



Estimated time

30 min.

Estimated cost

5~7€

Tools

Ruler
Pen
Cutter
Compass
Soldering iron
Tape

Ingredients

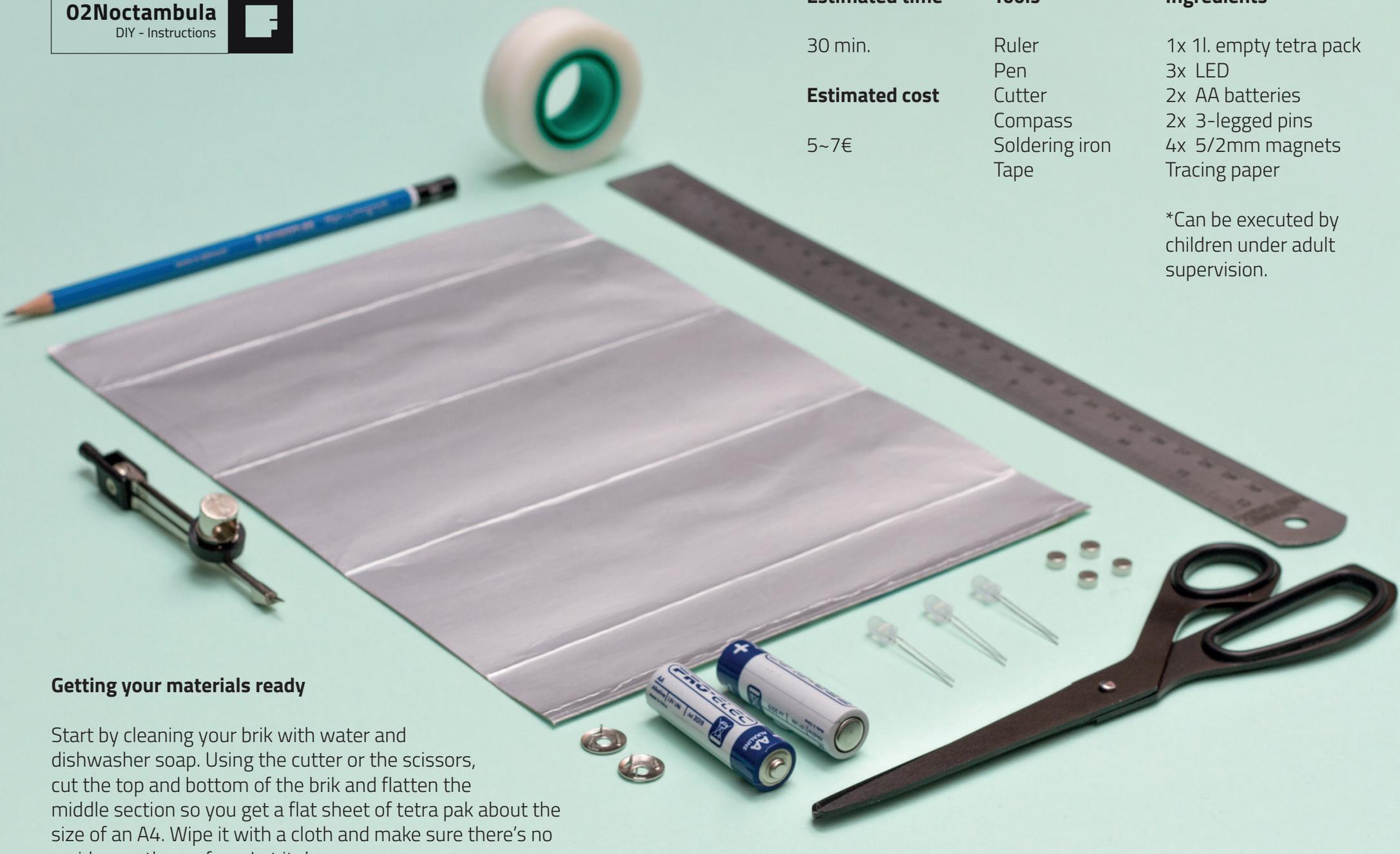
1x 1l. empty tetra pack
3x LED
2x AA batteries
2x 3-legged pins
4x 5/2mm magnets
Tracing paper

*Can be executed by children under adult supervision.

