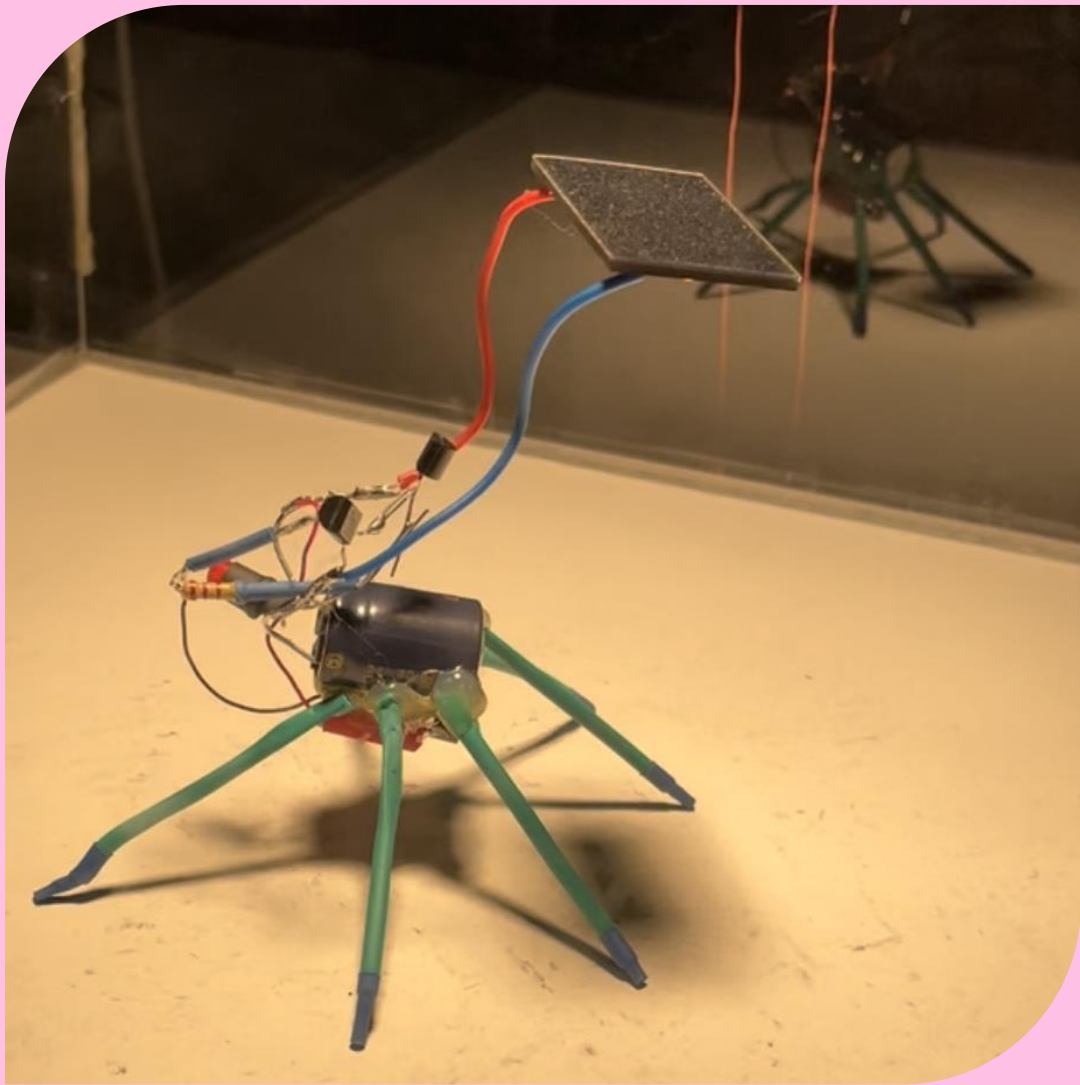


# BEAMbot MAKING GUIDE



GUIDE BY LÉA BOUDREAU  
DESIGN & BEAMbot BY VANIA RYAN



## BEAMbot MATERIALS \*IMAGES BELOW

- 3V VIBRATION MOTOR (ERM) X 1
- 4700 uF CAPACITOR X 1
- FLED (flashing LED) X 1
- 3V SOLAR CELL
- 3906 TRANSISTOR X 1
- 3904 TRANSISTOR X 1
- 2.2 K OHM RESISTOR X 2
- (optional) METAL PAPER CLIPS X 2 (OR MORE!)
- (optional) IMM – 8MM HEAT SHRINK TUBING (VARIABLE SIZES TO FIT AROUND PAPER CLIPS, CAPACITOR, VIBRATION MOTOR, ETC.)

