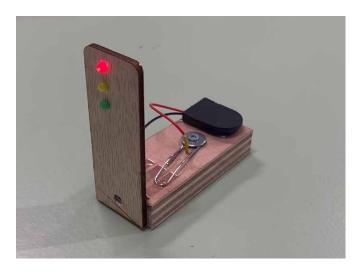
### Traffic light



duration: 15 - 30 minutes age: from 7 years

Make a working mini traffic light

#### undefined

tools

- ☐ Laser cutter
- ☐ hobby knife
- drill / drill bit (3mm)
- □ screwdriver
- □ pencil
- ☐ ruler
- ☐ lighter

materials

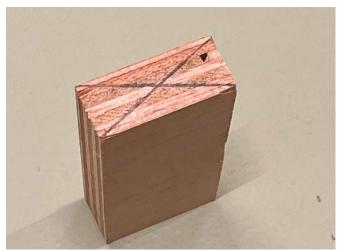
- thin plywood
- ☐ Thick (18,mm) plywood
- ☐ 5mm LEDs (red, orange, green)
- narrow copper tape
- ☐ CR2032 Battery holder
- ☐ CR2032 Battery
- ☐ M5 ring
- short screws
- heatshrink tube





#### Cut the thin wood

Use the lasercutter to cut out the template.





#### 2 Mark the hole locations

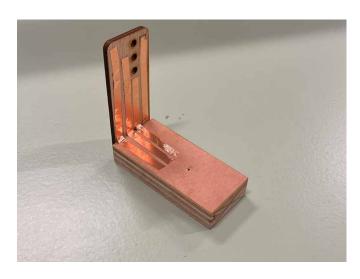
- Use the ruler to draw a cross from corner to corner on the small side of the base.
- Draw another cross in the center of the block, FILL IN SIZE cm from the back.





### 3 Cut holes

- When using the drill, always make sure strings from your hoody are tucked away, and long hair is put in a pony tail.
- Drill a hole on the 2 locations you marked earlier.
- Use a screw to attach the laser cut piece to the base. Make sure the engraved side is pointing to the back.





#### Tape

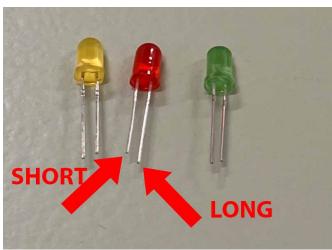
- Cut 4 pieces of copper tape, about 4 inched long.
- Stick the tape as shown in the photo.
- Once all the pieces of tape are on the wood, use a hobby knife to cut the excess tape off.

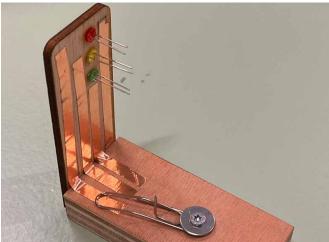




## 5 Paperclip

- Bend the paperclip as shown in the picture
- Use a screw and a ring to screw the paperclip onto the wood. It should still be able to move from side to side and touch the tapes.





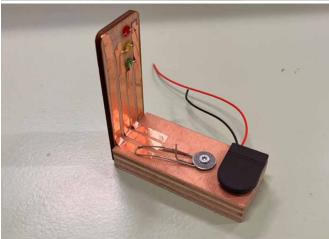






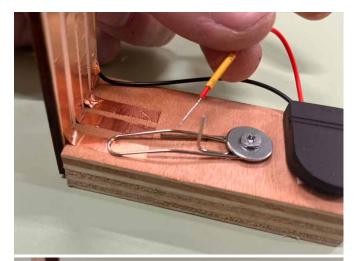
- Each LED has a long and a short leg. Place the LED's in the holes with the long leg to the left.
- Bend the legs so that we can tape them down on top of the copper tape.
- Fix the legs in place with some more tape.

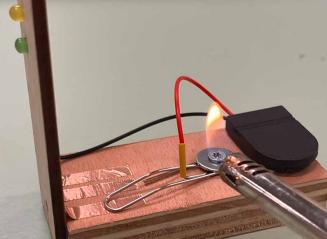


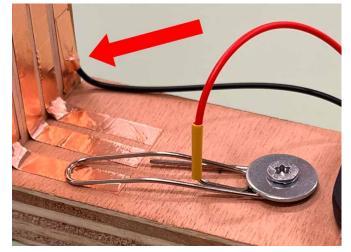




 Attach the battery holder to the base using a bit of double sided tape.







## 8 Battery

- Trim, strip and tape the black wire to the right piece of copper tape (when viewed from the back)
- Trim, strip and attach the red wire to the paperclip using some heat shrink tube.



# 9 Done!

- Place the battery. Make sure you have the right side up.
- You're all done! Move the paperclip to turn on the different lights.