

# PROJECT – Plasma Cut Sign

## CNC Machining, Yo!



### PURPOSE

In this activity you will design a sign. The sign can be a picture, text, or a combination.

The design must incorporate some method of standing on its own, or hanging on a wall, or \_\_\_\_\_ (*convince me it's worth it*).

The sign must be school appropriate.

### PREPARATION

For this activity you will need the following:

- Fusion360
- CNC Plasma Cutter
- Drill and drill bits
- Welder?
- Sheet steel
- Angle grinder
- Various sanders

### MARKS

<b>A</b>	Multiple "layers" <b>AND</b> "3D effect"
<b>B</b>	Multiple "layers" <b>OR</b> "3D effect"
<b>C+</b>	Single Layer <b>NO</b> "3D effect"

### DESIGN

<b>STEP 1</b>	Using your BRAIN and/or Google, sketch six (6) DIFFERENT ideas of what it is you might want to make. They DO NOT have to be GOOD ideas, just ideas.
<b>STEP 2</b>	Find (boo!) or Create (yay!) an image of your chosen design.
<b>STEP 3</b>	Take a picture of, or save an image of, your chosen design.

## DESIGN

### STEP 4

**INSTALL** Fusion360.

**INSERT** your image as a CANVAS

**SCALE** the canvas up to fit about 8x10" (200x250mm)

**TRACE** your image in Sketch. You may wish to look through tutorials I have here:

**EXTRUDE** your sketch about 3mm (1/8").



### STEP 5

**SHOW** your design to your Instructor. They may have suggestions to make it more SUCCESSFUL.

**PLANNING** this out gets easier, the more of this stuff you do

**APPROVED** designs must be EXPORTED into the HAND IN folder on the school server so your instructor can extract the G-Code.

### STEP 6

**FOLLOW** the Plasma Cutter, adjusting the tip so it maintains a consistent 1/8" (3mm) gap off the metal. The metal may warp from the heat, and you need to account for that.

**BREAK** off the slag with a hammer and chisel. Plasma Slag eats files.

**PPE** (Personal Protective Equipment): Tinted Goggles and a mask ARE worn

**WELD** any pieces together that you need to. How are you going to hang this on a wall (if that's what you chose to do)

### STEP 7

**LUCKY** number 7

**HAND IN** for sweet hella marks

**POST** a picture on your favourite Social Media Platform

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