

Switch Building Instructions

Updated 7/3/24 by Mia Hoffman

Pool Noodle Switch

Materials Needed:

- 1 Mono audiojack wire
- Pool noodle (~4" long)
- Aluminum Conductive Tape
- Hot glue gun + Hot glue sticks

Switch Concept:

When the two conductive edges of the pool noodle come into contact (e.g., are touching), the switch is activated.



1. Cut pool noodle

Cut the pool noodle to about 4" long.

Cut a 0.5" slit down the length of it hoagie-style.

Modification Note: The larger the wedge that is cut, the more effort that will be required to activate switch.



2. Add conductive tape

Add a 3.5” piece of conductive tape to the lip of the pool noodle.

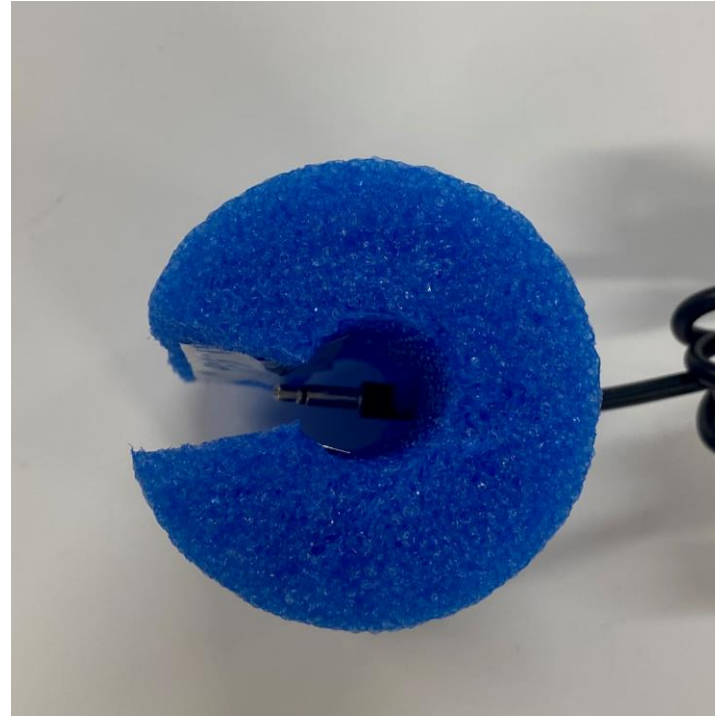
Cut the tape so that it does not go over halfway and does not go over the lip.

Add another piece of conductive tape to the top lip.



3. Place wire

- A) Use the end of the audio jack cable to poke a hole opposite of the slit and in the center.
- B) Once the hole has been made, place the exposed ends of the wire through the pool noodle. Hot glue the black part of the wire in place.



