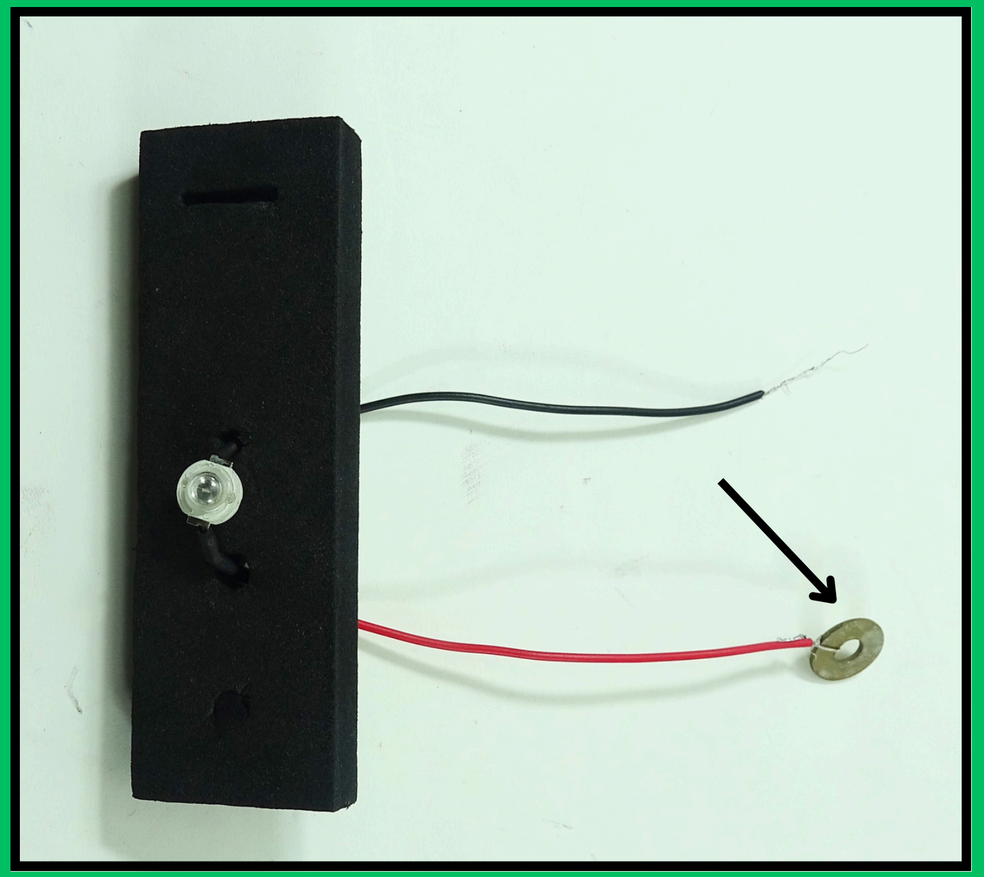




Add a washer to the battery clip red wire as shown in image

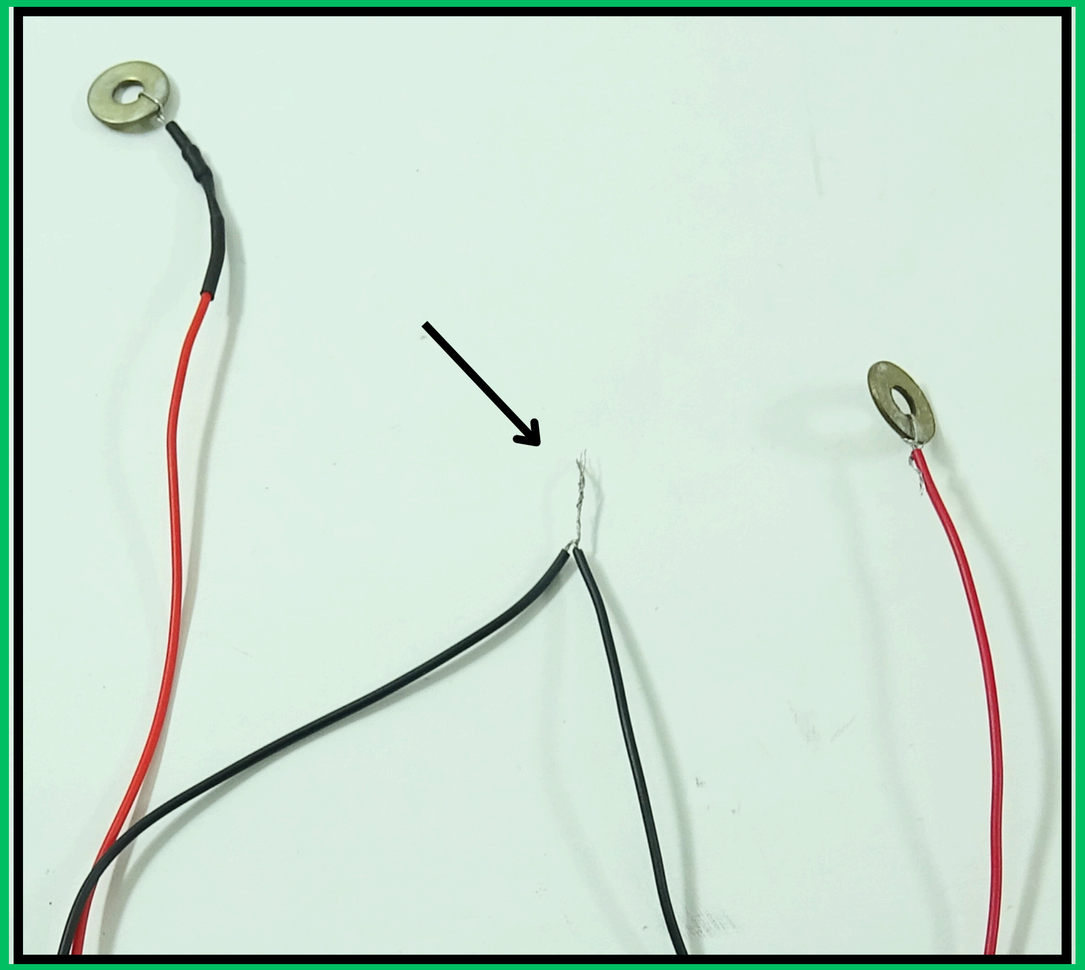


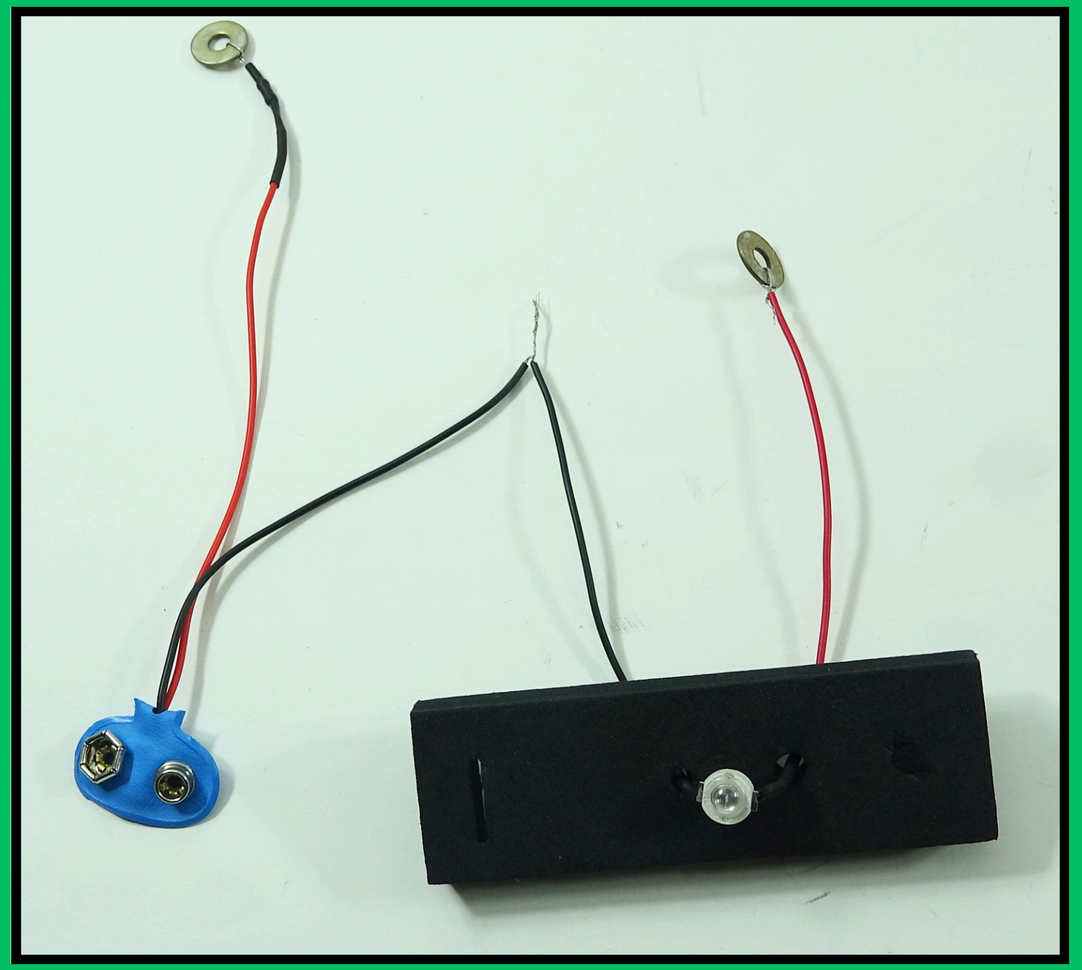
Add a washer to the LED red wire as shown in image



