

## Design a vehicle

Due: 4th and 6th periods: Tuesday 2/27

3rd period: Wednesday 2/28

A draft of the project is due to the laser by the end of class Monday 2/26.

Your task is to design a vehicle with wheels that move using a single piece of thin cardboard, two straw pieces, two toothpicks, and some hot glue. Lay it out in Inkscape, laser cut it, and build it. You can use hot glue to put it all together. We're using the thin cardboard we used with the 7 x 9 projects in the fall.

The vehicle must roll down the test ramp without help and make it to the bottom without flipping or stopping or rolling off the edges.

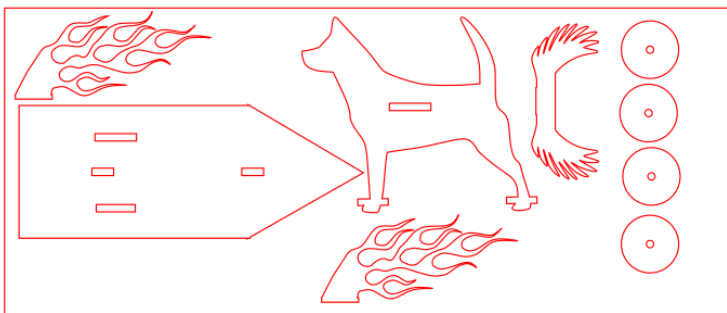
Your grade will be based on a combination of the following:

- Coolness of final product (does your vehicle look cool or stand out in some way)
- Neatness and craftsmanship (does it look clean and neat, or is it sloppy?)
- Mobility (will it roll down to the bottom of the ramp on its own?)
- Do you creatively use most of the space you were given to work with?
- Is your name engraved in black on the vehicle somewhere easy to see?

You are allowed to and in fact encouraged to try multiple iterations of your vehicle but your final submission may only use cardboard from half of a single piece of our thin cardboard.

Note: tiny wheels don't roll very well. I recommend that you make your wheels larger than my example below.

Here's a sample:



(continued on next page)

## Steps:

1. Use Inkscape's Document Properties to make your workspace 6.5 inches wide and 2.75 inches tall. Your entire creation must fit on that canvas.
2. Design the pieces in Inkscape. Everything you want to cut should be 255 red and .1 mm stroke when you are done. You may use black for lines that you want engraved but not cut. We are only doing vector art, no rastering. If you want to have slots in your creation, make them 1.8mm wide. Make the holes for the wheels 1.8mm. Make sure your name is on the vehicle in black somewhere that we can call see. All fill is turned off.
3. Send it to the laser. We'll cut it out and you can see if it is what you thought it would be. You may use hot glue. If you like what you created, turn it in. If you feel you can do better, re-design, fix, tweak your creation and re-make it.
4. Test your vehicle. Does it roll without help down the ramp without stopping, flipping, or rolling off the sides? If not, make fixes, re-send to the laser, etc.
5. When you are done turn in your Inkscape file.
6. We'll officially roll all the vehicles next week, so store your vehicle in your cubby box until the day we roll them all together. I'll give you credit that day.

You must make a vehicle that is different from your friends in the class or people you sit next to or near. Have fun, show up, make something cool!