

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
- 6x9" 16ga Steel Sheet
- Drill and drill bits
- Welder?
- Sheet steel
- Angle grinder
- Various sanders

MARKS

A	Multiple "layers" AND "3D effect"
B	Multiple "layers" OR "3D effect"
C+	Single Layer NO "3D effect"

DESIGN

STEP 1	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. SHOW THEM to your instructor!
STEP 2	Find (boo!) or Create (yay!) an image of your chosen design.
STEP 3	Take a picture of, or save an image of, your chosen design.

DESIGN

<p>STEP 4</p>	<p>INSTALL Fusion360.</p> <p>INSERT your image as a CANVAS</p> <p>SCALE the canvas up to fit about 6x9" (144x228mm) <u>NOT BIGGER!</u></p> <p>TRACE your image in Sketch. You may wish to look through tutorials I have on my website (QR CODE):</p> <p>NOTE: Our plasma cutter cannot do very good detail cuts smaller than 3/16" (4.75mm)</p> <p>EXTRUDE your sketch about 1/16" (1.5mm).</p>
<p>STEP 5</p>	<p>SHOW your design to your Instructor. They may have suggestions to make it more SUCCESSFUL.</p> <p>PLANNING this out gets easier, the more of this stuff you do</p> <p>APPROVED designs must be EXPORTED into the HAND IN folder on the school server so your instructor can extract the G-Code.</p>
<p>STEP 6</p>	<p>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. YOU NEED TO STAY THERE AND FOLLOW IT!</p> <p>BREAK off the slag with a hammer and chisel. Plasma Slag eats files.</p> <p>PPE (Personal Protective Equipment): Tinted Goggles and a mask ARE worn</p> <p>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)</p>
<p>STEP 7</p>	<p>LUCKY number 7</p> <p>HAND IN for sweet hella marks</p> <p>POST a picture on your favourite Social Media Platform</p> <p>SUBSCRIBE, leave a comment, ring the bell; I'm here all week</p>

