Checking the size of a 3d model before submitting to the library

There are only a few limits to what the library can 3d print for library cardholders: **cost ($.10/gram), time (10 hour max print time), your creativity,** and **size.**

Our 3d printer can print objects up to 5.5 x 5.5 x 5.7 inches or 147 x 147 x 150.7 millimeters in length x width x height. If you are printing something that needs a very specific size like a replacement part, you'll want to check to make sure you've got the dimensions of your 3d object correct before submitting.

This handout will teach you to figure out the size of a 3d model you've downloaded from Thingiverse, or created yourself using Tinkercad. Both Thingiverse and Tinkercad are very powerful and free, so we highly recommend using them.

Checking the size of something from Thingiverse

1. Go to http://www.thingiverse.com/ in a web browser.
2. Type a search in the upper right and hit enter on your keyboard.
3. Scroll through the results and click on a model you would like to look at more.
4. Take a look at it. If you actually like it, click the "Thing Files" button.

Thing Files

5. If the *thing* has *files* that end in either .STL or .OBJ, our LulzBot Mini 3d printer can print them.

File Name	Downloads	Size	
yoda_Bust.stl Last updated: 08-10-11	18148	147mb	Either of these file types work with our 3d printer
yodaBust.obj Last updated: 01-05-14	5364	91mb	

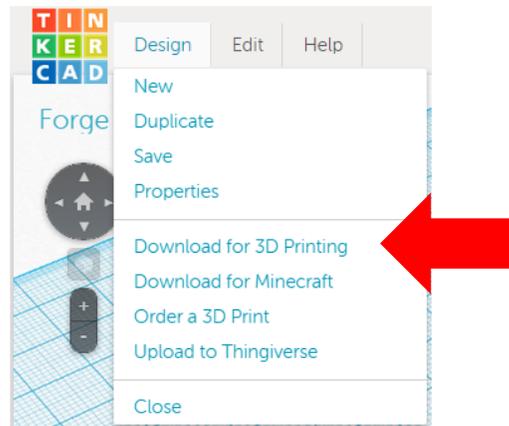6. Click on either a .STL or .OBJ file to download it.

7. Save it to somewhere on your computer you'll remember, like your **Desktop**, **Documents**, or **Downloads** folder.
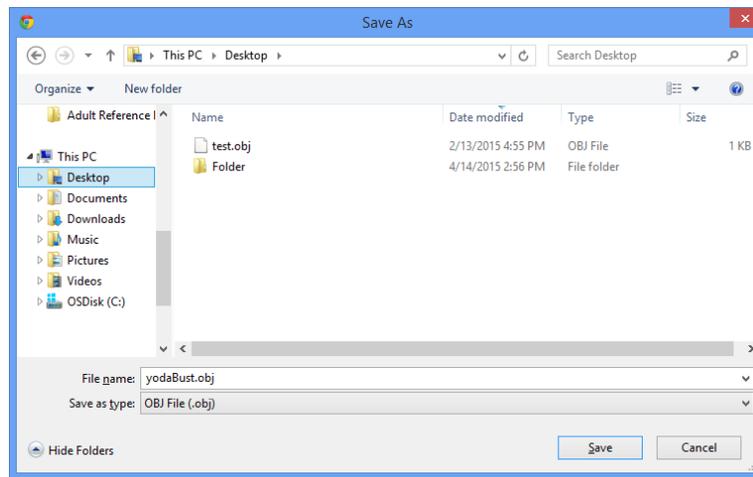
8. Log in to your account at http://www.tinkercad.com/
9. Click "Create new design"
10. On the right, there are various helper menus. Scroll up and down until you find the import menu.
11. Within Import, click "Choose File".
12. Use the Window that appears to navigate to the place you previously saved your file in step #7, single click that file, and then click Open.
13. Click Import
14. The 3d object will appear to the left.
    (This may take a minute or two, be patient.)
15. Single left click on your object.
16. Resize handles should appear on the corners and above the object. Place your mouse over one of the bottom corners without clicking to see the length and width of your object. Place your mouse over the square above your object to see its height. These measurements are in millimeters. A Google search for '## millimeters in inches' will do a conversion to inches for your automatically.
17. If you need to change the length, width, and/or height of your object, you can single left click and hold and drag any of the square resize handles to resize your object.
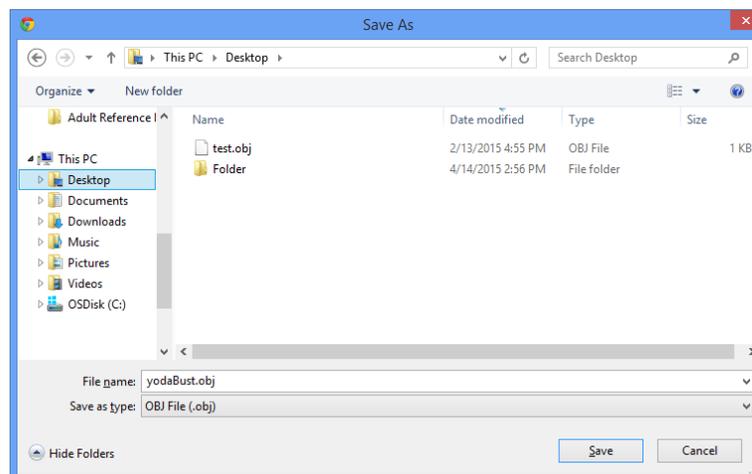18. In the upper left, click "Design"
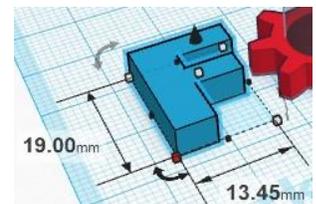
20. Next, click either ".STL" or ".OBJ". Either of those two file types work on our 3d printer.
21. Save it to somewhere on your computer you'll remember, like your **Desktop**, **Documents**, or **Downloads** folder.

22. Go to http://www.eapl.org/create/forge/3d-print-job-submission in a web browser.
23. Fill out your name, library card #, email address, and phone number.
24. Click the circle button for the color you would like your object printed in. You may only select one color.
25. To send us your file, click the "Choose File" button, and then go to the location you saved your 3d file. Single click the file, and then click "open".

File upload *
[Choose File] No file chosen   [Upload]

26. The file name should appear where it previously said "No file chosen".

File upload *
[Choose File] yoda.stl   [Upload]

27. Click "Upload" to the right.
28. Uploading takes a while. It has uploaded successfully when it says "Remove".

File upload *
📄 yoda.stl [Remove]

29. If you have any comments about your 3d print job, type them in for us.
30. Click "Yes" if you want your object displayed until you pick it up or "no" if you don't.
31. Click the button pictured below once.

[Please click once to submit. This may take a moment.]

32. Yay! Your 3d print job has been submitted. We will email you when it has been completed.

Checking the size of custom designed object on Tinkercad

Follow the directions above starting at step #15.