## TOOLS \*IMAGES BELOW

- WIRE CUTTERS
- WIRE STRIPPERS
- SOLDERING IRON
- 0.8MM TIN-LEAD SOLDER
- COPPER WOOL (TO CLEAN SOLDERING IRON TIP)
- (optional) PROTECTIVE GLOVES
- (optional) HEAT GUN OR HAIR DRYER
- (optional) HOT GLUE GUN
- BENCHTOP SMOKE ABSORBER (OR WELL-VENTILATED AREA)
- ADJUSTABLE ALLIGATOR CLIP STAND



MATERIALS/TOOLS



WIRE STRIPPERS



COPPER WOOL



SOLDERING IRON



PROTECTIVE GLOVES



SOLDER



WIRE CLIPPERS



MATERIALS/TOOLS CONT.



4700 uF CAPACITOR



3V VIBRATION MOTOR

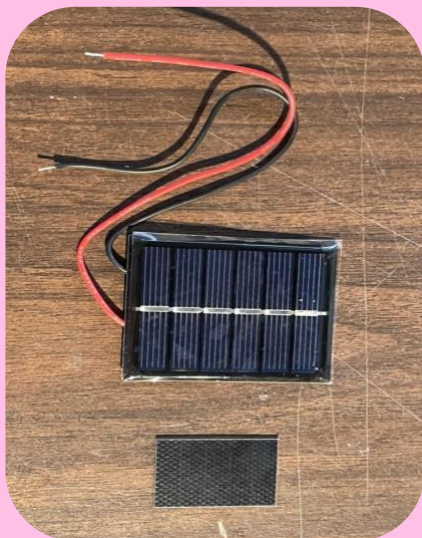
ee



1MM – 8MM HEAT SHRINK TUBING



FLEDs



3V SOLAR CELL.



2.2 K OHM RESISTOR

ee



MATERIALS/TOOLS FINAL.



3906 + 3904 TRANSISTOR



PAPER CLIPS



HOT GLUE GUN



HEAT GUN



ADJUSTABLE ALLIGATOR CLIP STAND



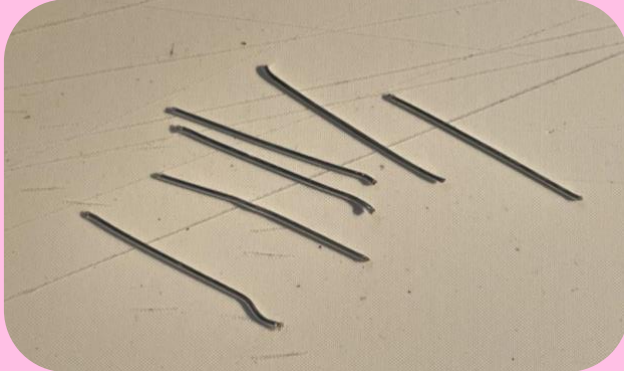
BENCHTOP SMOKE ABSORBER

ele ele

leg

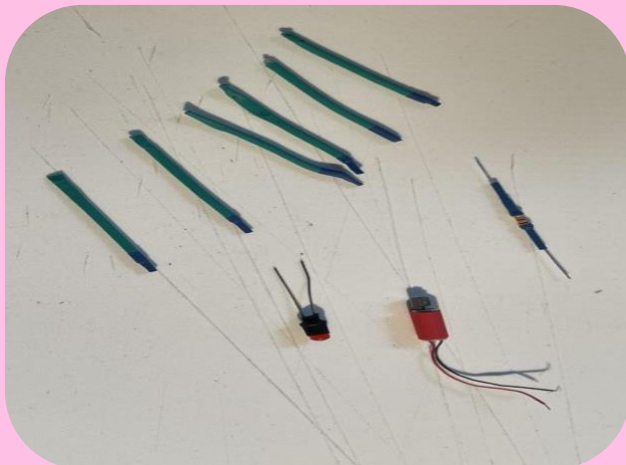
## STEP ONE

- GATHER BEAMbot MATERIALS AND TOOLS
- CREATE DESIRED NUMBER OF LEGS BY CUTTING PAPERCLIPS INTO STRAIGHT PIECES OF SIMILAR LENGTH



