

Complex cut out assignment, Make 1, due Monday 12/11/23

This assignment is to create a manila folder pop-up creation. Requirements are as follows:

- Must be laser-cut (therefore must be created in Inkscape).
- Object must fit on one half of a manila folder, at least 2 inches tall
- Object must be free-standing with paper only, not requiring tape or glue to hold itself together.

We've got two options:

- Reflected letters
- Custom creation (your own idea)

**Option 1: Reflected letters:** Do this option unless you have some incredible vision of something you've always wanted to create: write some text in Inkscape then reflect the text as per the picture below (detailed instructions on the next page). Add a small image that adds to your text; the image does not need to be reflected, but you can reflect it if you want.



This says "SUP" reflected, along with a stand-up paddler image to the right.

Here's one that says "LOVE" with a tree:



The basic challenge is to take your letters (use all caps), reflect them, then join them at the line of reflection and add an image. See next page for specific instructions.

(See next page for option 2, plus instructions on how to make these.)

**Option 2** is to make something else really cool using a manila folder, perhaps a pop-up card (see photo example) or something no one has ever thought of before. It needs to be non-trivial and/or totally cool and must be cut on the laser cutter. If you have a great idea, run it by me.



Only choose option 2 if you have an idea you want to try and the vision and willingness and tenacity to see it through.


Go to next page for detailed instructions for option 1.

## Option 1: reflected text

Steps for doing reflected letters with an image:




You must do something other than my "SUP" example, obviously.

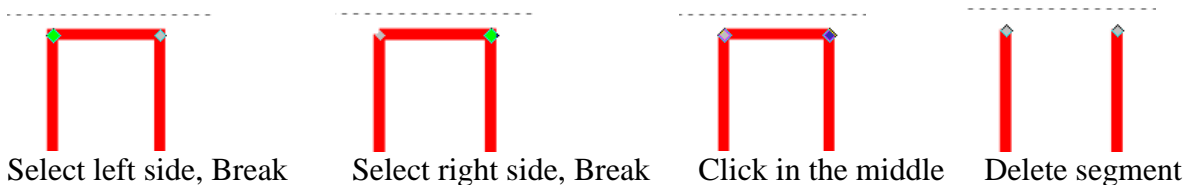
- Use all caps, it makes things easier.
- After your text looks how you like it choose "Object to path" in the Path menu when you have the text as you like it, this allows you to edit the nodes which you'll need to do
- Duplicate the text, then reflect it using the  button in the toolbar.
- You may reflect at the top of the letters or the bottom of the letters. I recommend putting the reflected copy above the regular copy as shown here for the text "SUP":



- Select all. Turn off fill. Turn on stroke, red, .1 mm
- With everything still selected Choose Ungroup from the Object menu.
- With everything still selected choose Path>Union. Now it looks like this:




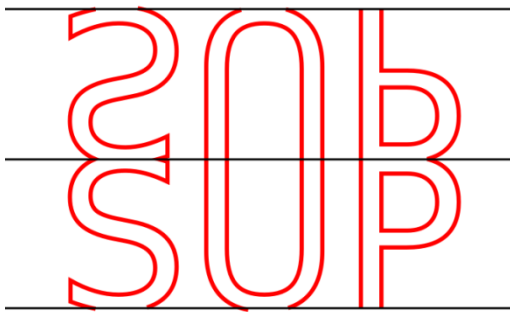
- Now, break the paths along all of the tops and bottoms of the letters. You should remember how to edit nodes, but if you don't here is the process: you break a path in two places, then click in between those places, and delete a segment. Here is the process in more steps: click on a node or double-click on a path to add a node; choose this icon on the toolbar  (Break path at selected node), then select another node and break it; click on the path in between the two broken nodes and click the Delete key. If the path in the middle has multiple nodes you might need to do a Select All (Control-A) before deleting.



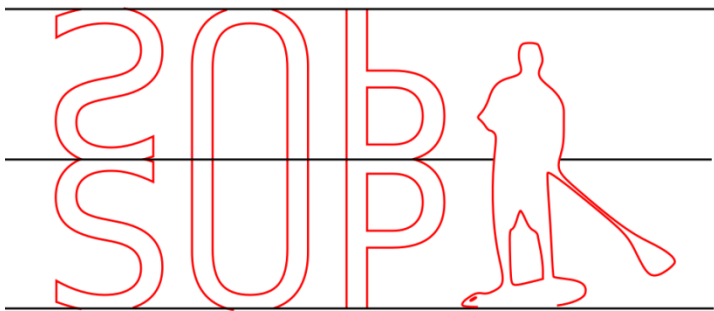
- Your creation should look like this (see how each letter has an open top or bottom):



- This tool  lets you draw straight lines. Click to start your line, then hold the control key down and double-click where you want to end the line. You can resize it after you've drawn it if necessary. You need to draw a fold line (black) across the middle, across the top, and across the bottom, extending a few inches beyond your text on both sides. I just made one line then duplicated it. Your drawing should look like this:

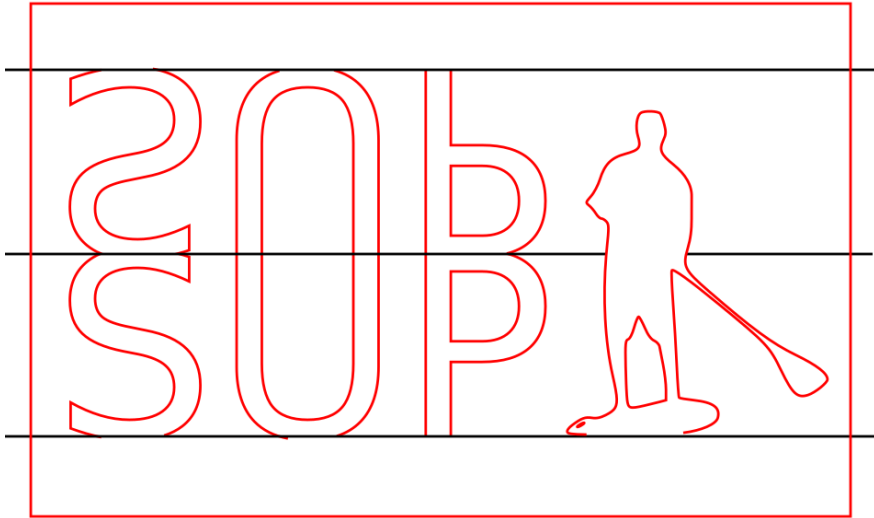


- Don't forget to put an image to the right or left of your text. You will need to break the black lines where the image is so that you don't make the image fold there. The image needs its bottom nodes cut just like the letters so it will fold. It should look like this:



Continued on next page

- Put the whole thing inside a rectangle (make that red, .1 mm) so that it automatically gets cut out.



- Check the size of your creation. It should be at least 2 inches tall. If it isn't you can select all and then use the Control key to resize it proportionally.
- Make sure your cuts are red and your folds are black. Make sure everything is .1 mm. Send it to the laser cutter and we'll see what happens.

When done, turn your Inkscape file in on the Google Classroom.