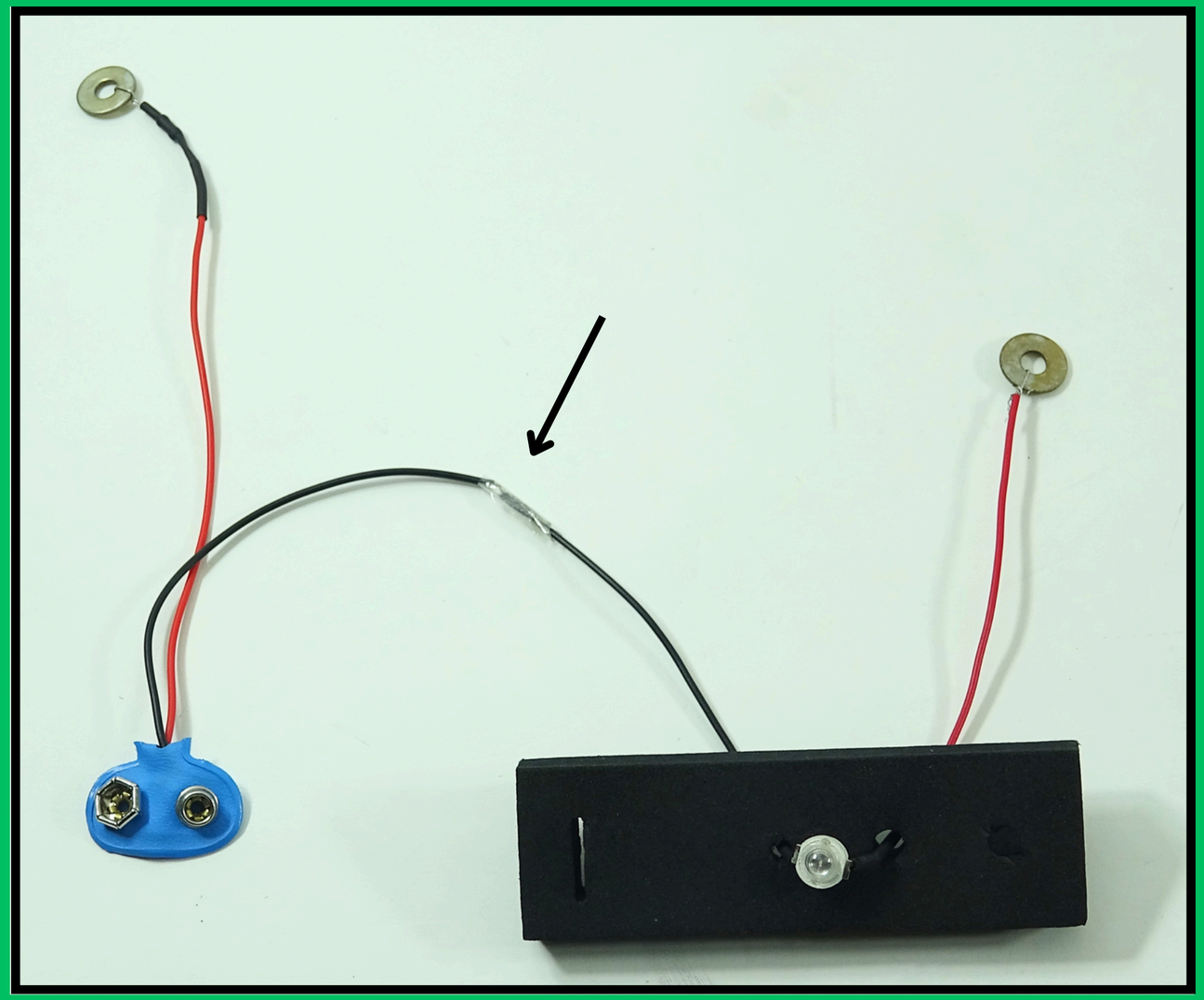
(Note: Make sure only the metallic part of the wire touches the washer).

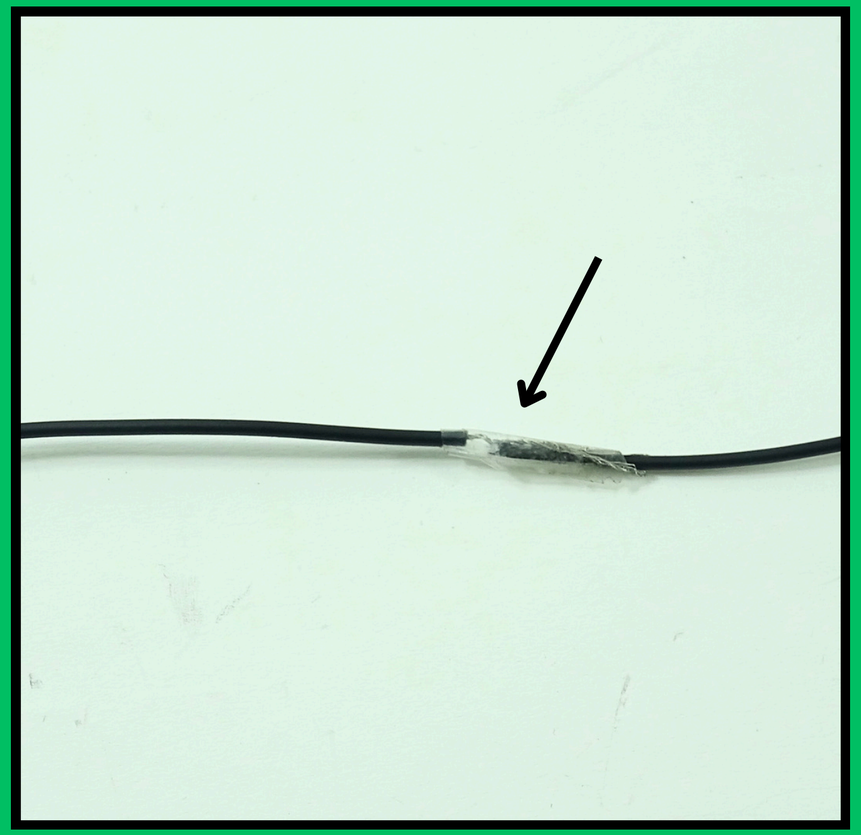
Connect the LED black wire with the battery snap black wire, as shown in the image