A



B

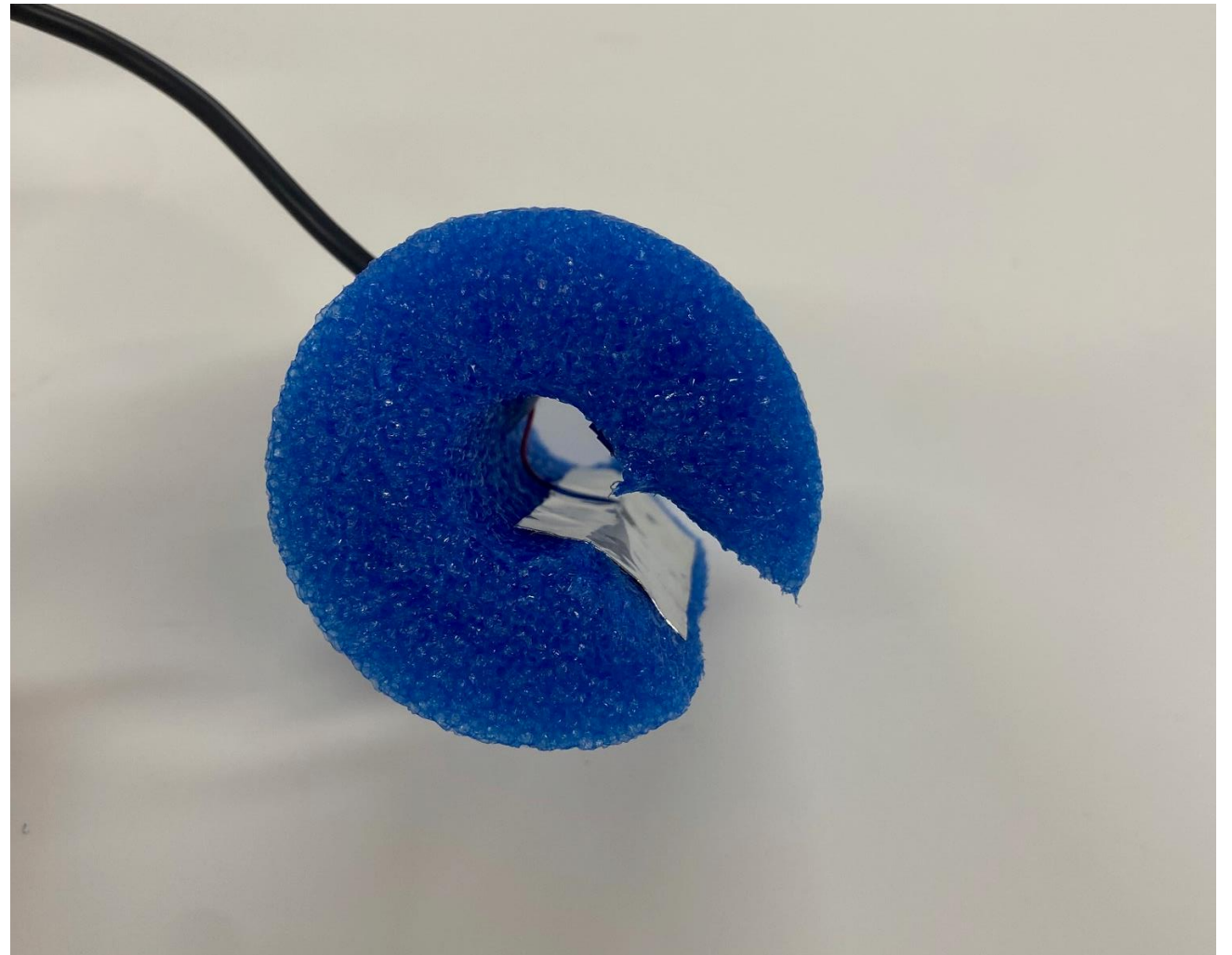
4. Tape down wire edges

The wire should have two ends, a red end and a white end.

Use one piece of conductive tape to tape down the red wire to the bottom piece of tape already on the pool noodle.

Use one piece of conductive tape to tape down the white wire to the top piece of tape already on the pool noodle.

Make sure the metal piece of the red wire and white wire are not touching each other. As the switch will always be on.



5. Test the switch

Plug in your pool noodle switch to a switch-adapted toy or input device.

Troubleshooting: Press down the conductive tape sandwich around the wire that you have placed within it. Make sure there is a strong connection!



Pool Noodle Switch

Materials Needed:

- 1 Mono audiojack wire
- Plastic container with flat lid
- Aluminum Conductive Tape
- Hot glue gun + Hot glue sticks

Switch Concept:

When a hand or other body part is touching both pieces of tape (e.g., laying on top of lid), the switch is activated.

Only works with input device



1. Insert wire

Remove the cap from the plastic container.

Cut a small hole in the side towards the bottom.

Place the wire through the hole.



2. Prepare the lid

On the lid of the container, poke two holes 0.5” from each other in the center of the lid.



3. Cut 4 half circles of conductive tape

- A) Take conductive tape and place it halfway over the cap. Use your finger to make an imprint from the lid.
- B) Cut out the half circle from the imprint.

Repeat A and B to get 4 half circles of conductive tape.



A



B

4. Place first layer of conductive tape

Place two of these half circles onto the top of the lid.

Make sure these two half circles are not touching and trim them down if needed.

Tape the half circles to the container, with each covering one of the holes.

Re-poke the holes in the lid.



5. Place wires

Put the red wire through one of the holes and place the white wire through the other hole.

Use hot glue or tape to secure the black wire to the underside of the cap.



6. Add second layer of conductive tape

Add the other two half circle tape on top of the other two.

Press around the wire until you can clearly see the wire shape.



7. Test the switch

Plug in your conductive switch to the input device.

Troubleshooting: Press down the conductive tape sandwich around the wire that you have placed within it. Make sure there is a strong connection!



Paddle Switch

Materials Needed:

- 1 Mono audiojack wire
- Corrugated plastic (Coroplast), signboard material
- Aluminum Conductive Tape
- Double sided foam tape

Switch Concept:

When the two pieces of coroplast (with conductive tape on them) are pressed together, the switch is activated.