Getting your materials ready

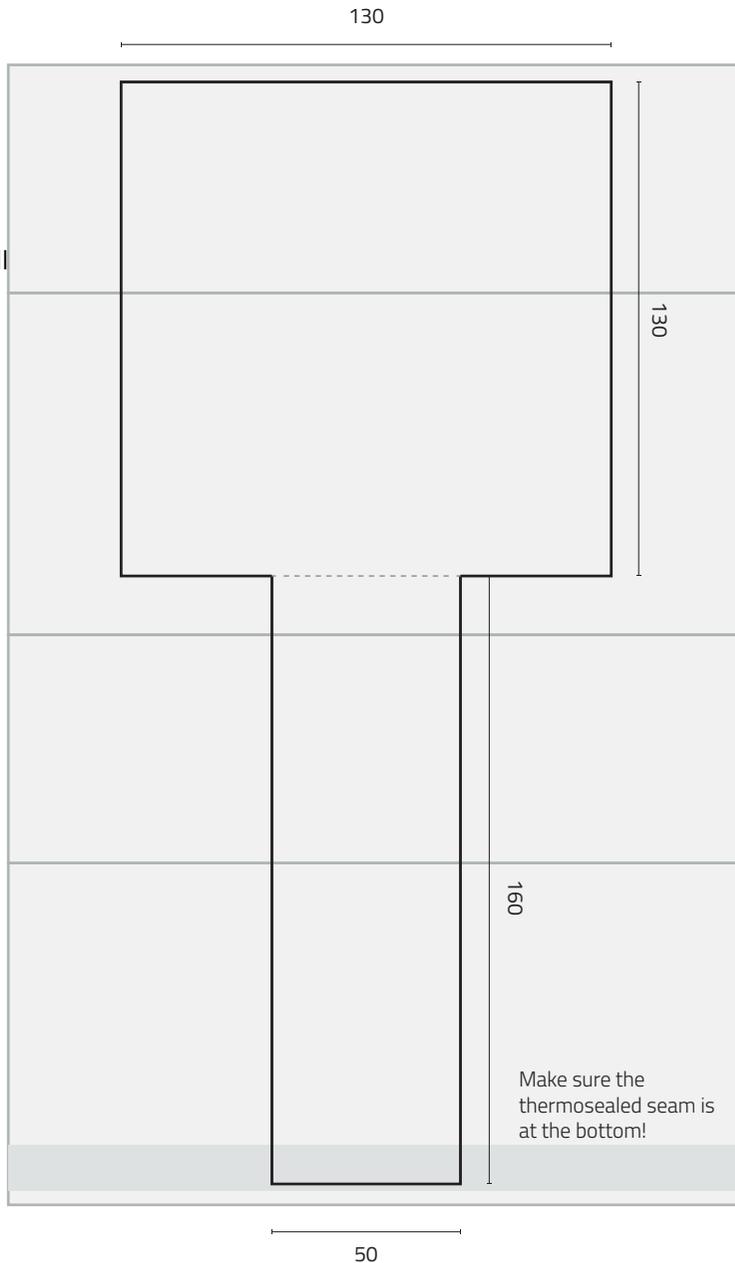
Start by cleaning your brick with water and dishwasher soap. Using the cutter or the scissors, cut the top and bottom of the brick and flatten the middle section so you get a flat sheet of tetra pak about the size of an A4. Wipe it with a cloth and make sure there's no residue on the surface. Let it dry.

Tip A big brick will give you more flat surface and a better end result!