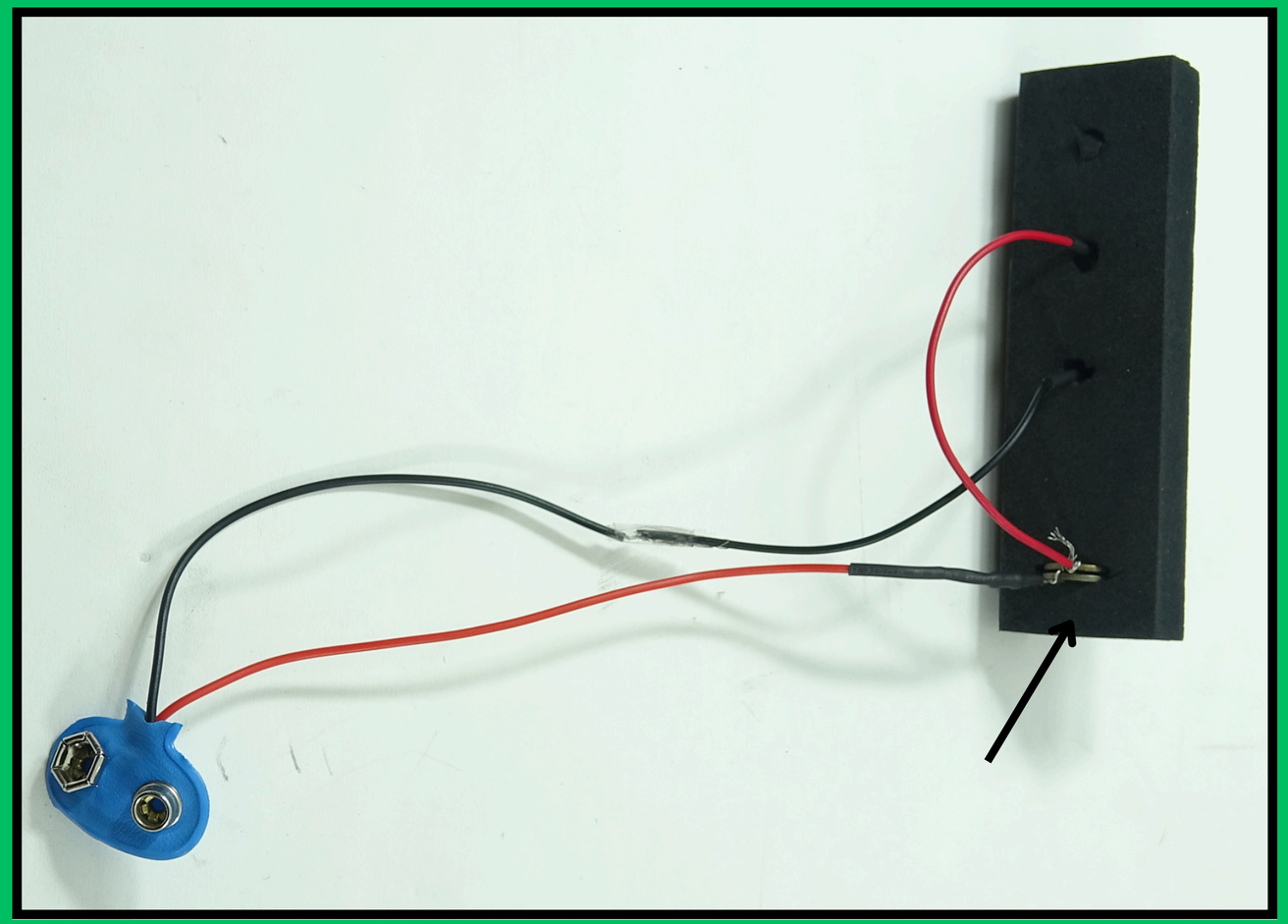


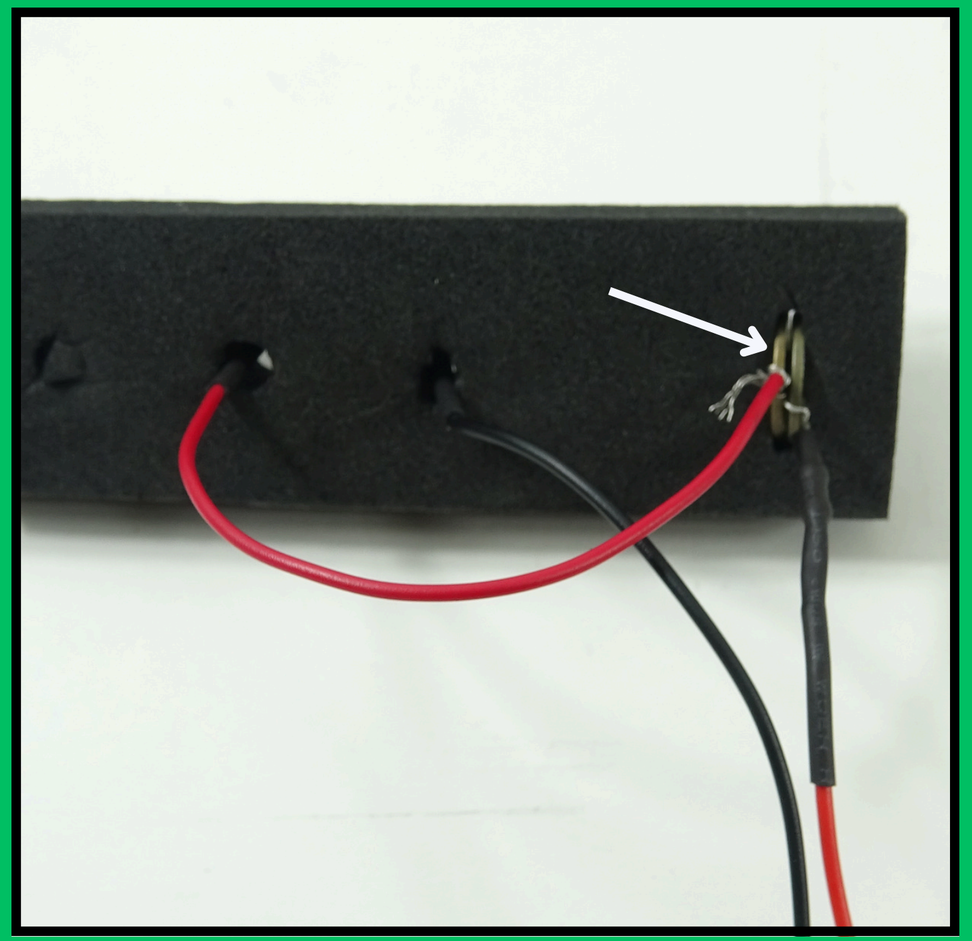
Insulate the connected LED black wire and the battery snap black wire with the cello tape, as shown in the image.



