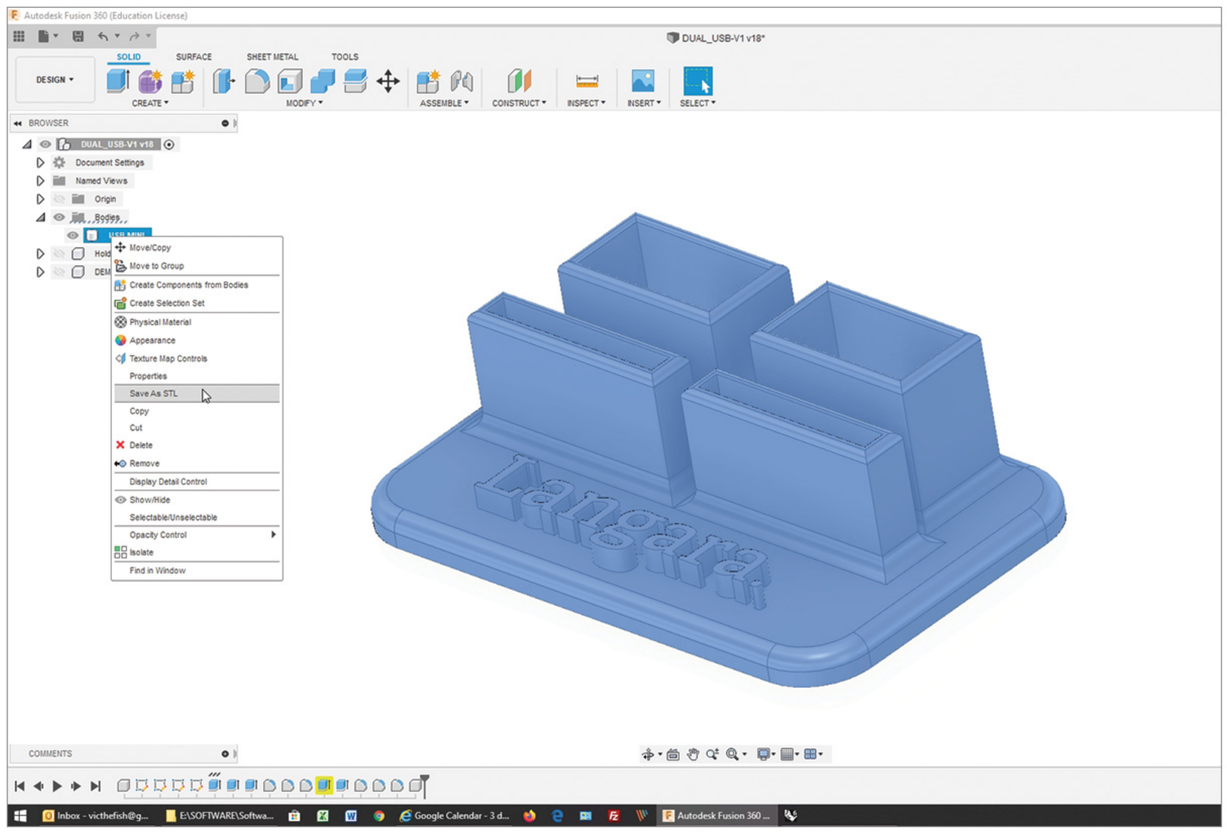
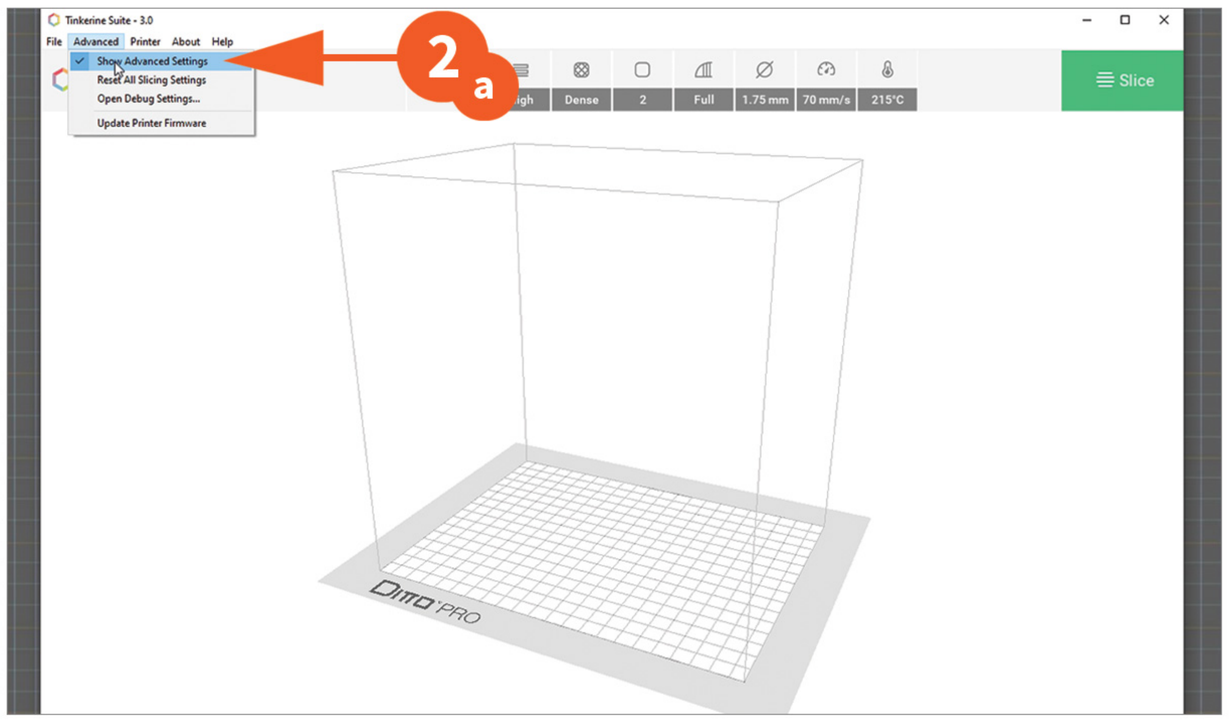
HOW TO EXPORT YOUR 3D OBJECT & PROCESS IT TO PRINT ON THE TINKERINE DITTO PRO 3D PRINTERS (Version #2)