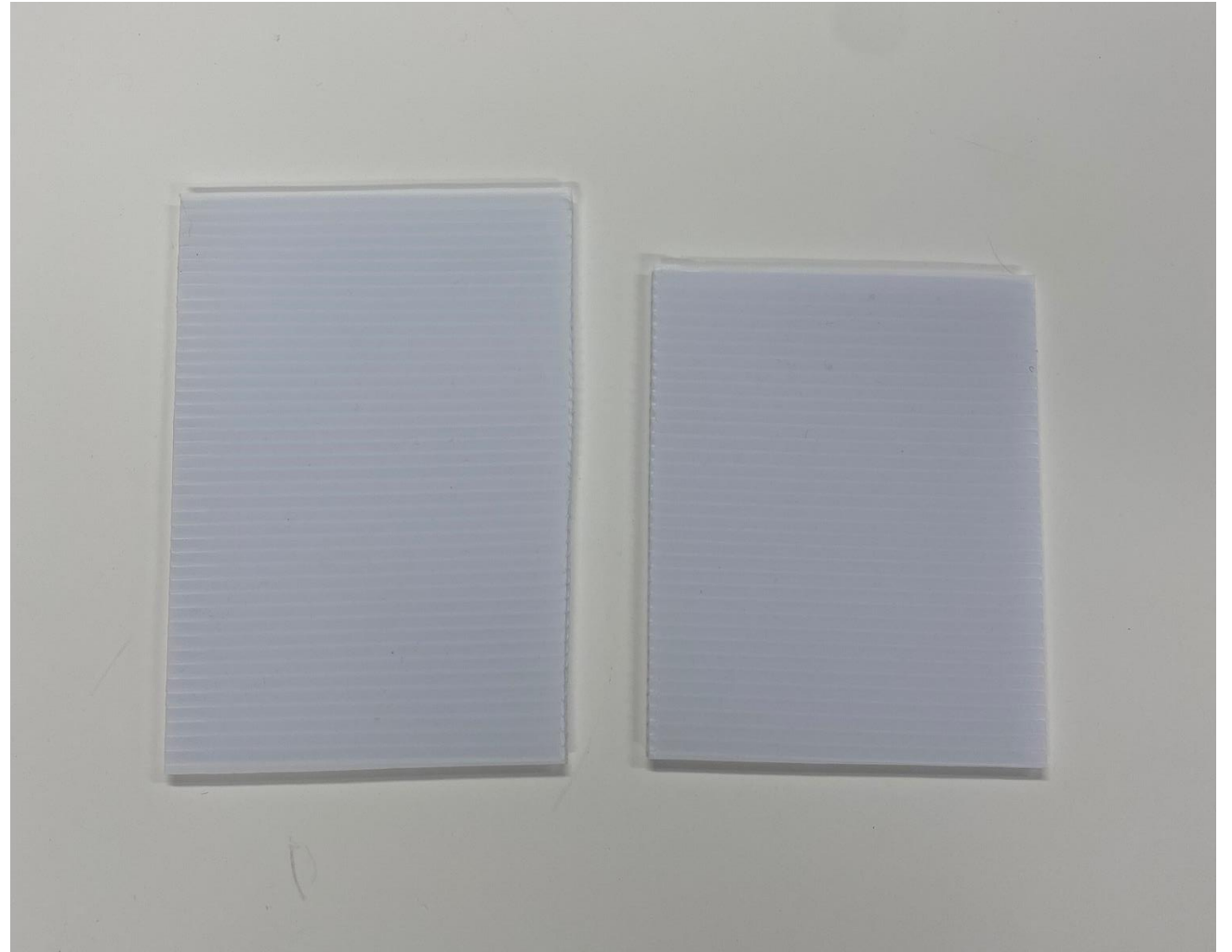


1. Cut Coroplast pieces

Cut one piece of coroplast that is 5.75" by 4". *The long edge cut should be against the flutes.*

Cut one piece of coroplast that is 5" by 4". *The long edge cut should be against the flutes.*

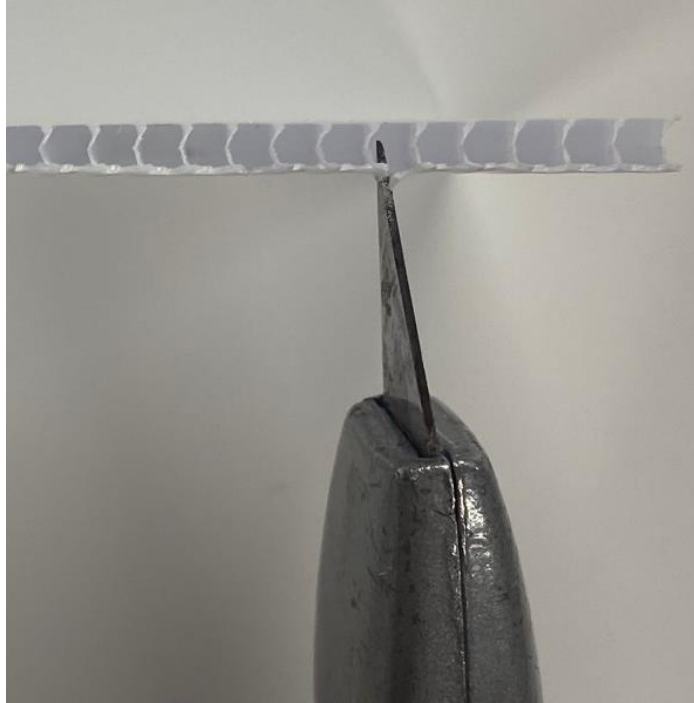
The 4" edge should be in line with the coroplast ridges.