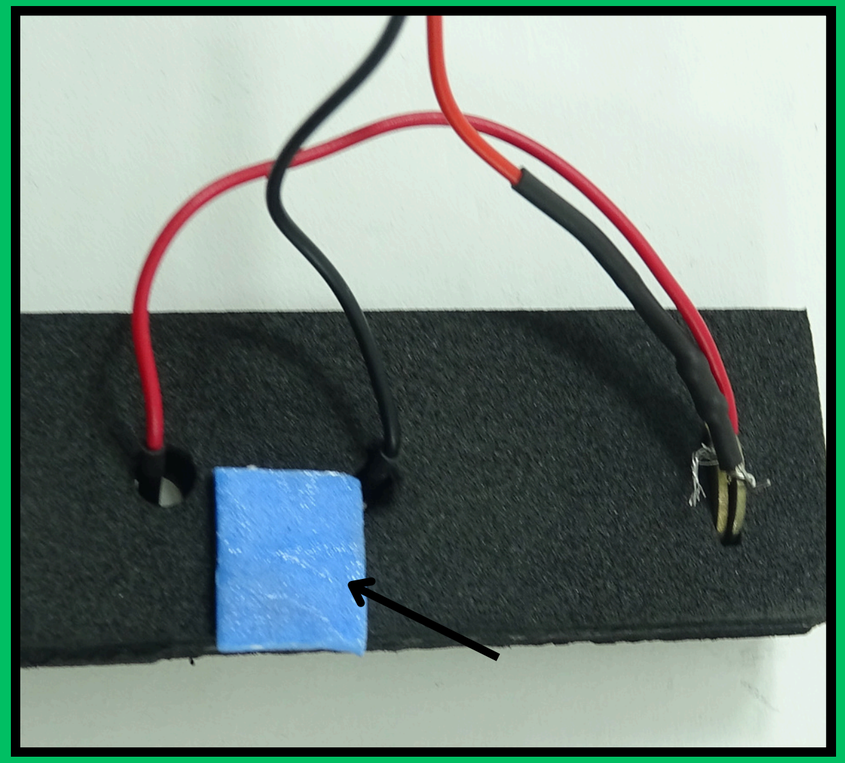


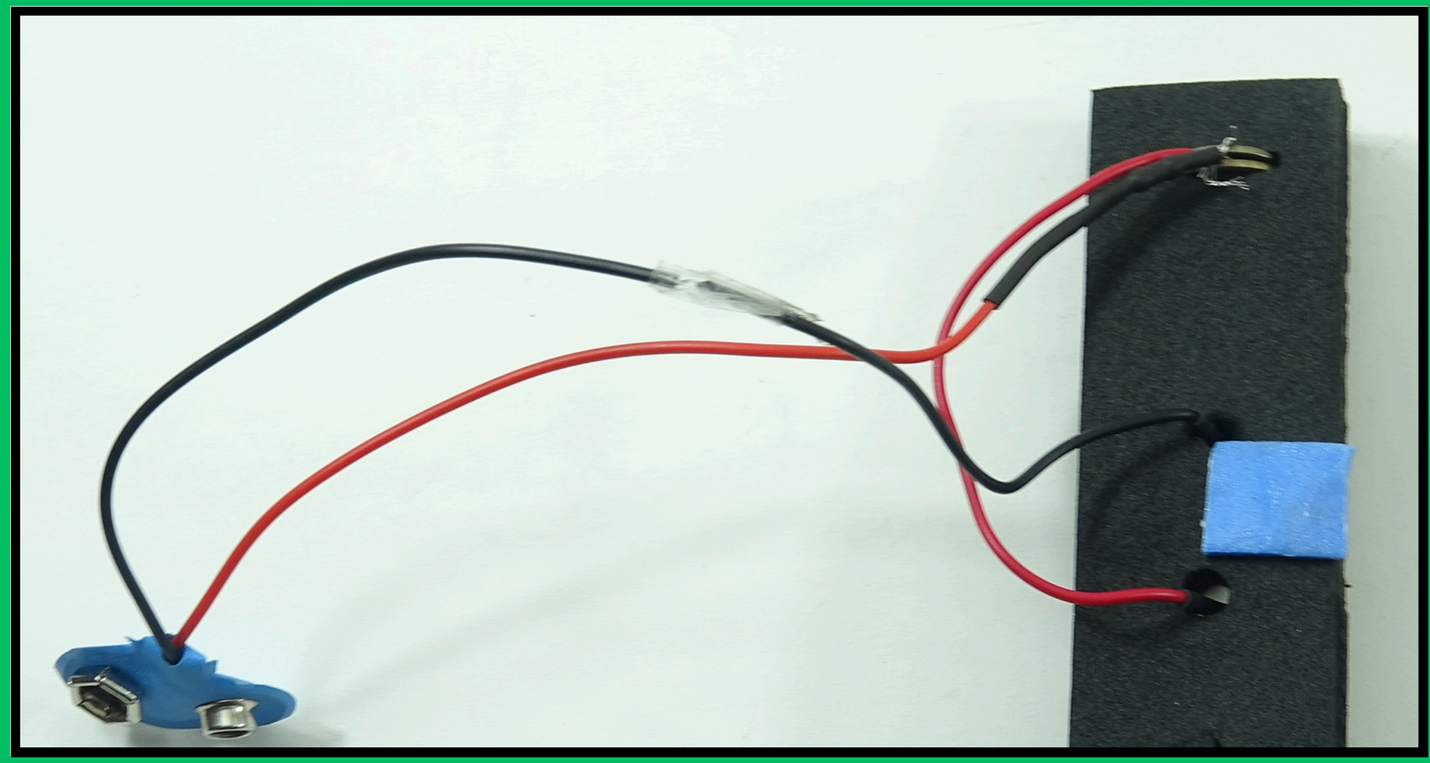
Insert the LED washer and the battery snap washer into the washer holder part of the foam, as shown in the image.



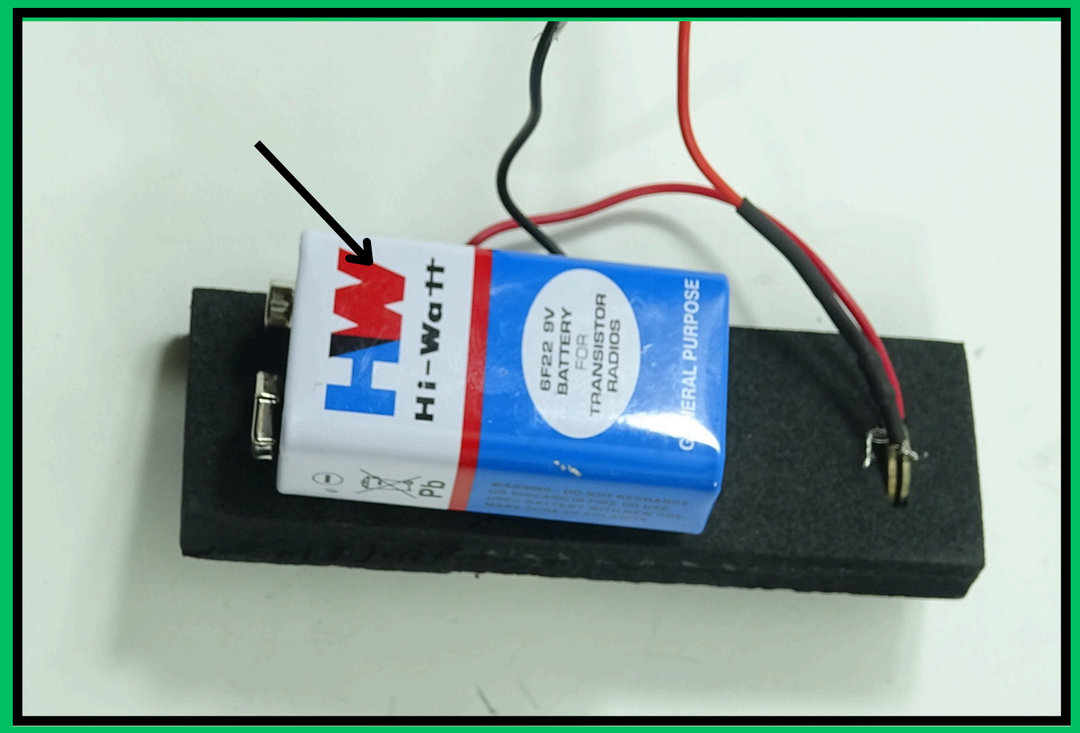


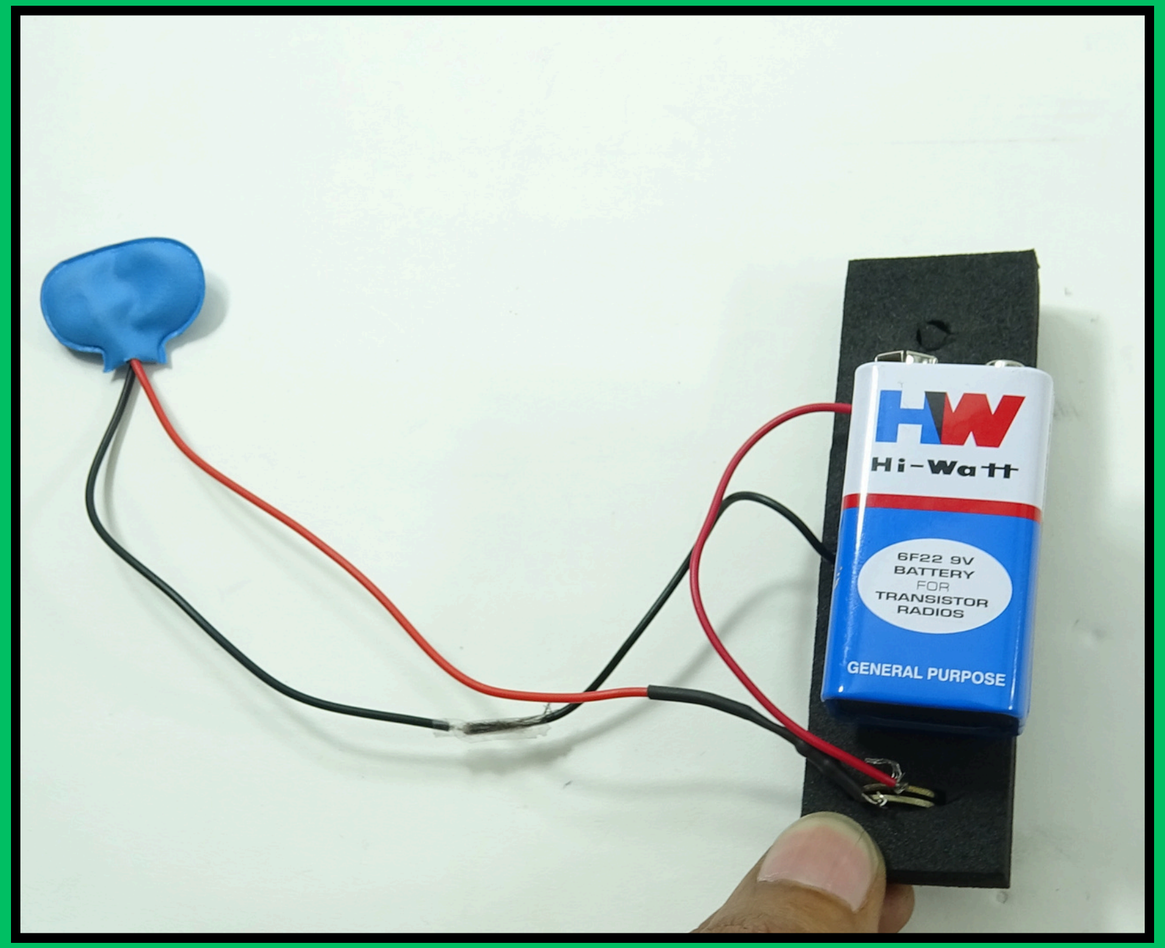
Peel the double-sided sticker and attach it to the foam as shown in the image.



