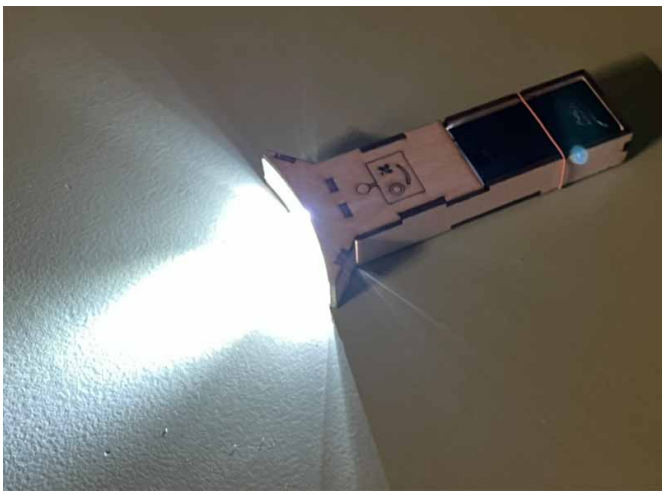
Flash light



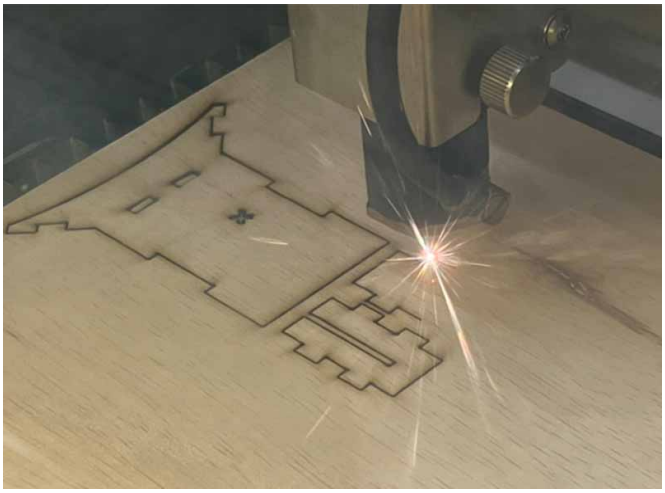
duration: 20 - 45 minutes
age: from 7 years

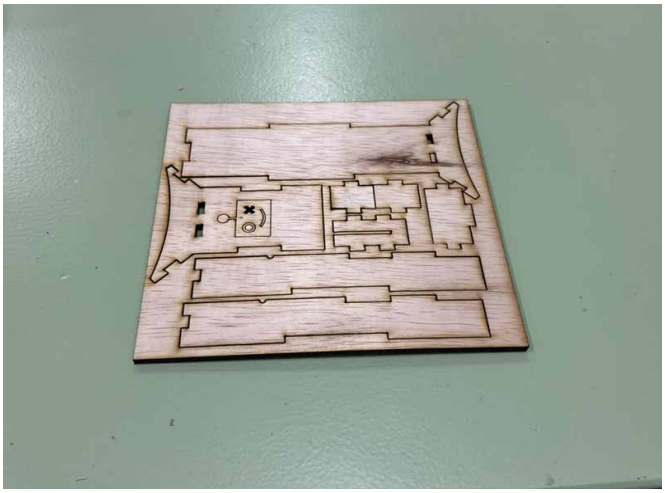
Make a working flashlight.

undefined

tools
- ☐ lasercutter
- ☐ soldering iron
- ☐ wire cutters

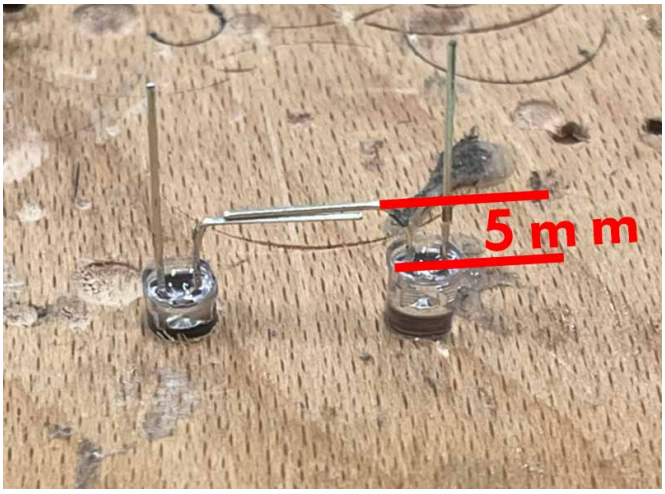
materials
- ☐ wood (3mm thick)
- ☐ 2x 5mm white LEDs
- ☐ 2x 22 Ohm resistor
- ☐ rubberband
- ☐ woodglue
- ☐ battery holder for 2 AA batteries
- ☐ 2 xAA battery





1 Cut the wood

- Use the provided template to cut the wooden parts using the lasercutter.