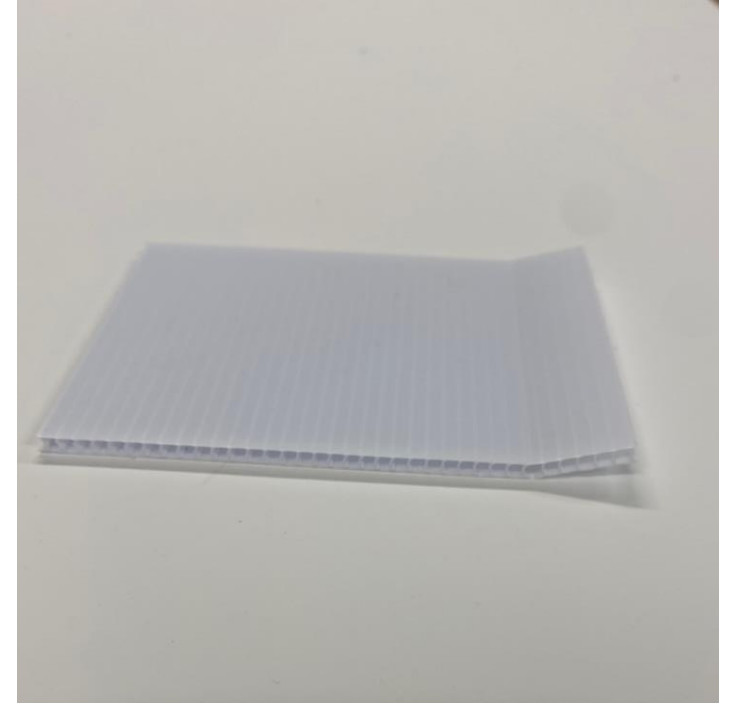
2. Score smaller piece

- A) On the smaller piece, score a line about 1 inch from the edge.
- B) Bend this flap so it makes a small angle.

This creates a lip that makes it easier for an individual to know where to press the switch.



A



B

3. Add foam tape to larger piece

On the larger piece, add an inch of double sided foam tape in the middle of the 4" side.