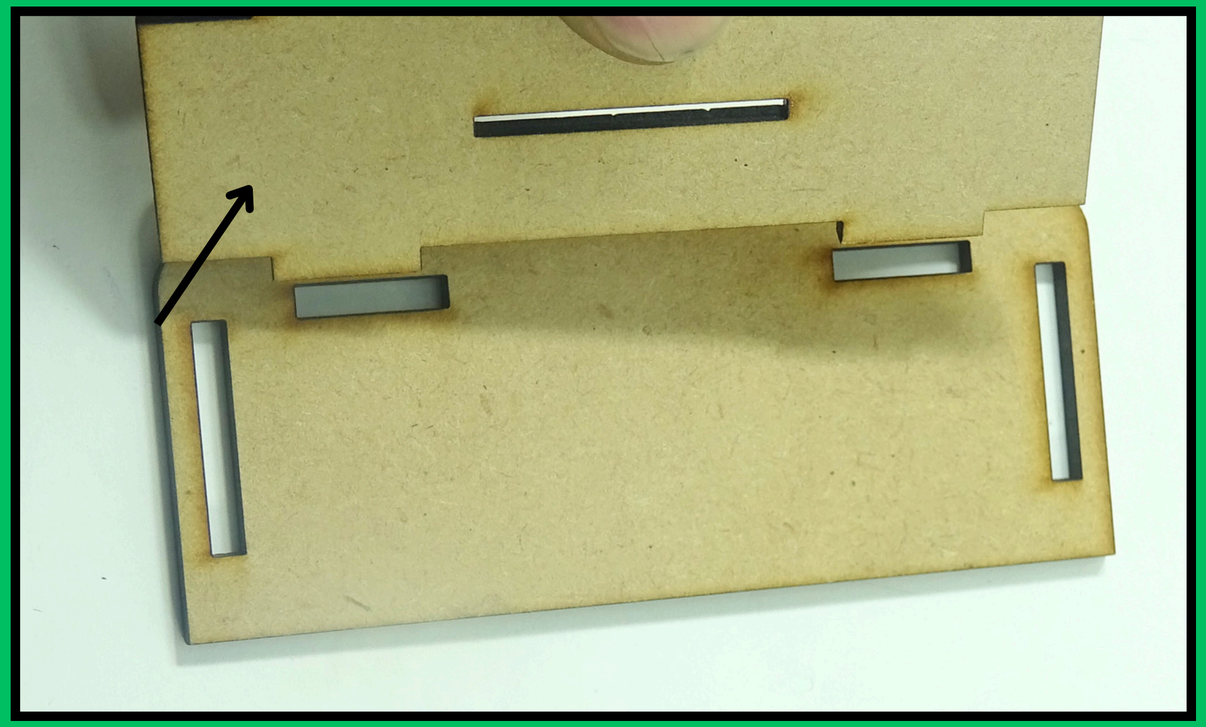


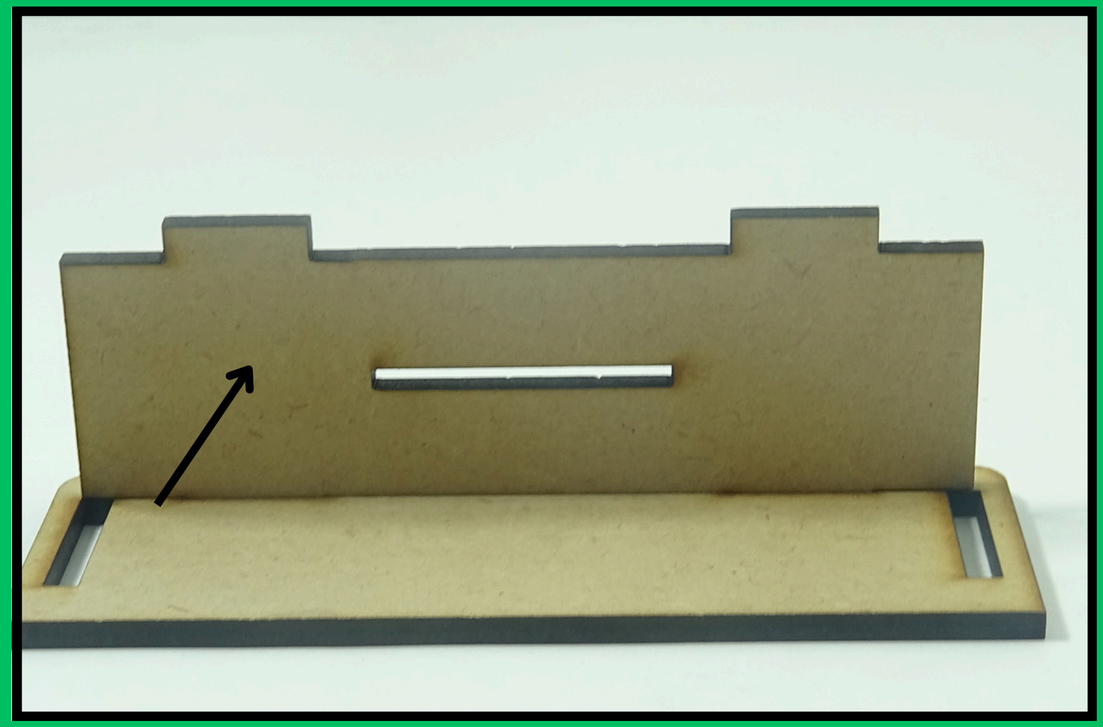
Attach the battery to the double-sided sticker as shown in the image.