1. Cut the shape

Start by cutting the silhouette from the tetrapack sheet. pick the best spot for the square, it will become the front side of your lamp!



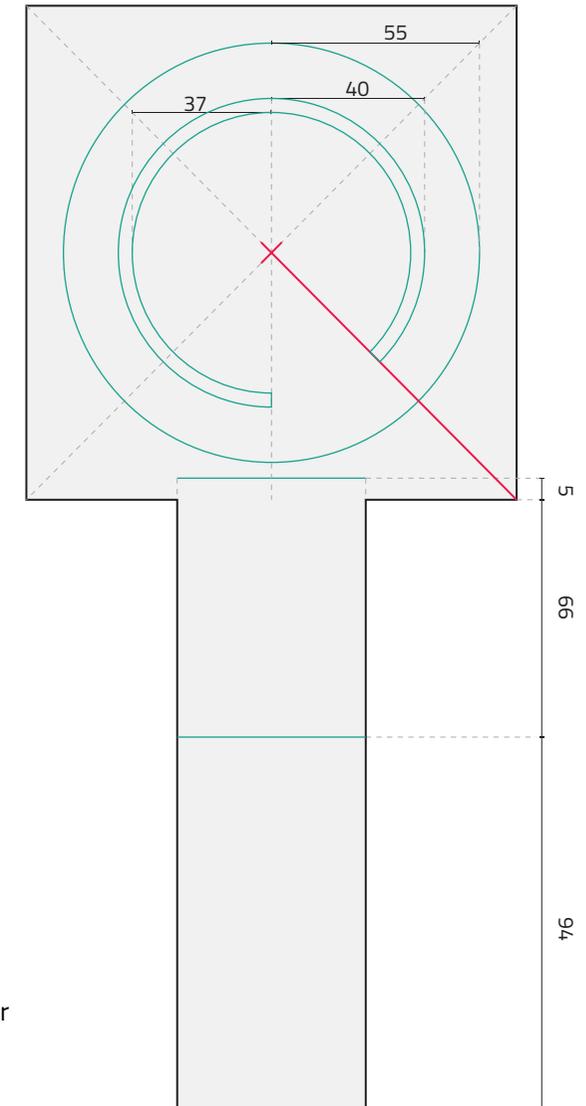
2. Carve the alu layer



Mark the center of the upper square, trace the bottom left diagonal until the corner.

Point a compass in the centre, trace all the outer circle.

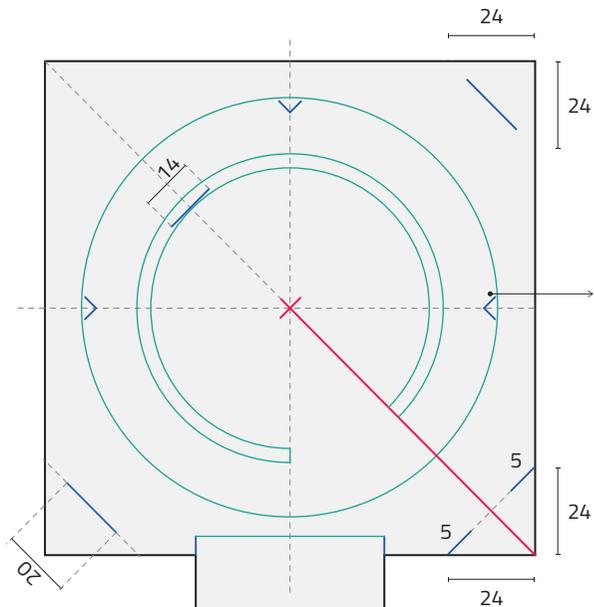
!! the two smaller circles should be traced leaving an empty area on the bottom centre sector.



Across the tail, mark the split line.