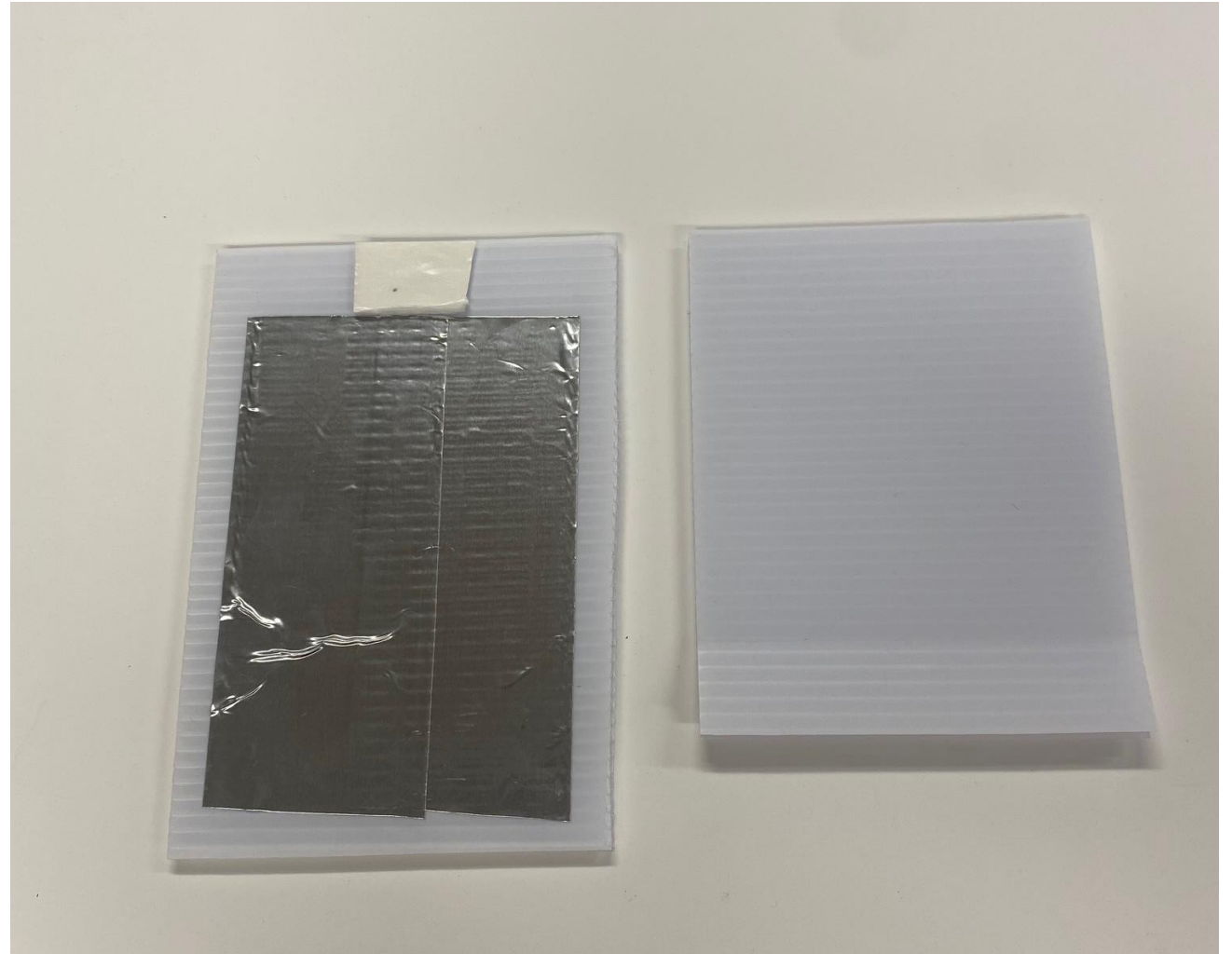


4. Add conductive tape

Cut two pieces of conductive tape that are approximately 4.75" long.

Place both pieces of conductive tape on the larger coroplast rectangle. Slightly overlap the two pieces of conductive tape.

Modification Note: If you want to make the switch more sensitive, cover more of the area below the foam tape with conductive tape.