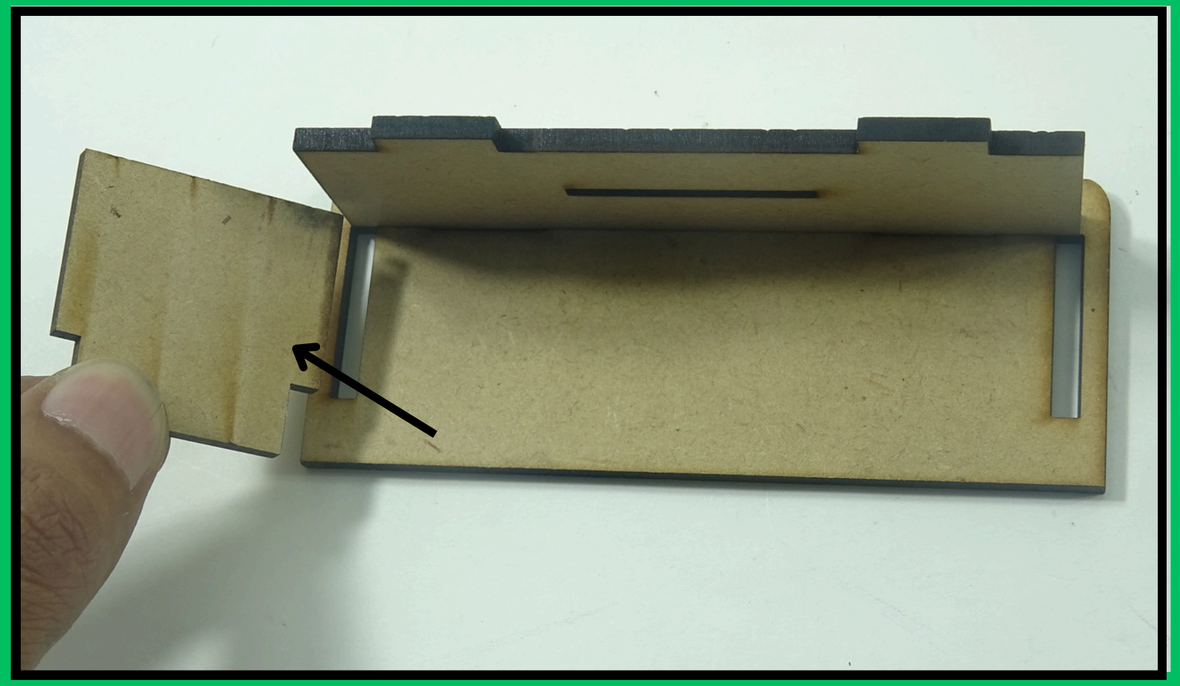


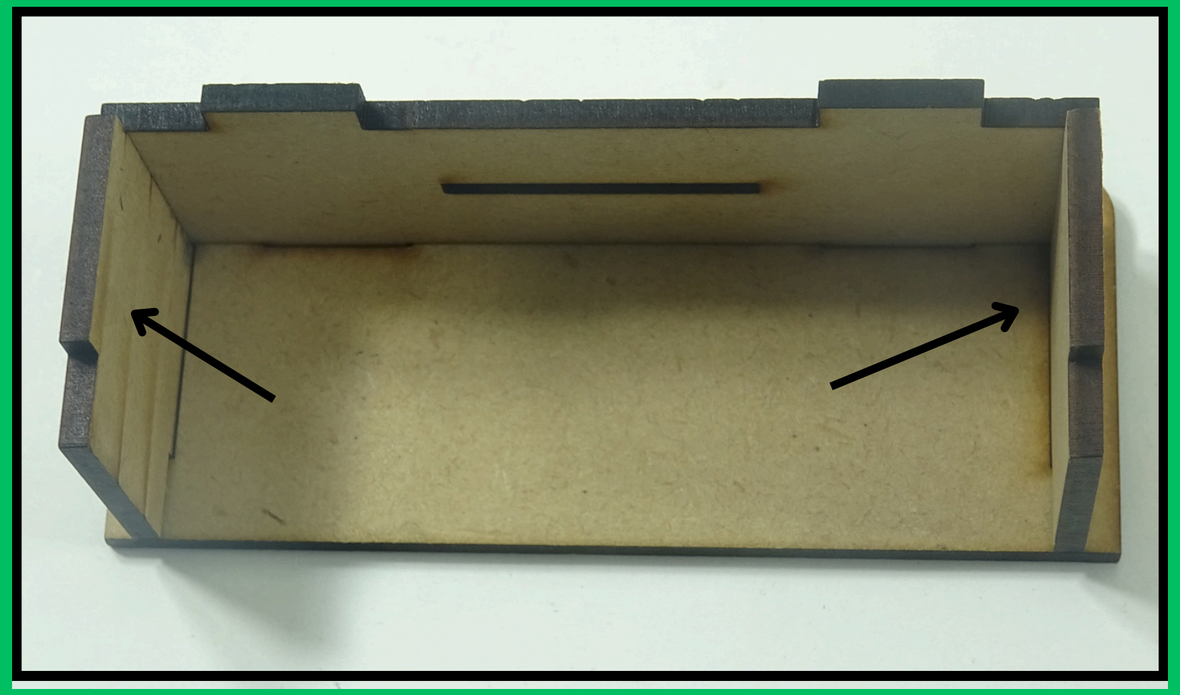
Connect the top side MDF to the rear side MDF as shown in the image(Note: The MDF parts should be similar to those shown in the image)



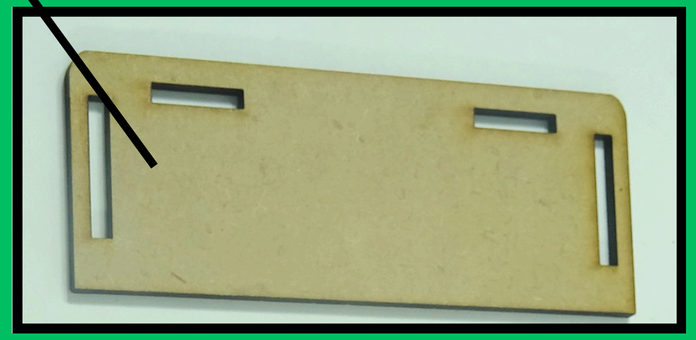


Connect the side part (small MDF parts) to the rear side MDF as shown in the image

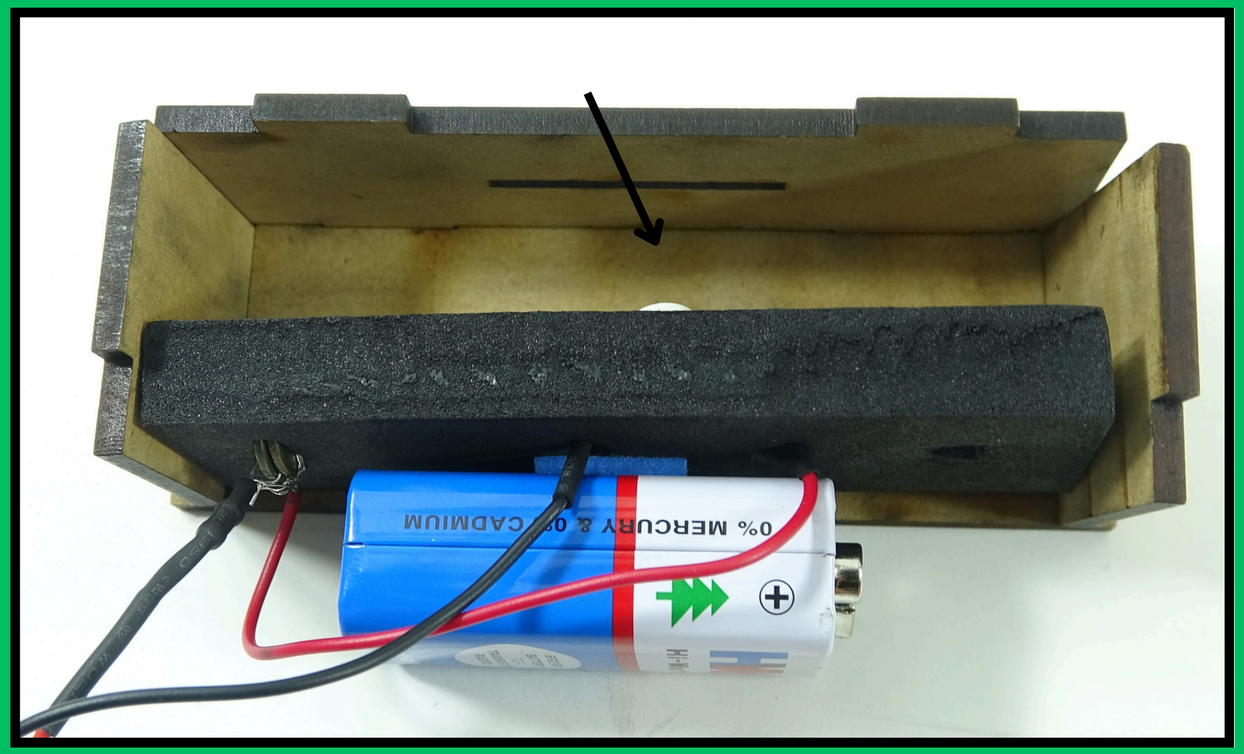


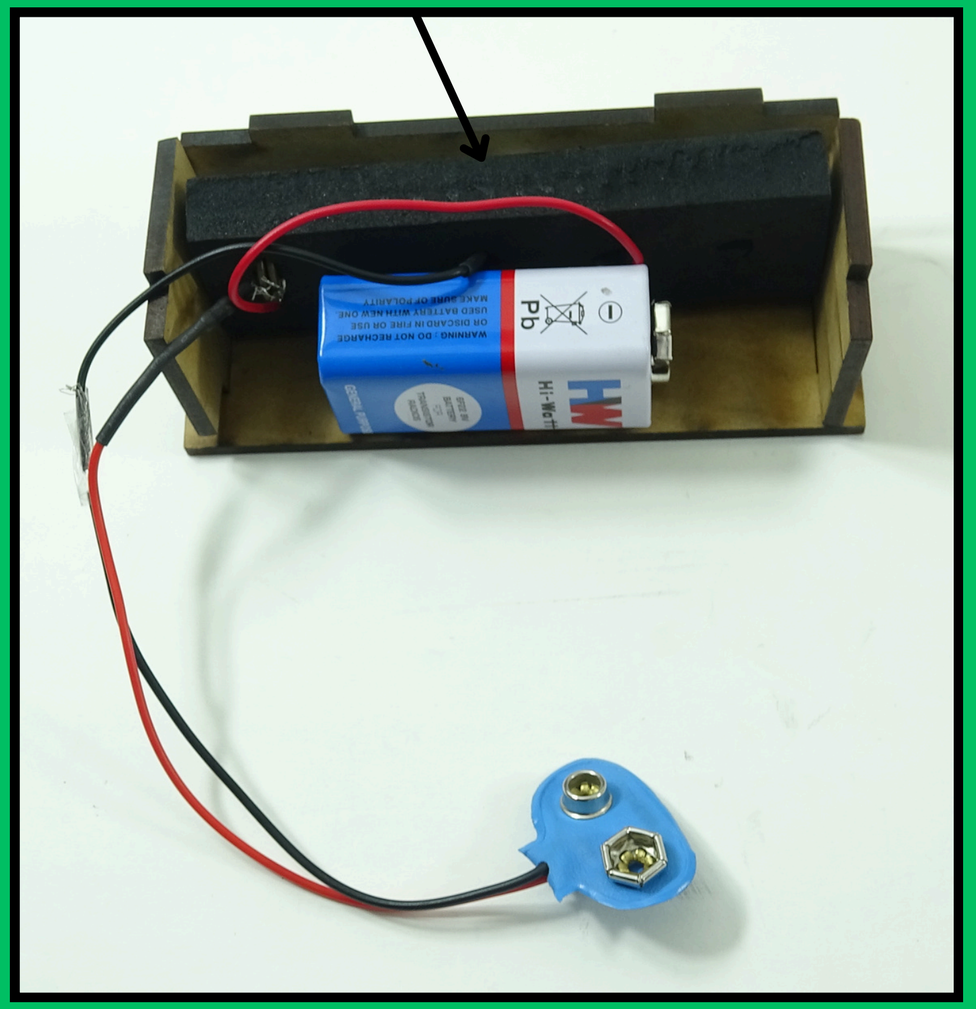


Peel the sticker and attach it to the MDF as shown in the image.