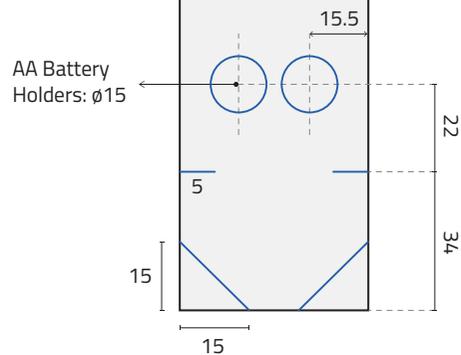
Just mark them with the tip of your cutter without completely cutting through the material.

3. Cut



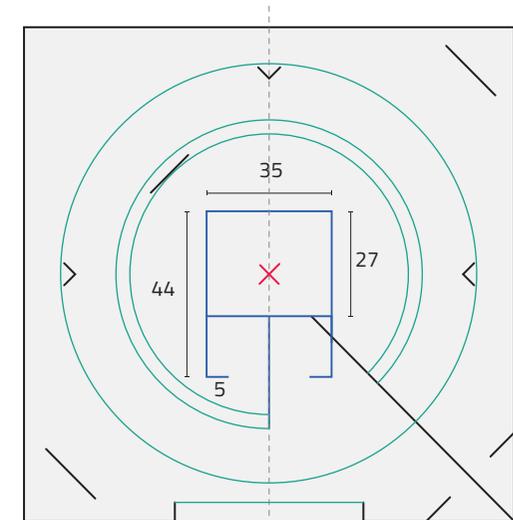
Cut 3 small V shapes along the axis inside the bigger circle, they will hold the diffuser.

Mark and cut through according to the *blue lines*.

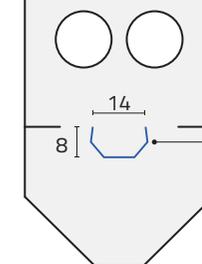


AA Battery Holders: $\varnothing 15$

4. Keep cutting

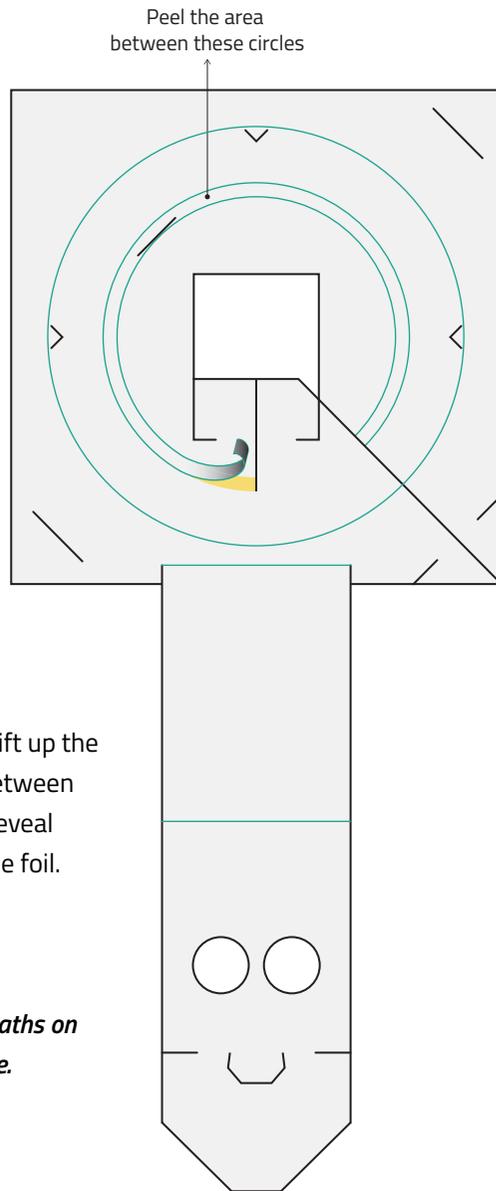


remove the central square will help the process of folding, two 'ears' will become the batteries contacts.