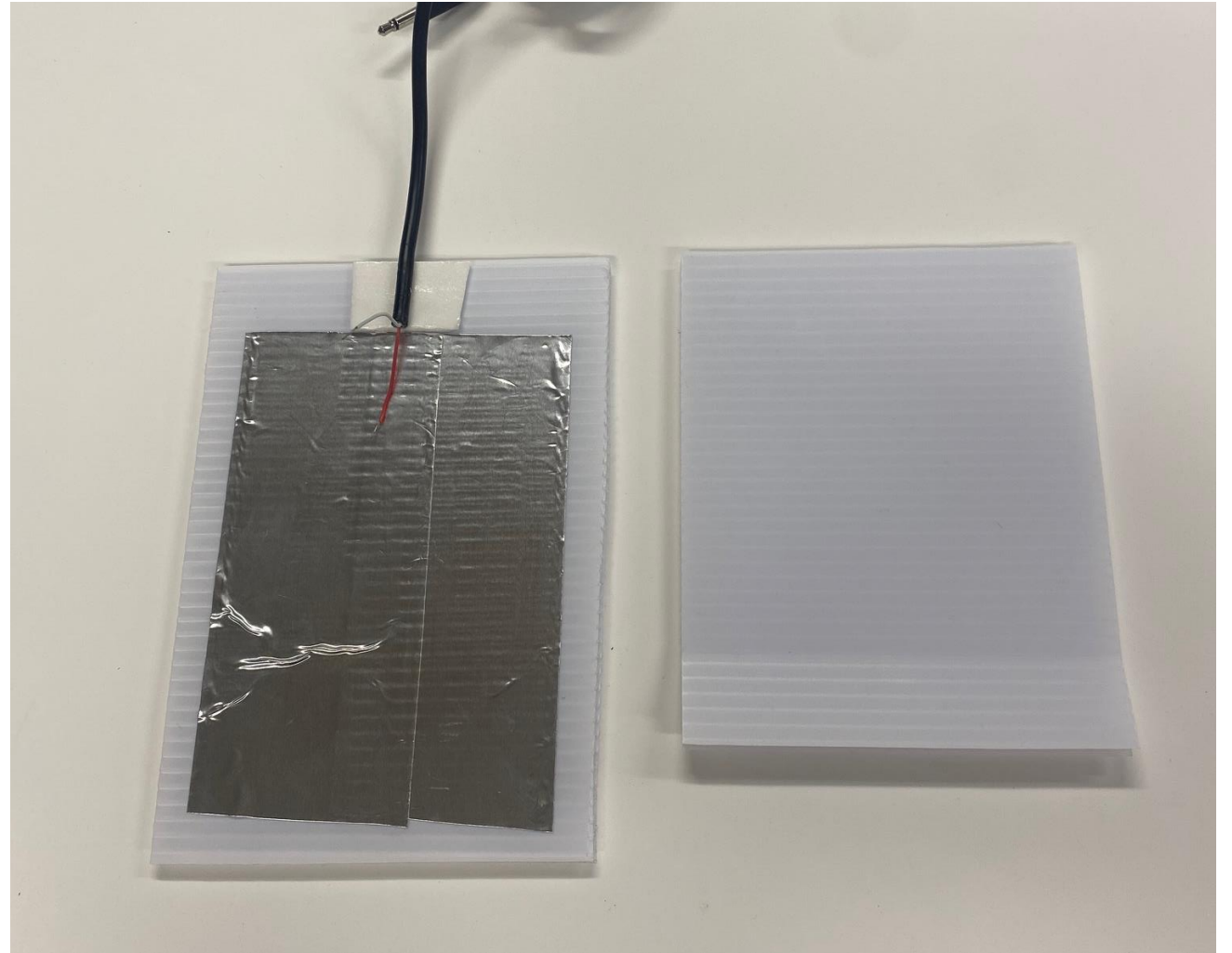


5. Place wire

Stick the black wire onto the double-sided foam tape.

Bend the white wire so it is point upwards.

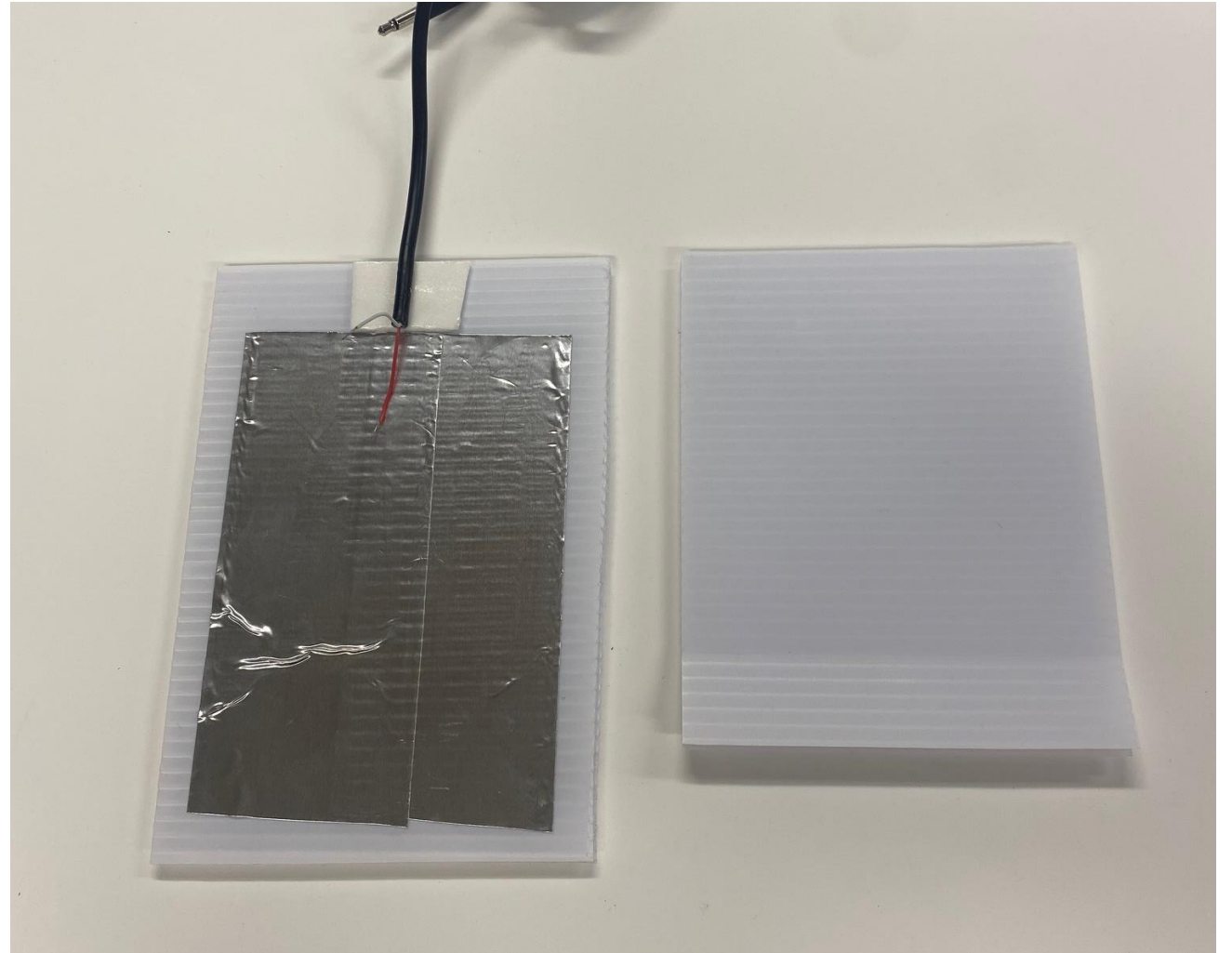
The red wire should be lying on the conductive tape you just placed.