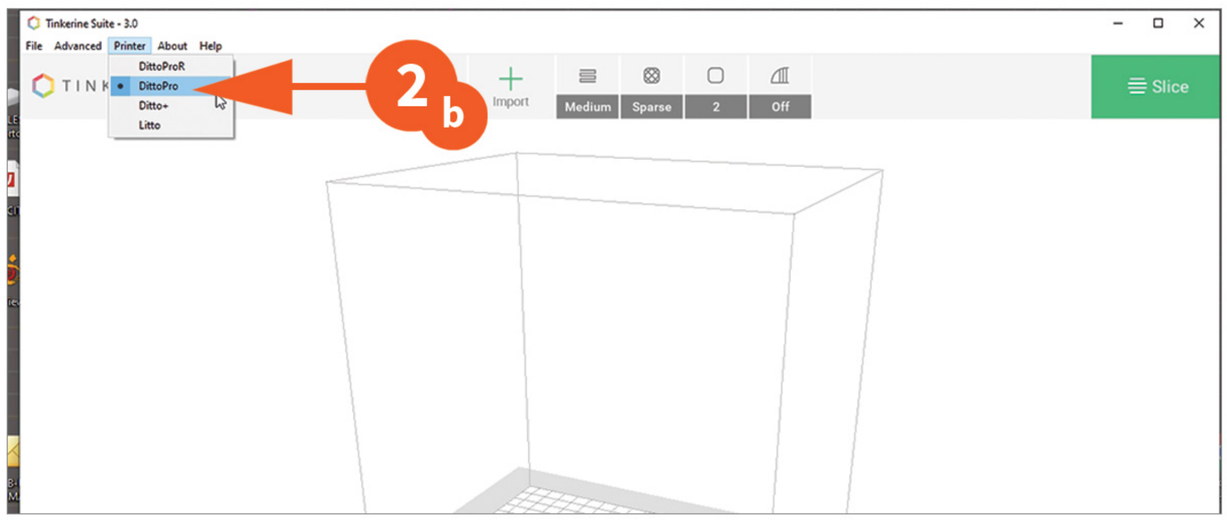


1 Create A File

Open your 3d program with your 3d object. To import your file at the correct scale, your 3d Programs Units should be in mm (millimeter).

You need to save or export your object as an STL file.
- To do this in Fusion360 see Appendix 1, page 6.