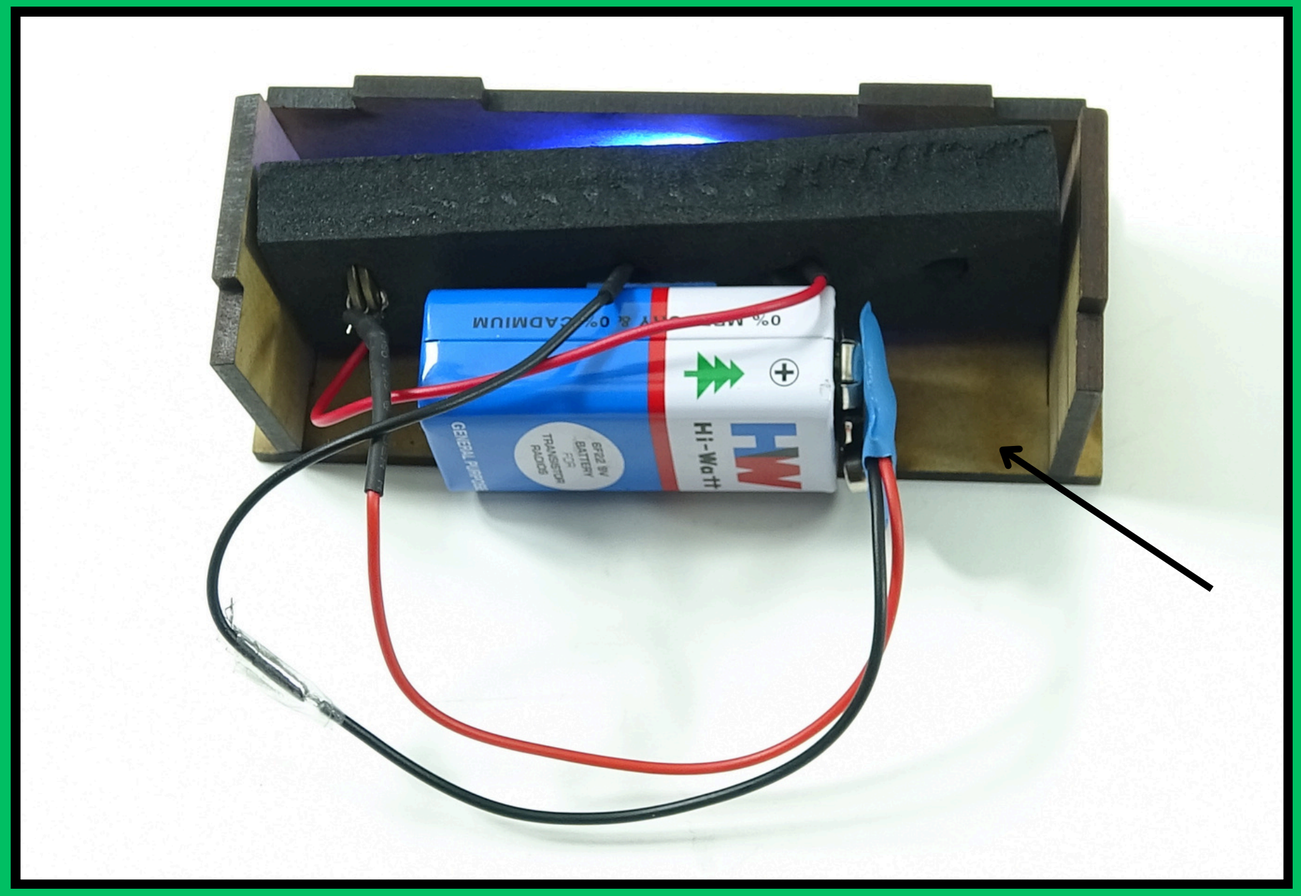


Place the battery foam part inside the MDF box as shown in the image. (Note: The LED should be parallel to the MDF hole, as indicated by the arrow)

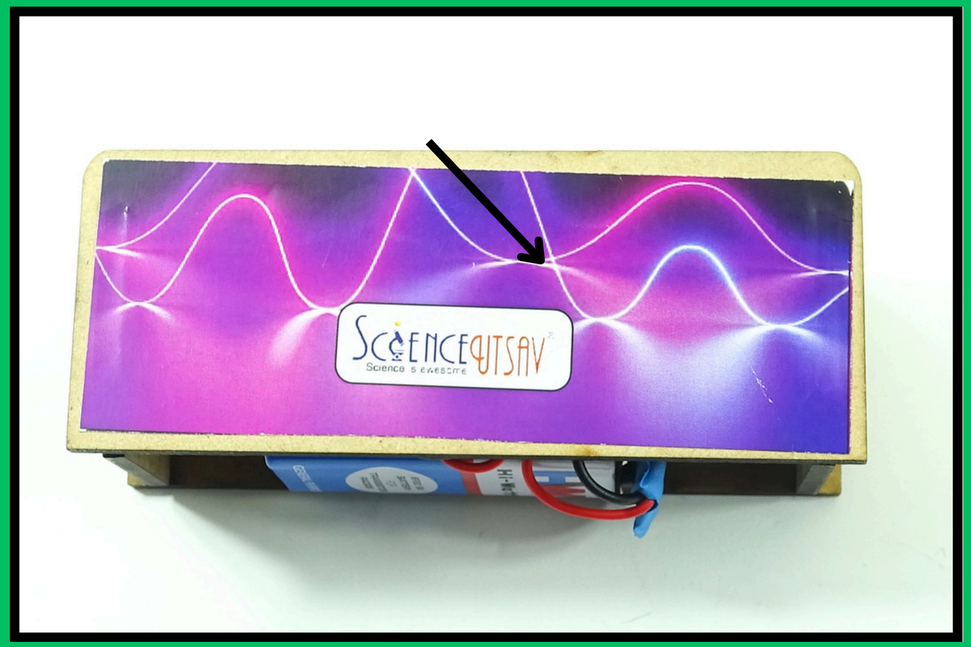




Connect the battery clip to the battery as shown.
(NOTE- The red wire represents positive (+ve), so connect it to the positive side of the battery, and the black wire represents negative (-ve), so connect it to the negative side of the battery)



Connect the front side (MDF with attached sticker) to the MDF box segment as shown in the image