*PAPER CLIPS LEGS (CUT)*

- FIT HEAT SHRINK TUBING AROUND LEGS \*FOR CLOSER FIT USE SMALLER MM. TUBING AROUND PAPER CLIPS LEGS
- FIT HEAT SHRINK RUBING AROUND BASED OF CAPACITATOR, VIBRATION MOTOR, FLEDs, etc. (PLACE WHERE DESIRED) \*DO NOT COVER CONNECTIVE WIRES/COMPONENTS
- USE HEAT GUN OR HAIR DRYER TO SHRINK TUBING AROUND EACH DESIRED COMPONENT

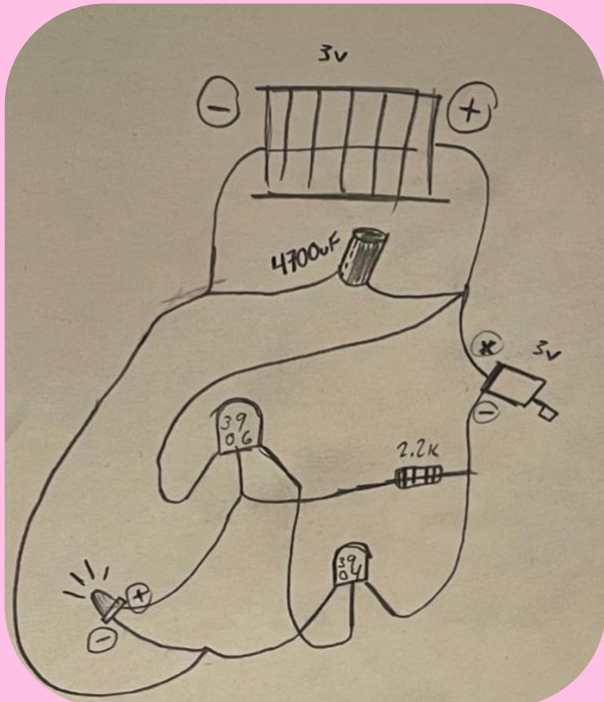


*HEAT SHRINK WRAPPED LEGS, FLEDs, MOTOR, RESISTORS, etc.*

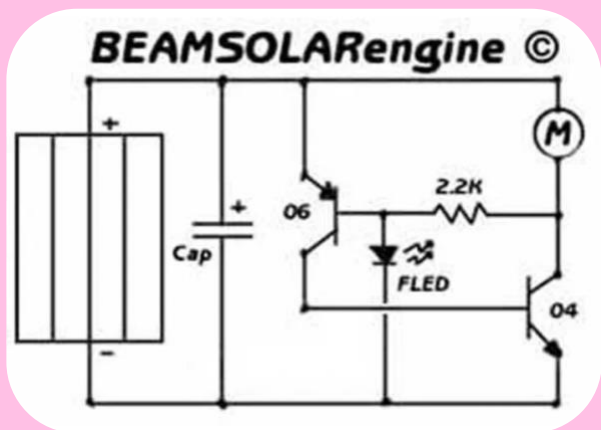
leg

## STEP TWO

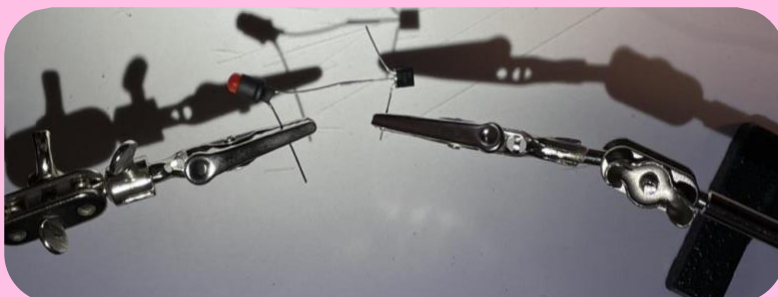
- HOT GLUE VIBRATION MOTOR TO CAPACITOR
- SOLDER TOGETHER THE COMPONENTS ACCORDING TO CIRCUIT DRAWING BELOW:



BEAMbot CIRCUIT \*DRAWING BY LÉA BOUDREAU



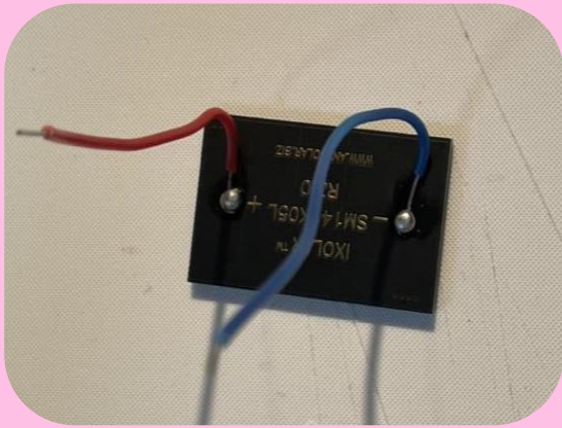
CIRCUIT WAS FOUND ON [MAKEZINE.COM](http://MAKEZINE.COM)



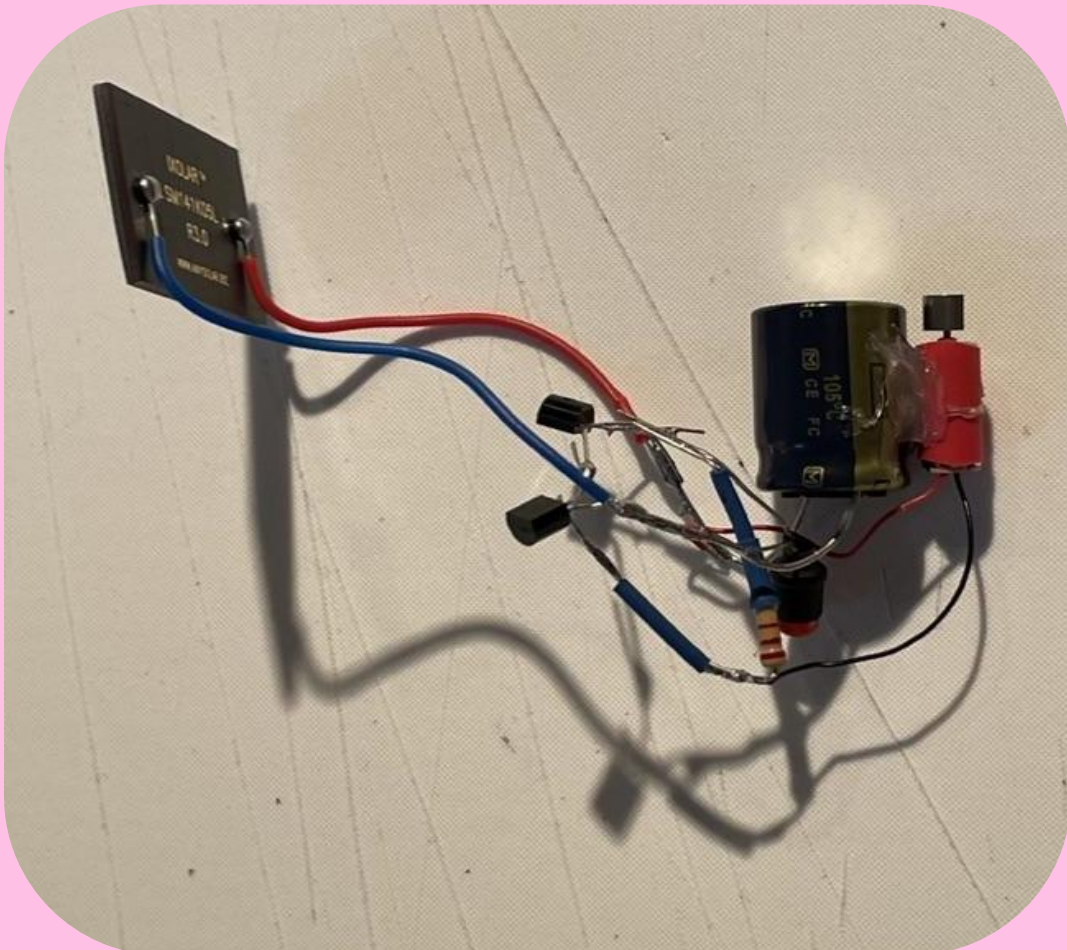
SOLDERING OF LEDs







SOLDERED WIRES TO SOLAR CELL



COMPLETE SOLDERED CIRCUIT COMPONENTS

\*TO AVOID LEAD EXPOSURE: SOLDER IN VENTILATED SPACE OR USE A BENCHTOP SMOKE ABSORBER. CLEAN IRON USING COPPER WOOL BETWEEN EACH SOLDER