- To do this in Rhino 3D see Appendix 2, page 7.
- For other programs please use the programs help menu.





2 Open Tinkerine Suite 3 & Your File

Open up Tinkerine Suite 3.

2a - Click on the Advanced tab, and uncheck Show Advanced Settings.

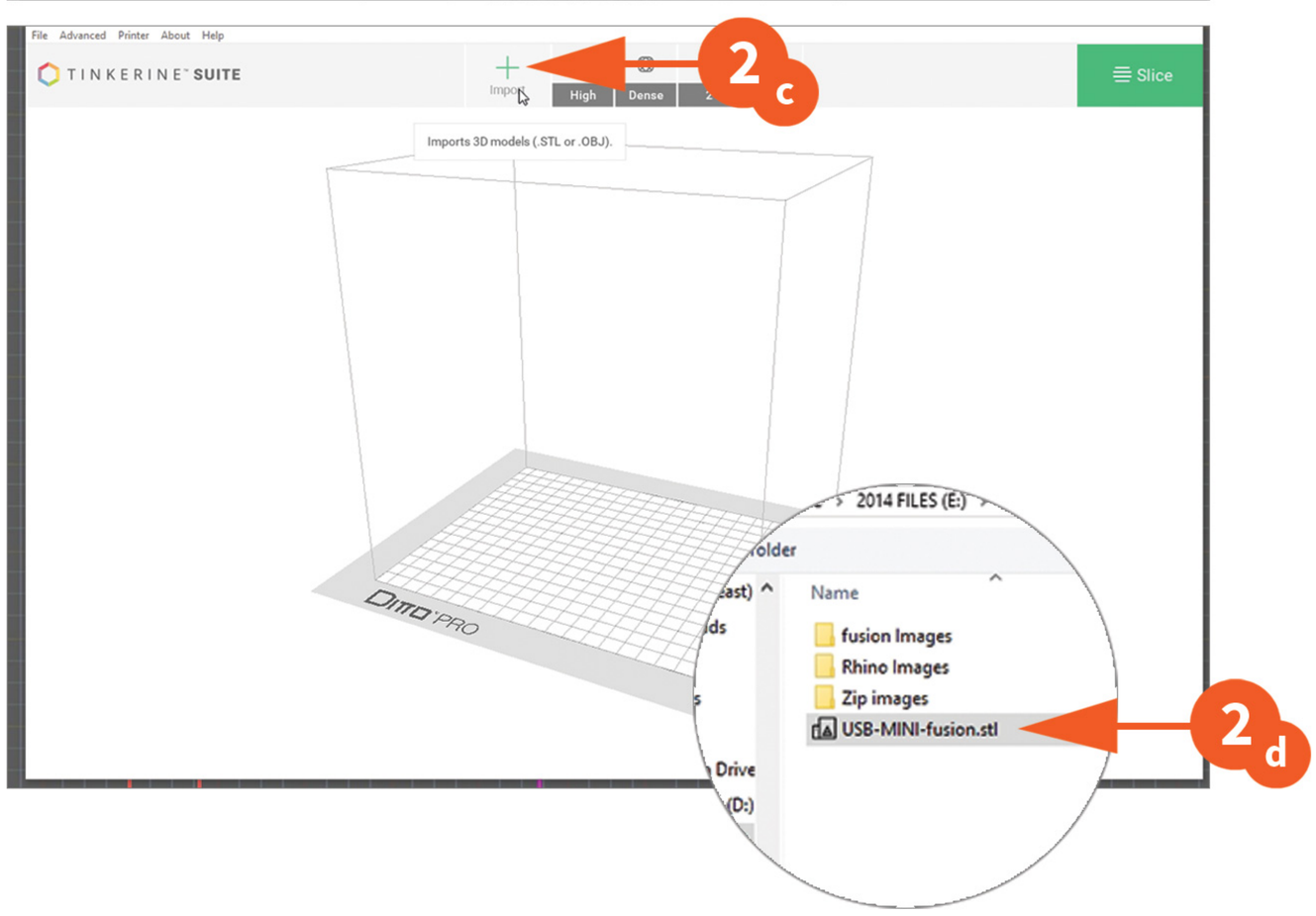
2b - Click on the Printer tab, and select Ditto Pro.