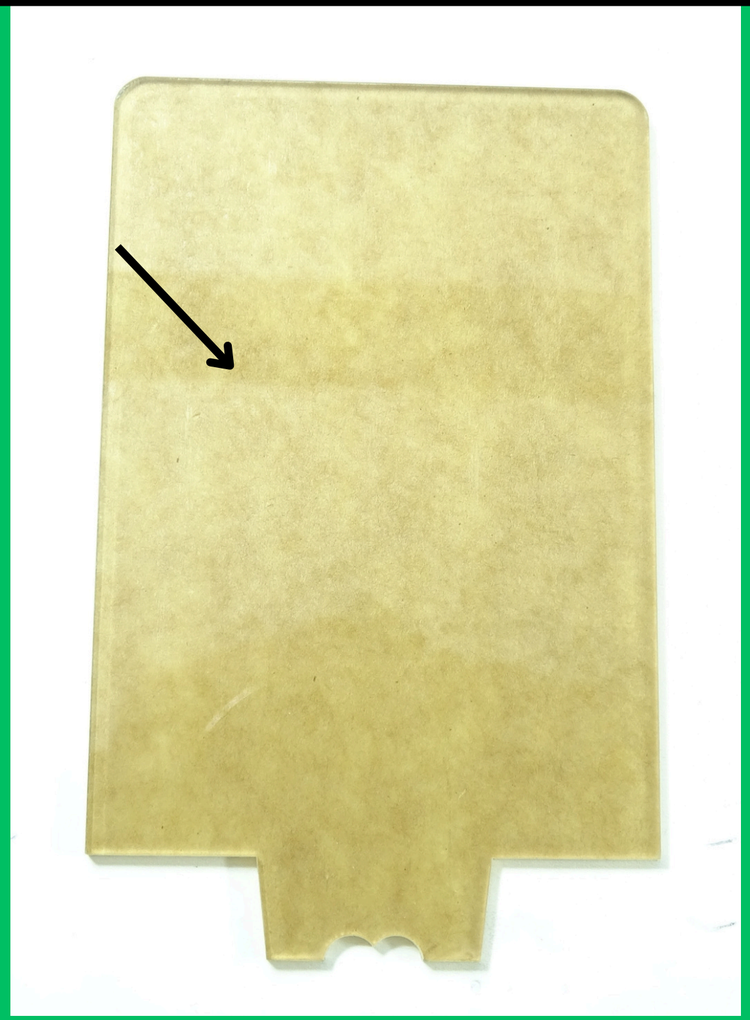
Front SideView

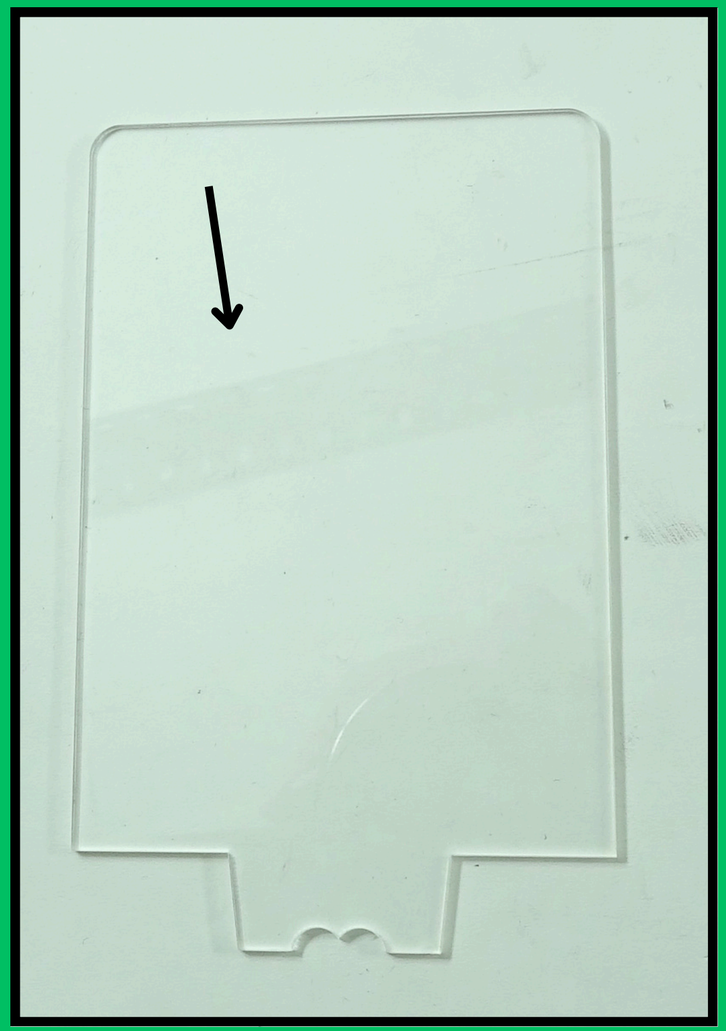
Peel the sticker from the superhero acrylic partas shown in the image

Observe the superhero acrylic in the dark as shown in the image

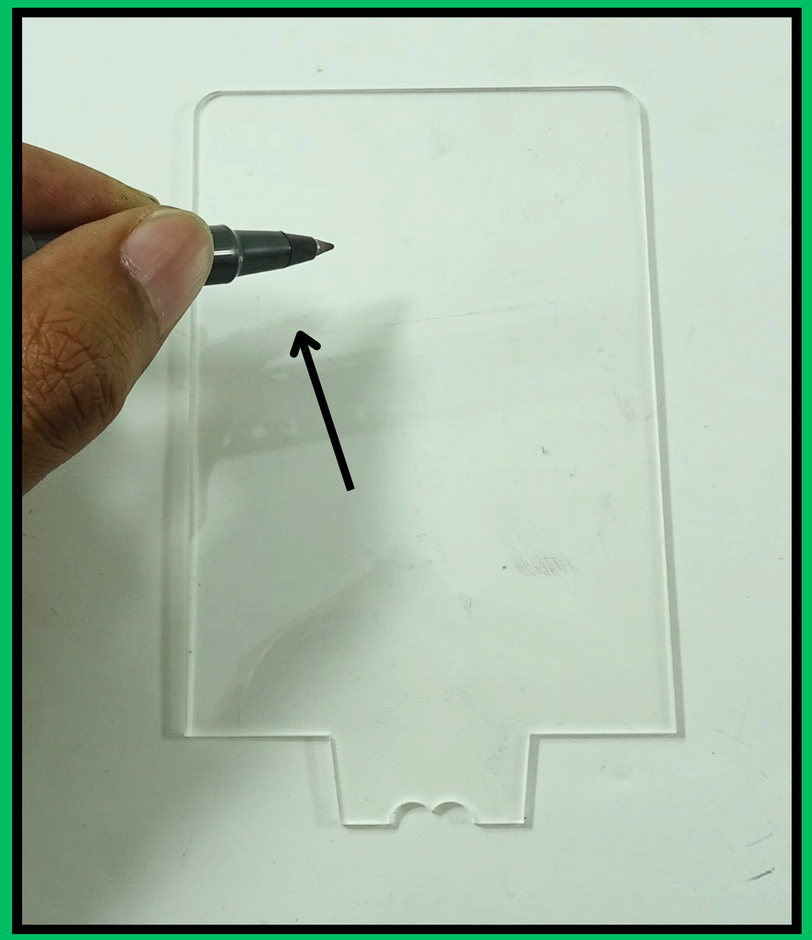
ACITIVITY

Peel the acrylic sticker as shown in the image.

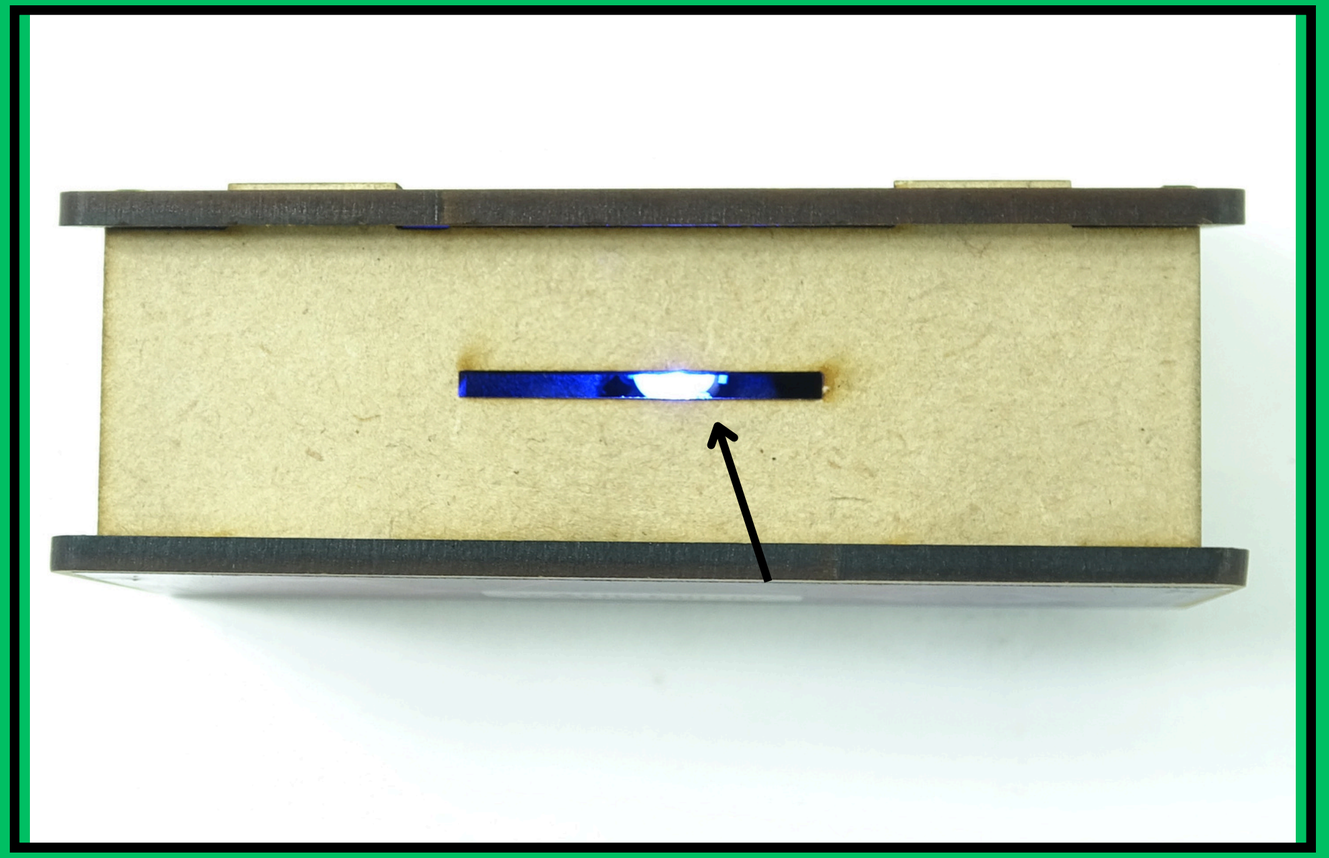




Write on the acrylic whatever you wish to write using a fine-tip sketch pen



Place the acrylic in the MDF hole as indicated by the arrow mark.



Peel the acrylic sticker as shown in the image.

Write on the acrylic whatever you wish to write using a fine-tip sketch pen

Place the acrylic in the MDF hole
as indicated by the arrow mark.