No need to be uber precise, just shape this flap as a pentagon, it will help secure the lock!

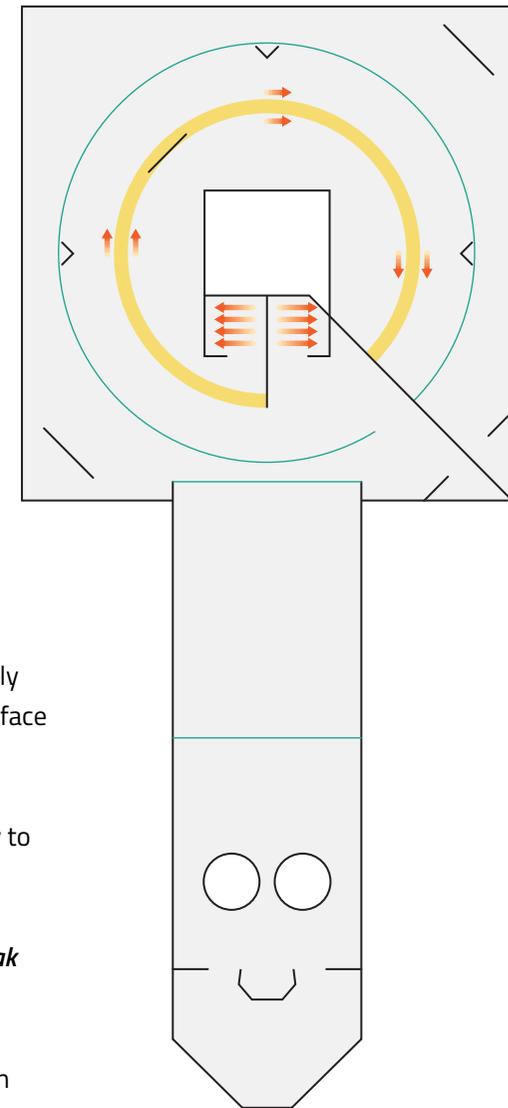
5. Peel



Using the tip of the cutter, lift up the aluminium foil contained between the inner circles. It should reveal white or tan paper under the foil.

This will create 2 separate paths on your circuit, one for each pole.

6. Open the contacts

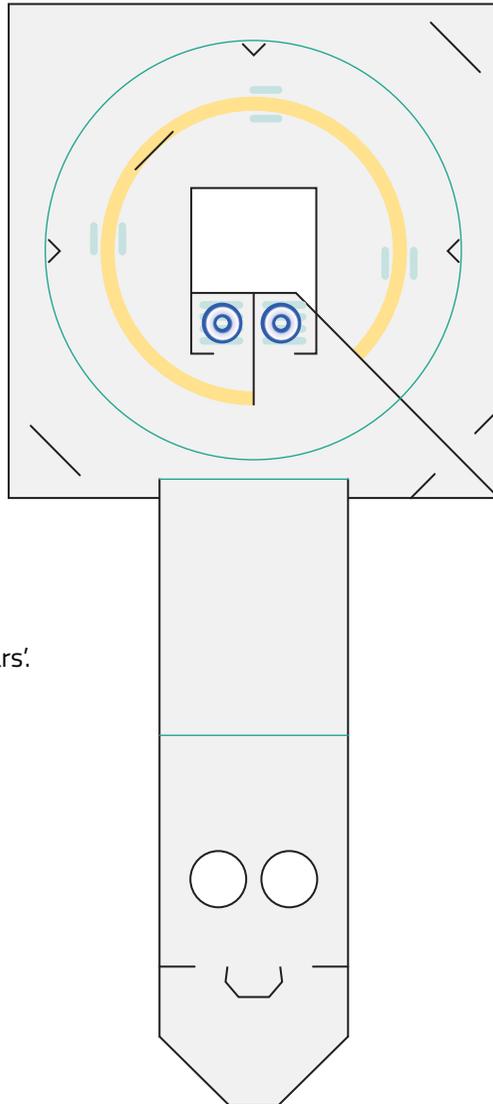


To open the contacts, use a low temperature soldering iron to gently scrape and melt the top plastic surface on the marked areas following the directions. This will uncover the aluminium foil and allow electricity to flow between components.