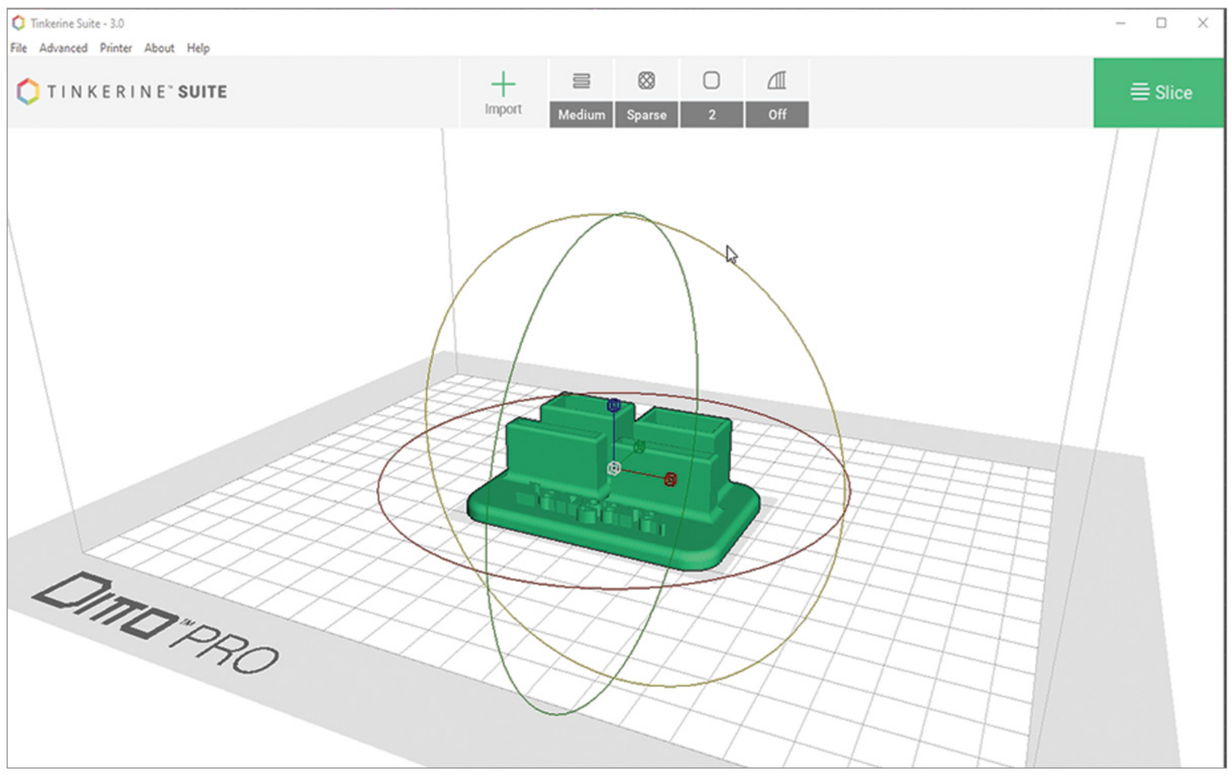
2c - Click on Import...

