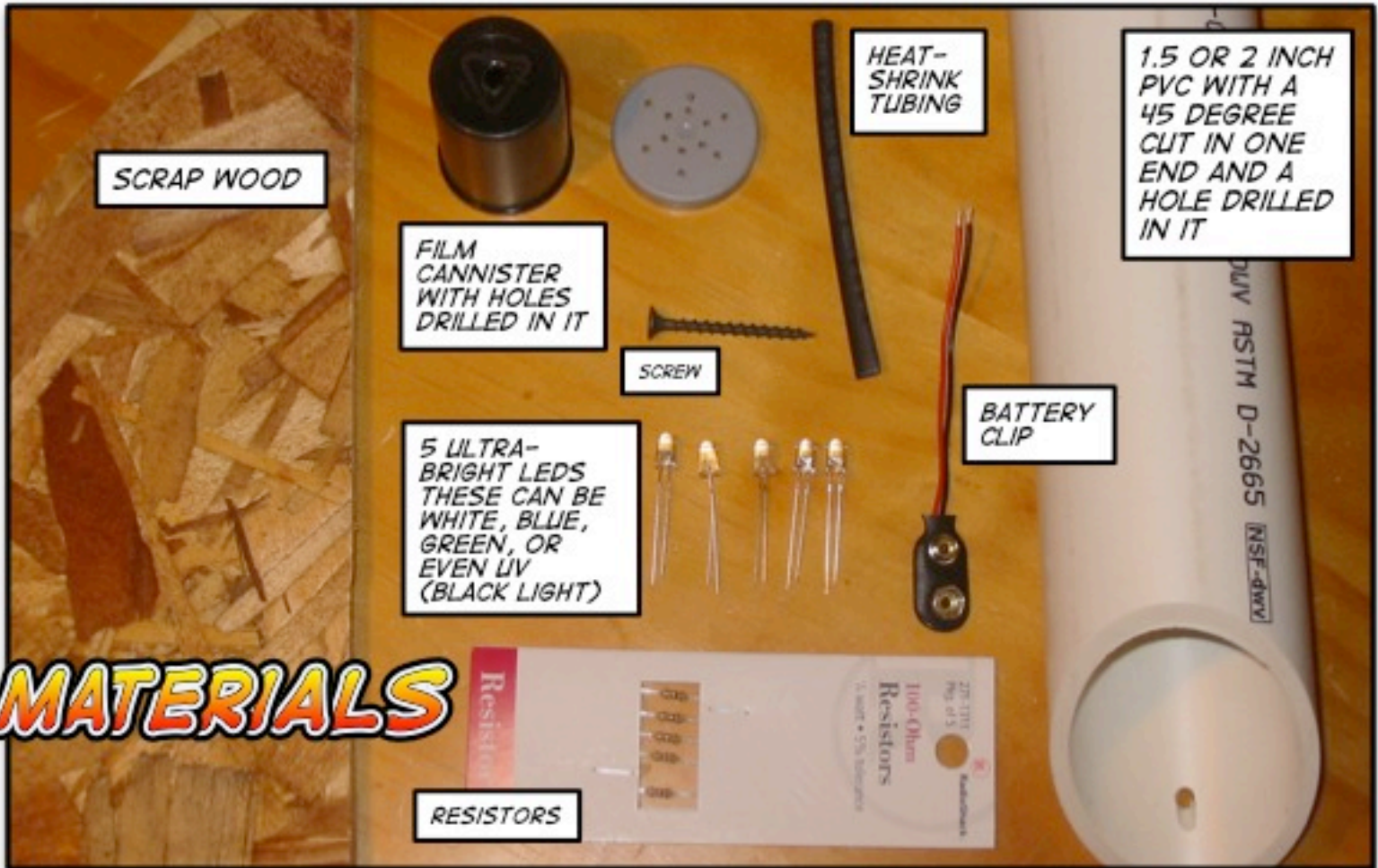


# BUILD AN LED SPOTLIGHT



BY JOHN MASSAGLIA (MRKLAW)



ALL LEDS HAVE A NEGATIVE SIDE AND A POSITIVE SIDE. THE POSITIVE PIN IS USUALLY LONGER AND THE NEGATIVE PIN IS A LITTLE SHORTER. THE NEGATIVE SIDE OF THE LED ALSO IS FLATTER THAN THE POSITIVE SIDE (THE LED ISN'T PERFECTLY ROUND).



DIFFERENT LEDS NEED DIFFERENT RESISTOR VALUES. TO DETERMINE THE VALUE OF THE RESISTOR YOU NEED, YOU CAN USE THE LED CALCULATOR AT [HTTP://LED.LINEAR1.ORG/LED.WIZ](http://LED.LINEAR1.ORG/LED.WIZ)

INSERT THE LEDS INTO THE HOLES IN THE FILM CANNISTER LID. I PUT ALL OF THE NEGATIVE PINS IN THE HOLES IN THE INNER CIRCLE AND THE POSITIVE PINS IN THE OUTER CIRCLE.



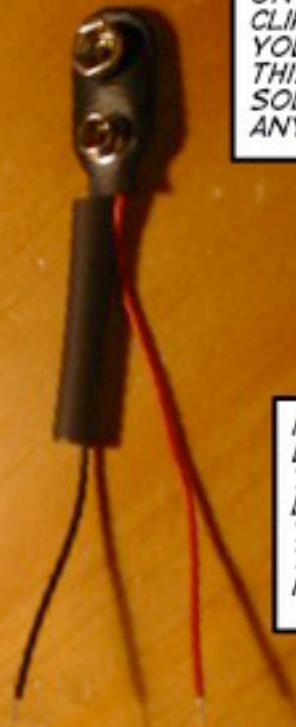
SOLDER ALL OF THE  
NEGATIVE LEADS OF  
THE LEDS TOGETHER

SOLDER A RESISTOR  
ONTO EACH POSITIVE  
LEAD

THEN SOLDER THE  
DANGLING END OF  
EACH RESISTOR TO THE  
DANGLING END OF  
THE ONE NEXT TO IT.



SLIP A PIECE OF  
HEAT SHRINK TUBING  
ONTO THE BATTERY  
CLIP'S BLACK WIRE.  
YOU HAVE TO DO  
THIS BEFORE YOU  
SOLDER IT TO  
ANYTHING.



NOW SOLDER THE  
BLACK WIRE TO THE  
NEGATIVE  
LED LEADS AND  
THE RED WIRE TO  
THE ONE OF THE  
RESISTOR ENDS.

ONCE YOU HAVE SOLDERED THE  
WIRES, YOU CAN SLIDE THE HEAT  
SHRINK TUBING OVER THE EXPOSED  
NEGATIVE LEADS AND HEAT IT TO  
SHRINK IT ON.

SCREW END OF THE  
PVC PIPE WITH A 45  
DEGREE CUT TO A  
PIECE OF SCRAP  
WOOD

PLUG A BATTERY INTO  
THE BATTERY CLIP  
AND DROP IT INTO  
THE PIPE.

THESE ARE GREAT  
FOR ILLUMINATING  
THE FACE OF A PROP  
OR A GRAVESTONE.