**Practice on a leftover bit of tetra pak before marking your circuit.*

! -This step needs adult supervision

7. Place the pins



Place 2 three legged pins on the 'ears'.
Make sure they pierce through the
whole material.

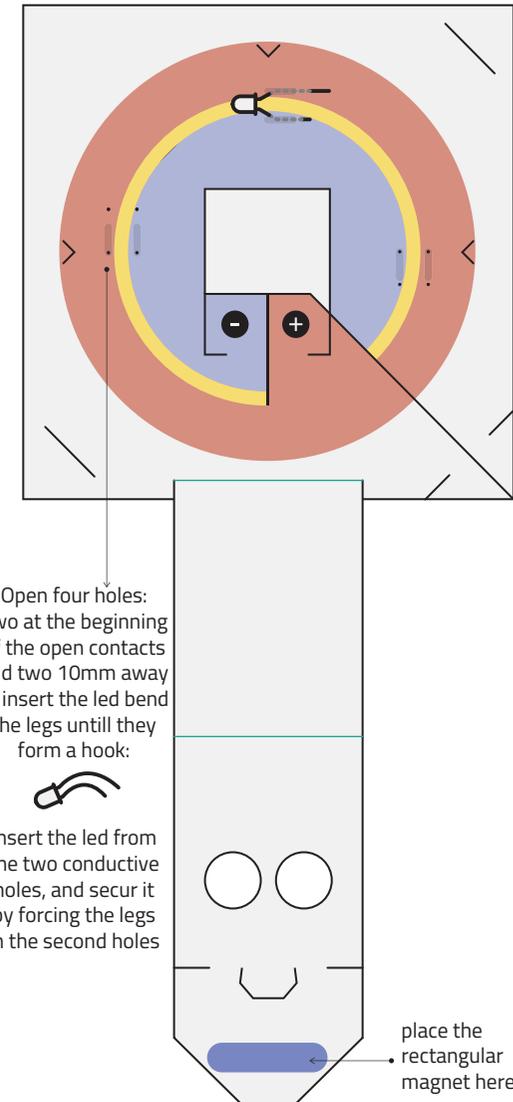
8. Place the leds



Mind the LEDs polarity!
Your LEDs have two legs.
Longer one is +
Shorter is -

**Make sure all + legs are
installed in the same
side,** and then match it
with the battery + end.

Make your leds come
in and out of the holes,
spread their legs open
to fix them in place.



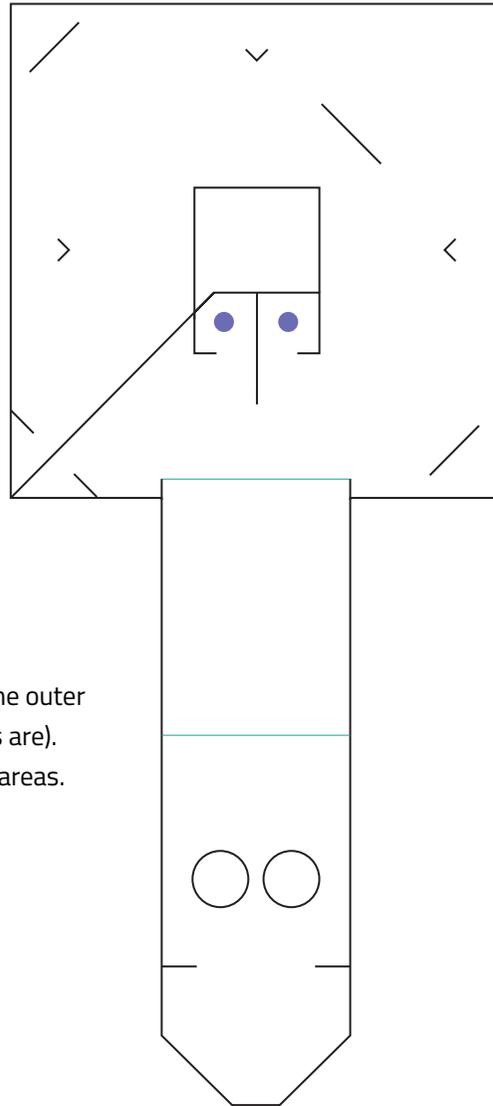
Open four holes:
Two at the beginning
of the open contacts
and two 10mm away
to insert the led bend
the legs until they
form a hook:



insert the led from
the two conductive
holes, and secur it
by forcing the legs
in the second holes

place the
rectangular
magnet here!

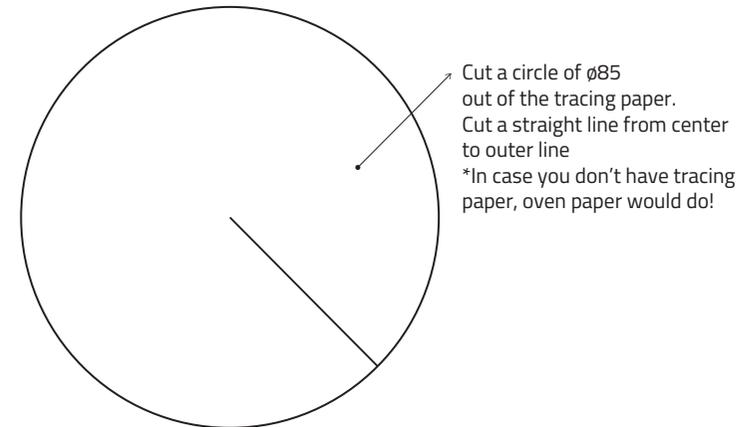
9. Place the back magnets



You're almost there.

Flip your circuit (turn it so you see the outer side of the pack, where the graphics are).
Tape your magnets in the indicated areas.