2d - and select your STL file.

IMPORTANT NOTE FOR MAC COMPUTERS
The Tinkerine Suite can crash on Apple/Mac computers sometimes.
If it crashes, just restart the software and import your file again.

If it continues to crash, there is something wrong with your file.





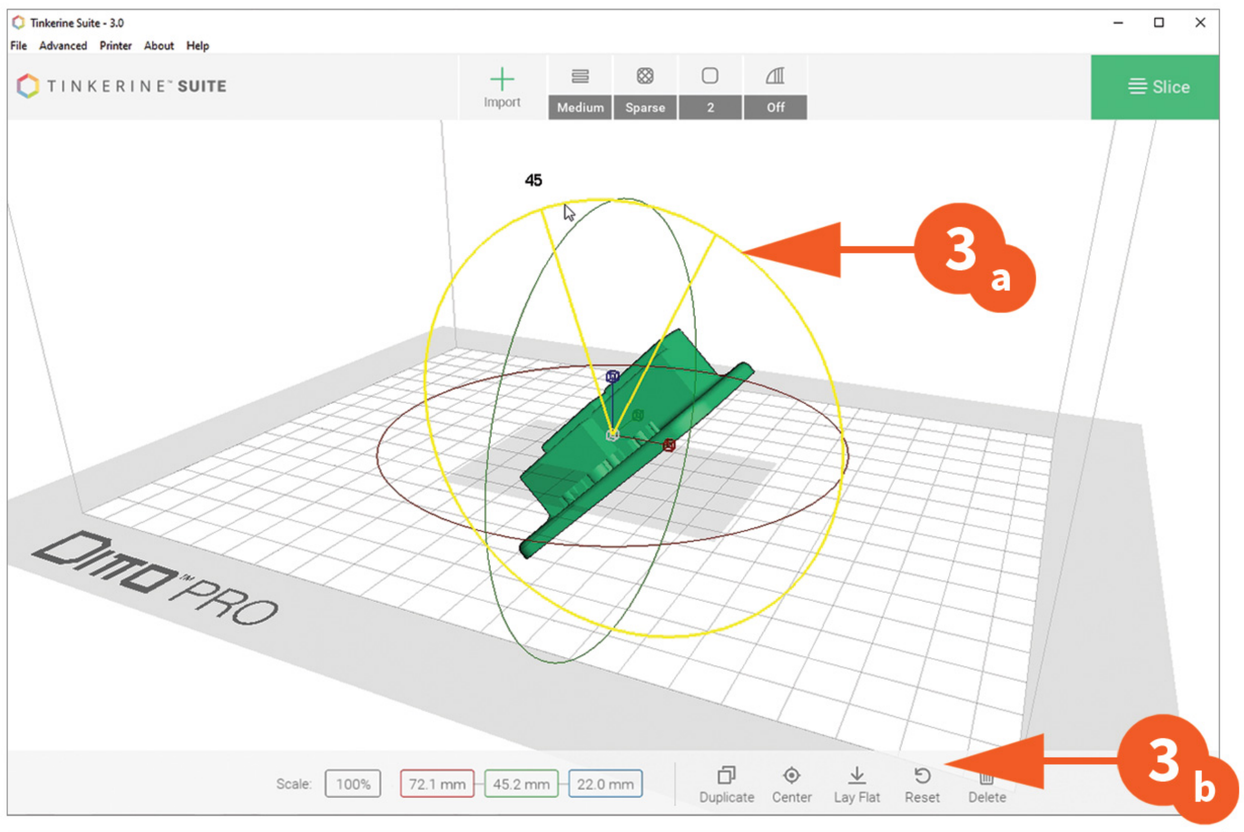
3 Your View Point & Rotating Your Object