6. Tape down the red wire

Place a 4.75" piece of conductive tape on top of the red wire.

Press the conductive tape down firmly onto the conductive tape you have already placed, so that you can see the outline of the wire.



7. Cut shims

Cut 2 smaller pieces of ciriplast that are 4” by 1”.

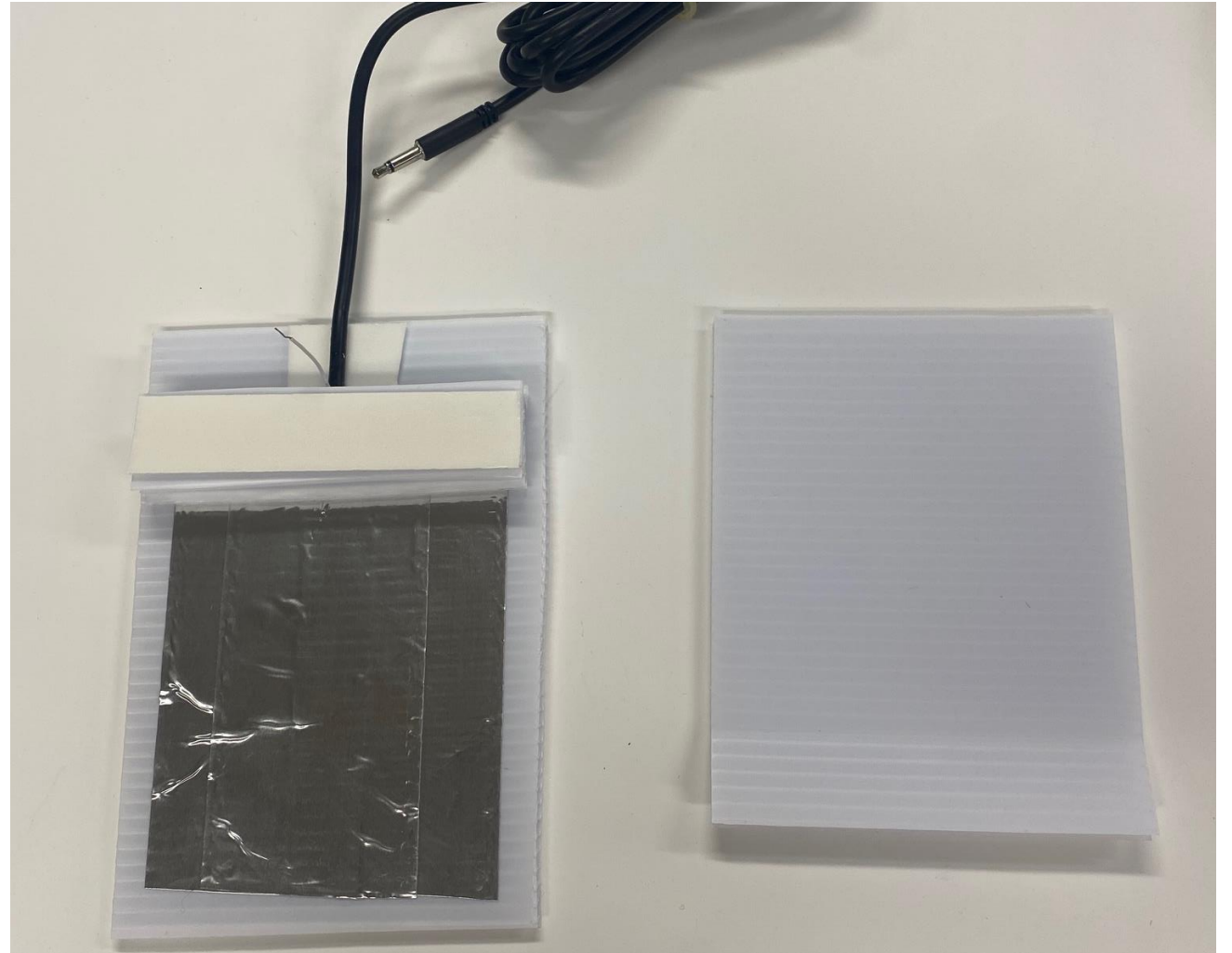
These pieces will be used to create a “chip clip effect” with the larger paddles.



8. Create shim tower

Use the double-sided foam tape to place the 2 smaller coroplast pieces on top of each other.

Make sure that they are as close to the piece of foam tape with the black wire on them.