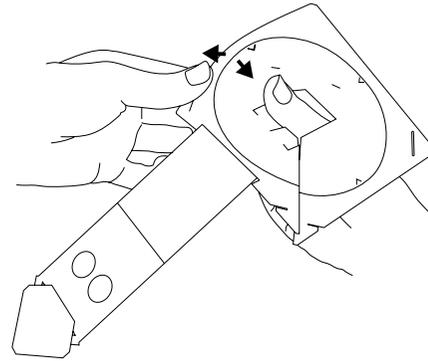
10. Make the diffusor



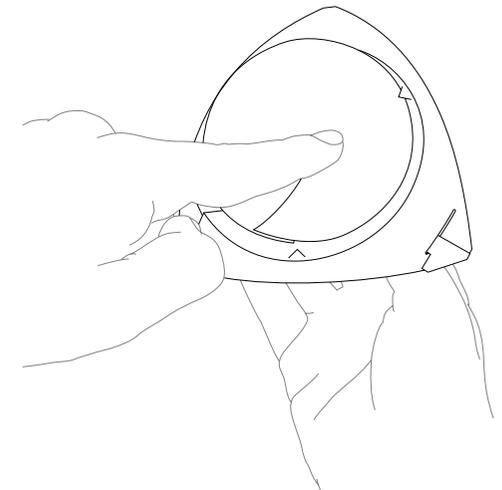
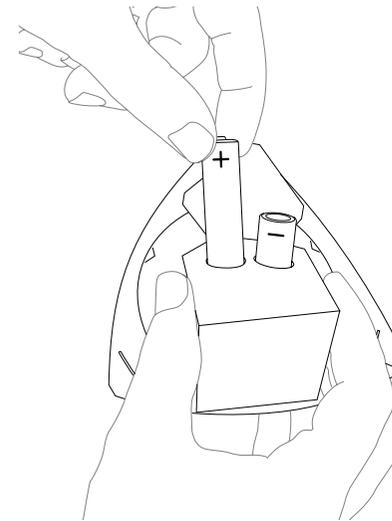
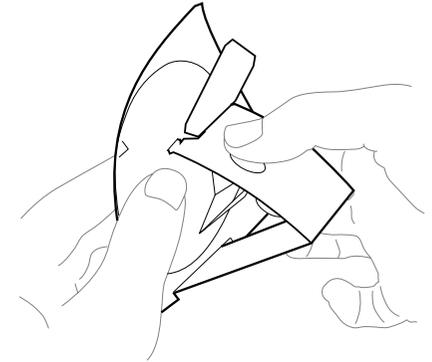
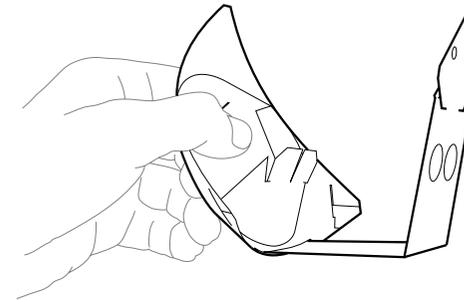
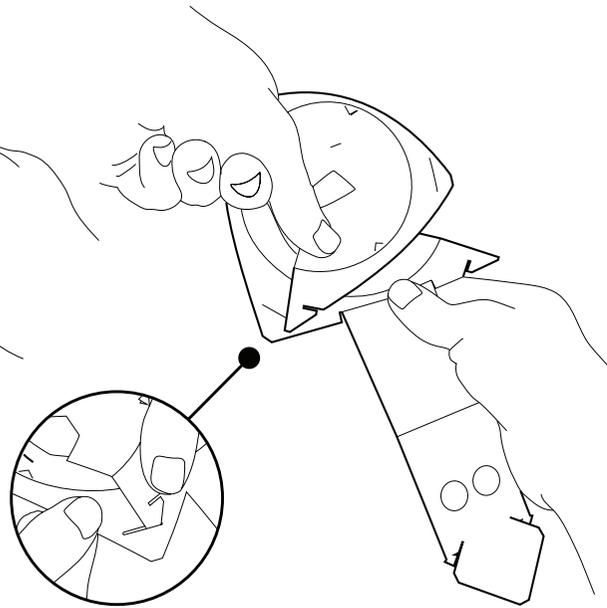
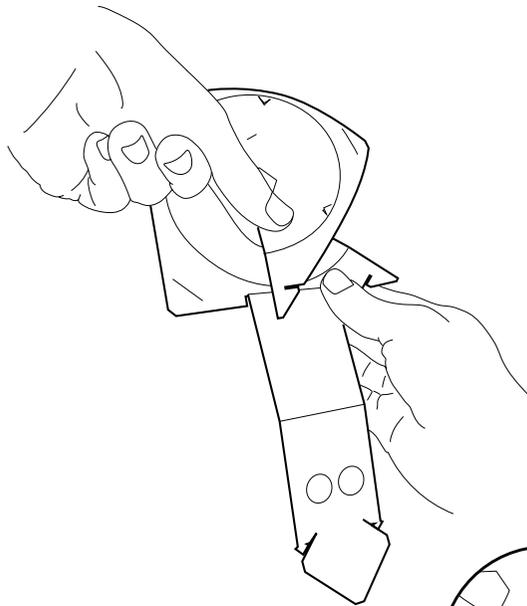
11. Assemble



Congratulations! You've just made a circuit.
Now what's left is giving it some volume,
so you can use it.



Fold carefully all along
Tip! the circle to create
a neat inner cone.



Success!