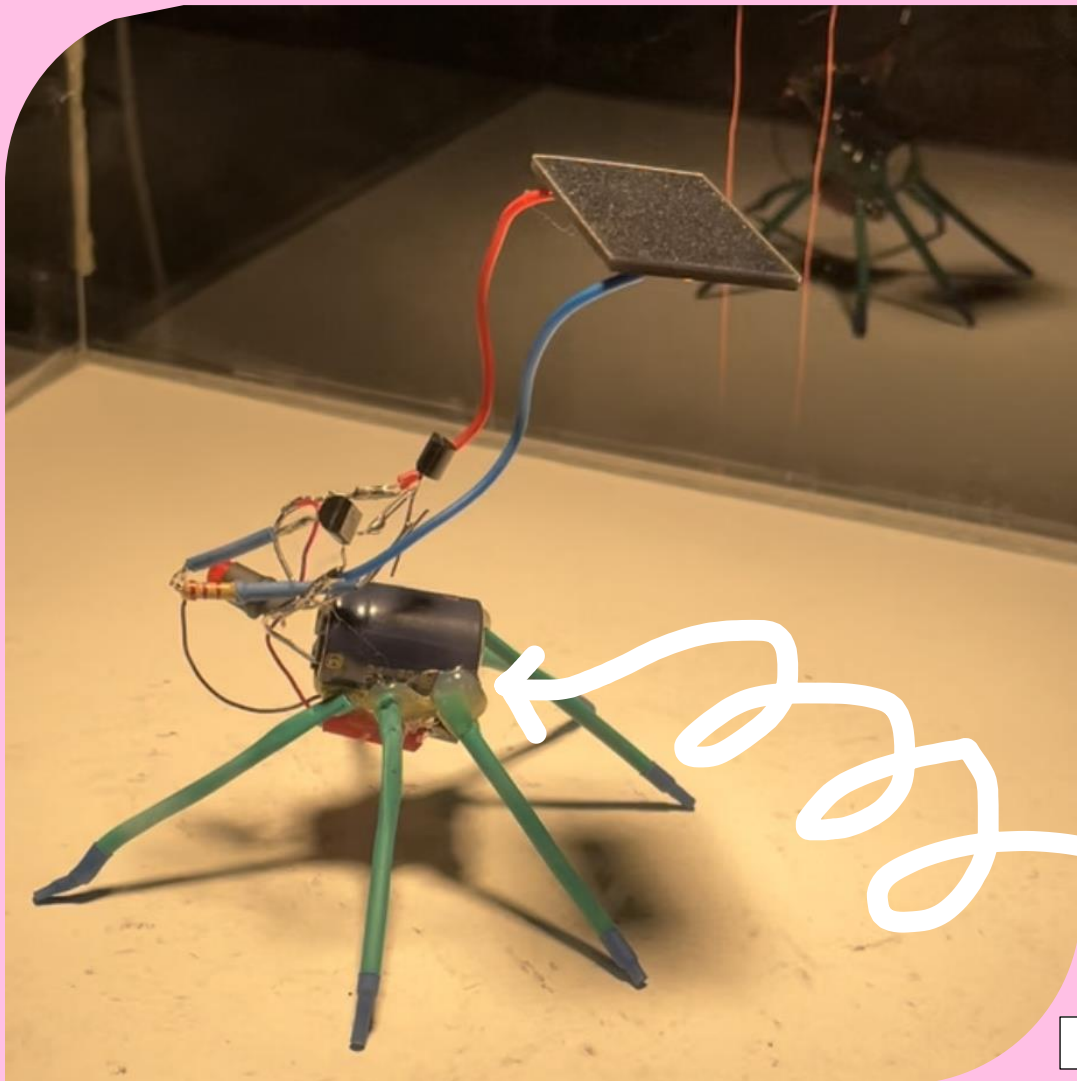




### STEP THREE (FINAL)

- TO MAKE THE BEAMbot STAND UPRIGHT – USE HANDS TO MANIPULATE SOLDERED COMPONENTS INTO SHAPE THAT ALLOWS FOR PAPER CLIP LEGS TO BE HOT GLUED ONTO THE CAPACITOR \*IMAGED BELOW

LET YOUR IMAGINATION RUN WILD AND MAKE YOUR OWN BEAMBOT DESIGN 😊



COMPLETED BEAMbot (HOT GLUED LEGS)

THIS BEAMBOT WILL WORK UNDER A STRONG HALOGENE LIGHTBULB (120W) OR EVEN BETTER, IN THE SUNLIGHT!