9. Add conductive tape to small paddle

Cut 6" of conductive tape.

Place 1" of this piece of tape on the top (the side that has the bend going up) of the smaller coroplast paddle.

Wrap the tape around the edge. Place the rest of the piece of tape on the bottom of piece, while holding the bend at an angle.

Modification Note: To make the switch more sensitive, cover the bottom area with more conductive tape.



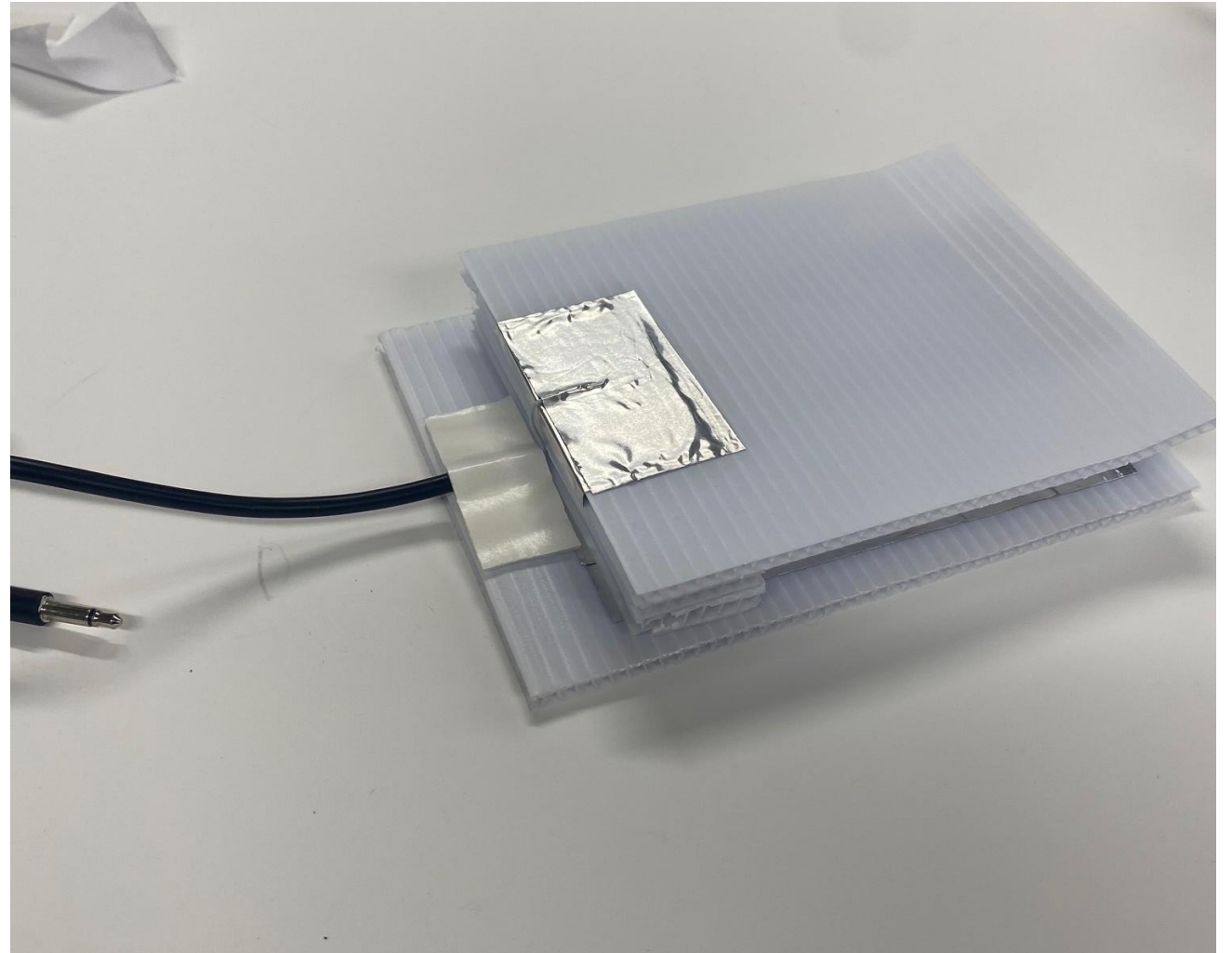
10. Place the small coroplast piece

Place the smaller coroplast paddle on the shim tower that you created in Step 8. *The back of the smaller piece should be in line with the two stacked coroplast pieces.*

Keep the white wire out.

Cut a 1" piece of conductive tape.

Secure the white wire to the top with conductive tape, and press down firmly.



11. Test the switch

Plug in your paddle switch to a switch-adapted toy or input device.

Troubleshooting: Press down the conductive tape sandwich around the wire that you have placed within it. Make sure there is a strong connection!

