

# WYRKSHOP MOBILE MAKERSPACE

## Paper Circuits



ESTIMATED TIME: 20-50 MINUTES

### LEARNING OBJECTIVES

- Learn more about your self-awareness and relationship skills
- Explore the mobile makerspace cricut machine with this beginner level project
- Create an LED card

### LIFE SKILLS LEARNED:



### LEVEL: 1

### LESSON PLAN VIDEO:

<http://youtu.be/R1e-zjjF6c>  
or scan this



### MATERIALS NEEDED:



Mobile Makerspace



Craft Paper



Copper Tape



Paper clip



Coincell Battery



iPad or Laptop



Markers



LED

# ACTIVITY OUTLINE:

## STEP 1:

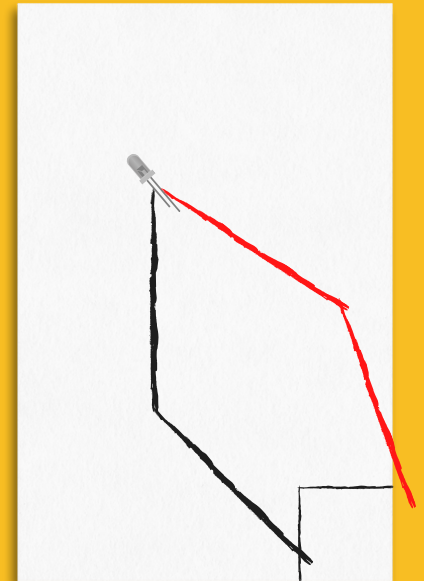
Create a card design. You are looking for something that has a solid border. This can be any shape or design that speaks to you. One example can be a star that says "you're a star" or a heart that says, "Happy Valentine's day".

## STEP 2:

Cut your card out on the Cricut Maker.

## STEP 3:

Plan out your circuit, choose where you want to put your switch (about 1" by 1" square) and LED. Trace two lines from the LED going in the opposite directions, meeting back at the switch. Color one line with a red colored pencil and one with a black pencil.



## STEP 4:

Now, look at the LED legs. You will notice one is longer than the other, this is the positive diode. Bend the legs so they are at 90 degree angles with the light of the LED. \*Note- What color of light speaks to you? Does the color of light you chose have a deeper meaning? Why did you choose that color LED?

## STEP 5:

Place the positive diode on the red line you drew and the other on the black line. Now cover both lines and diodes with a single strip of copper tape, one for the red line and one for the black. The lines of tape should meet at a 90 degree angle, with a ½ inch gap between the two (we don't want them touching). \*Note- Do you have things in life that you need to have space with?

# ACTIVITY OUTLINE:

## STEP 6:

Look at the coin cell, one side is smooth and has a plus on it and the other is stippled. The smooth side is the positive side. Place the positive side so that it is touching the positive copper tape.

## STEP 7:

Fold the corner of the paper diagonally. Peel off the positive copper so that it is not on the piece you just folded. Place the positive side of the coin cell so it's touching the positive side of the copper tape and the negative should be touching the negative side of the copper tape. When you pinch the coin cell between the paper the light should illuminate. \*Note- Try communicating your emotions without speaking through this card. For example, pinch the switch together and use a paperclip to keep the light illuminated when you are feeling happy.