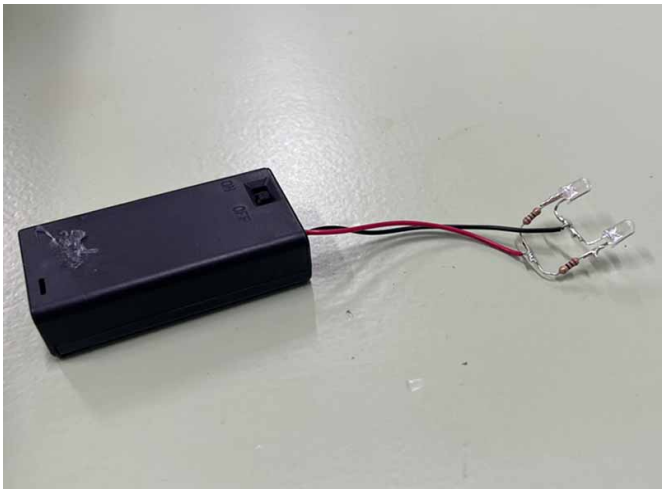
2 Solder the short legs

- Use a piece of foam or some wood with holes in it to hold the LEDs while soldering.

- Place the 2 LEDs with the short legs close to eachother.
- Bend the short legs toward eachother. The bend should be about 5mm away from the LED body.
- Solder the short legs together.

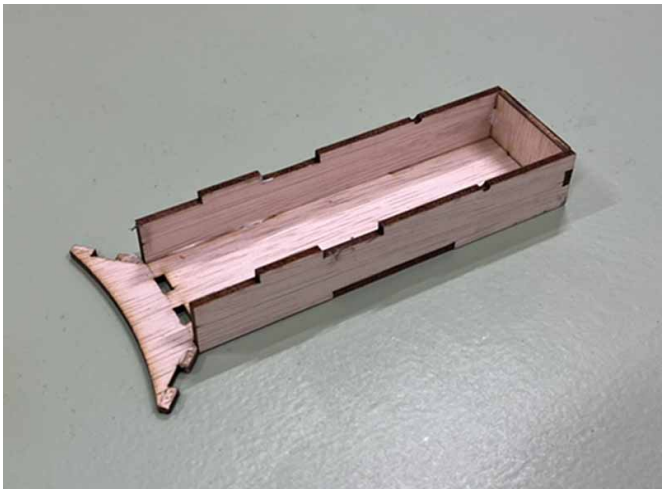
3 Solder the long legs

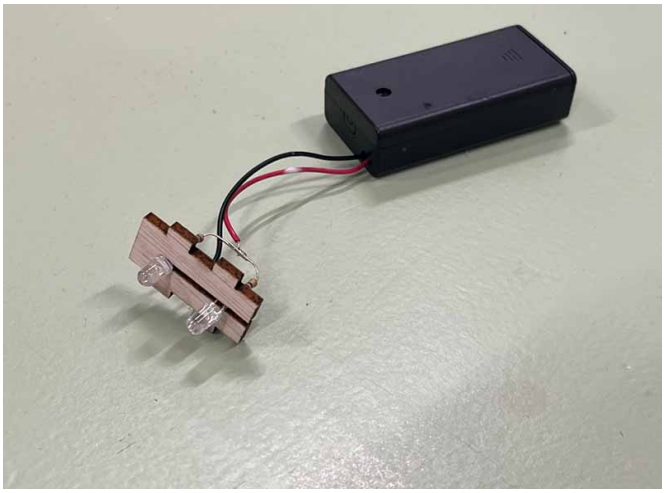
- Cut the long legs down to about 1cm
- Cut one leg of each resistor down to about 1cm
- Solder the short legs of the resistors to the shortened legs of the LEDs.
- Bend the free legs of the resistor and solder them together.

