Flash light

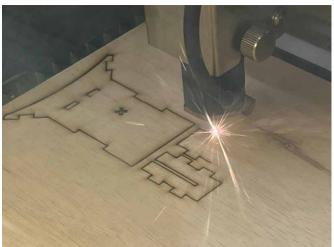


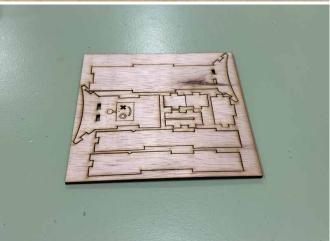
duration: 20 - 45 minutes age: from 7 years

Make a working flashlight.

undefined

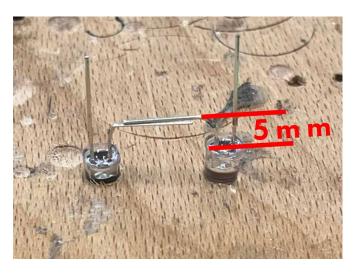
tools	materials
☐ lasercutter	
soldering iron	☐ 2x 5mm white LEDs
wire cutters	☐ 2x 22 Ohm resistor
	☐ rubberband
	☐ battery holder for 2 AA batteries
	☐ 2 xAA battery





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

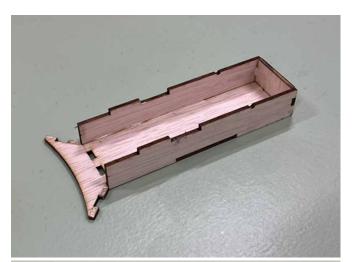
- Cut the long legs down to about 1cm
- Cut one leg of each resistor down to about 1cm
- Solder the short legs of the resistors to the shortened legs of the LEDs.
- Bend the free legs of the resistor and solder them together.

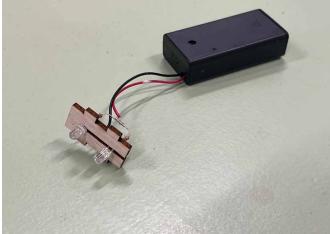


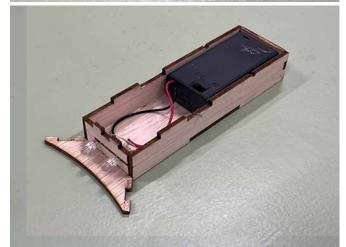


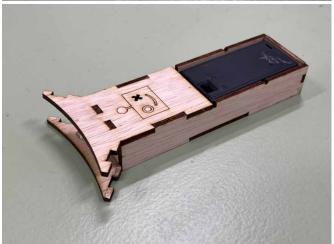
Attach the batteries

- 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.





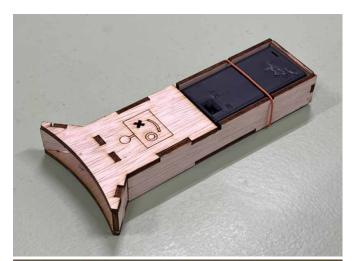


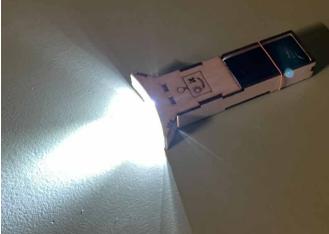


5

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!