

First 3D object: keychain trinket (Make 1)

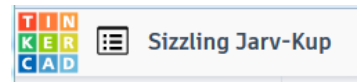
Due: 4th period: Thursday 9/23

5th period: Friday 9/24

Our first 3D designed object will be a keychain trinket with a letter on it.

Make 2: please do the alternate assignment.

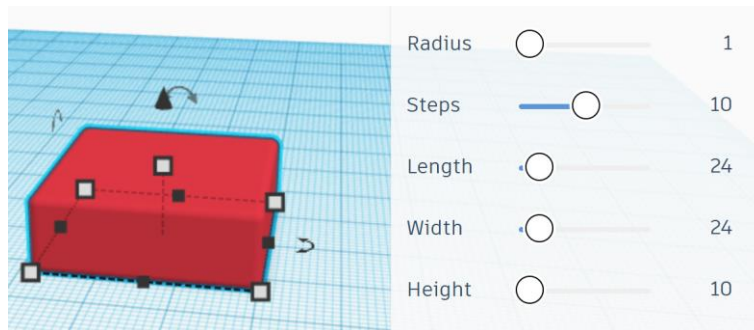
1. Go to tinkercad.com, log in, click "Create New Design".



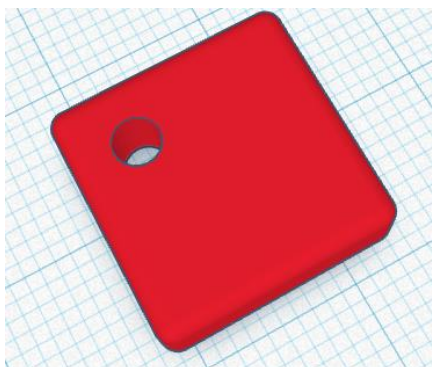
2. Rename the project by clicking on the funny name they automatically create (for example mine was named "Sizzling Jarv-Kup"), up at the top left of the window. Click the weird name and put in "<your name> keychain".

3. Follow these steps to create your object:

- Create a box. Make it 24 by 24 mm and 10 mm tall. Set the radius to 1. This rounds the corners a little bit, making it a better keychain trinket than if it were sharp.

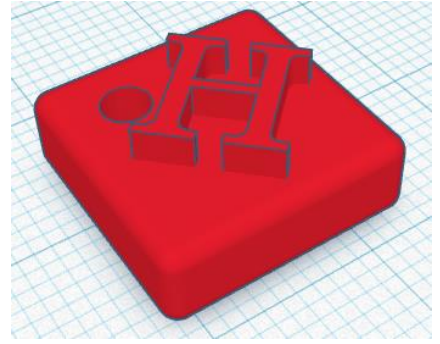


- Create a 5 mm cylindrical hole about 4mm from a corner. Group the box and the hole.



- Create a letter using the TEXT too. Make it your first or last initial, or the initial of someone you want to make this for. Resize the letter so it's a good size for your trinket, then set the height of the letter to 14mm. Turn the letter 45 degrees when viewed from above so instead of **H** you'd have **ℋ** if you were doing the letter "H". Move your

letter into the box. If necessary, resize the letter again so it nicely fits on the box; make sure it's 14mm tall when you're done. Use the align tools to line it up in the center from both directions. Make it look good.

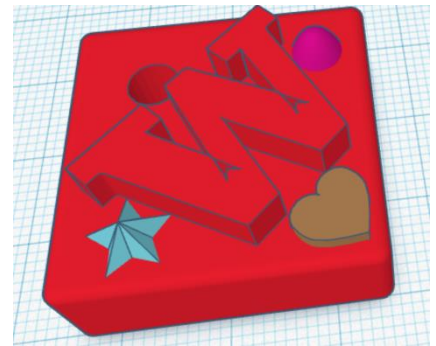


Group the letter with your box by selecting both the box and the letter and using the Group button.

- Now, you choose: add three extra items. I added a half sphere, a heart, and a star. For each, make the item small enough that it fits next to the letters. Raise the item above the workplace enough for it to stick out above the rectangle part by three or four millimeters. Remember, the rectangle is 10mm tall. Rotate if necessary. It's OK if the items overlap with the letter a tiny bit, as long as you can still see the letter. Arrange things so that you like how it looks. Here's a final creation I made using the letter W:

Don't use the TEXT tool; letters don't print well on 3D printers when they are small.

You may need to turn off "Snap Grid" (lower right of your editing window) to get things positioned how you want them.



- When you like how it all looks select all of the items and the rectangle (you can type Control-A for Select All) then Group everything together.

When you are done, export your project as an STL file. Turn that file in on the Google Classroom.

Email the STL file to the 3D printer email address: 3d.makerlab@wscuhd.org

I'll call you over when it is your turn to print.