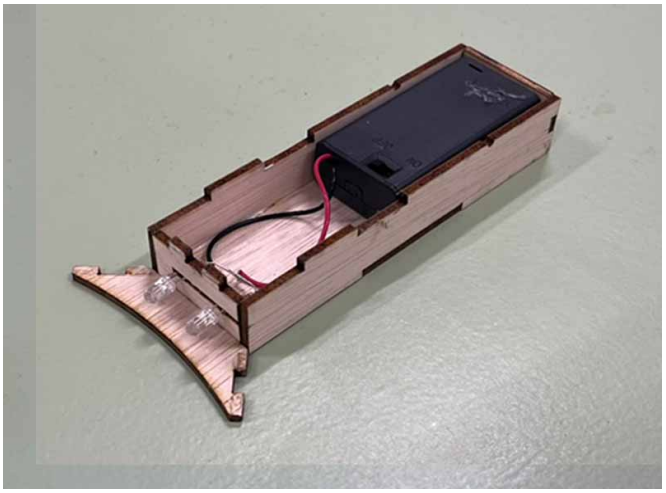


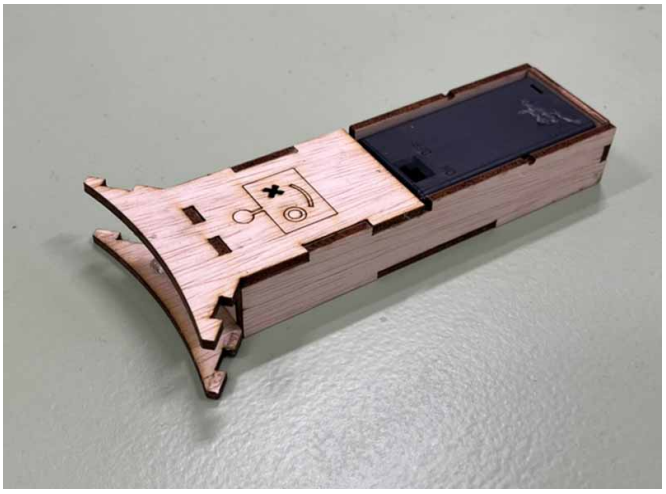
4 Attach the batteries

- Solder the red wire of the battery holder to where the resistors are joined together.
- Solder the black wire of the battery holder to where the LEDS are soldered together.
- Put some batteries in the holder and test your light.



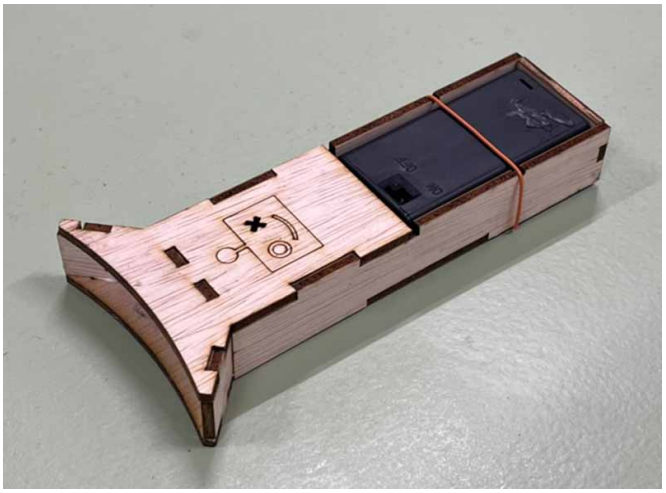


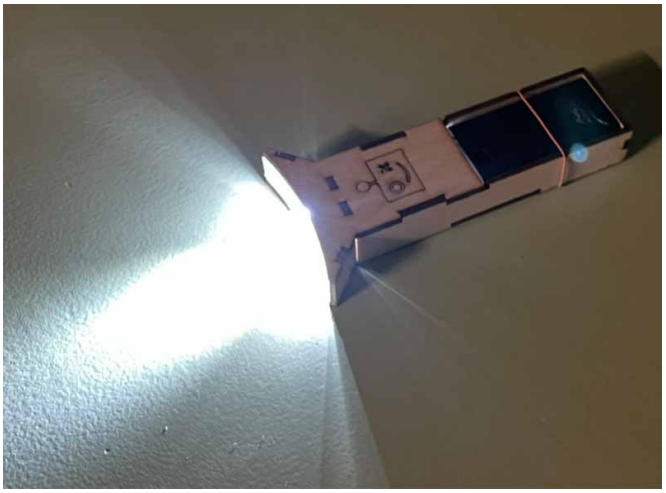




5 Assemble the flashlight body

- Start by glueing the bottom of the light together.
- Slide the LEDs into the slit and place it in the front of the light.
- Glue the rest of the wooden pieces in place.





6 Finish up

- Use the rubber band to hold the battery pack in place.
- You're all done!