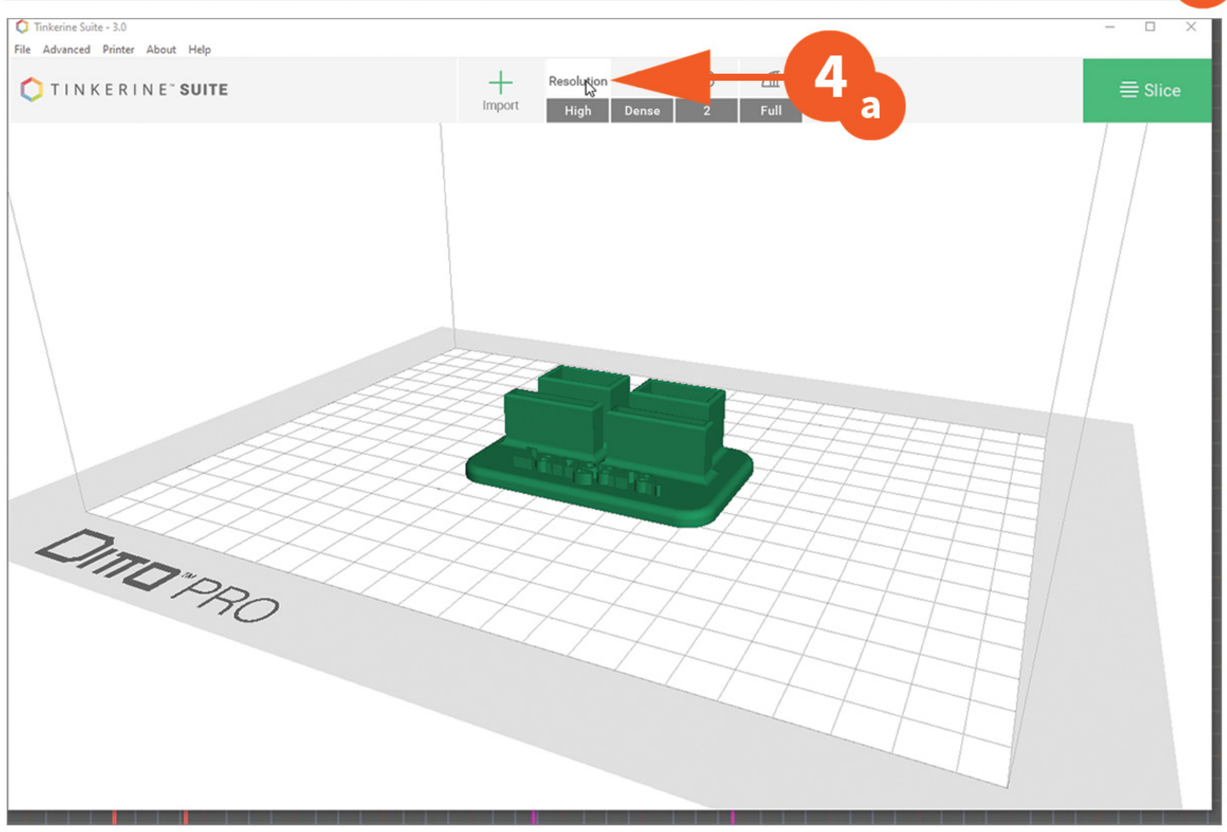
Hold your right mouse button down to rotate your view point around the object.

3a - If you need to rotate your object just Left Mouse Click on one of the coloured circles around your object and hold while you drag it.
Hold down the Shift key while rotating it to keep to 45 degree increments.

3b - Click on the Reset button to go back to the original position.

Tips:
- The bottom prints the worst quality.
- Text quality is best printed on the top.





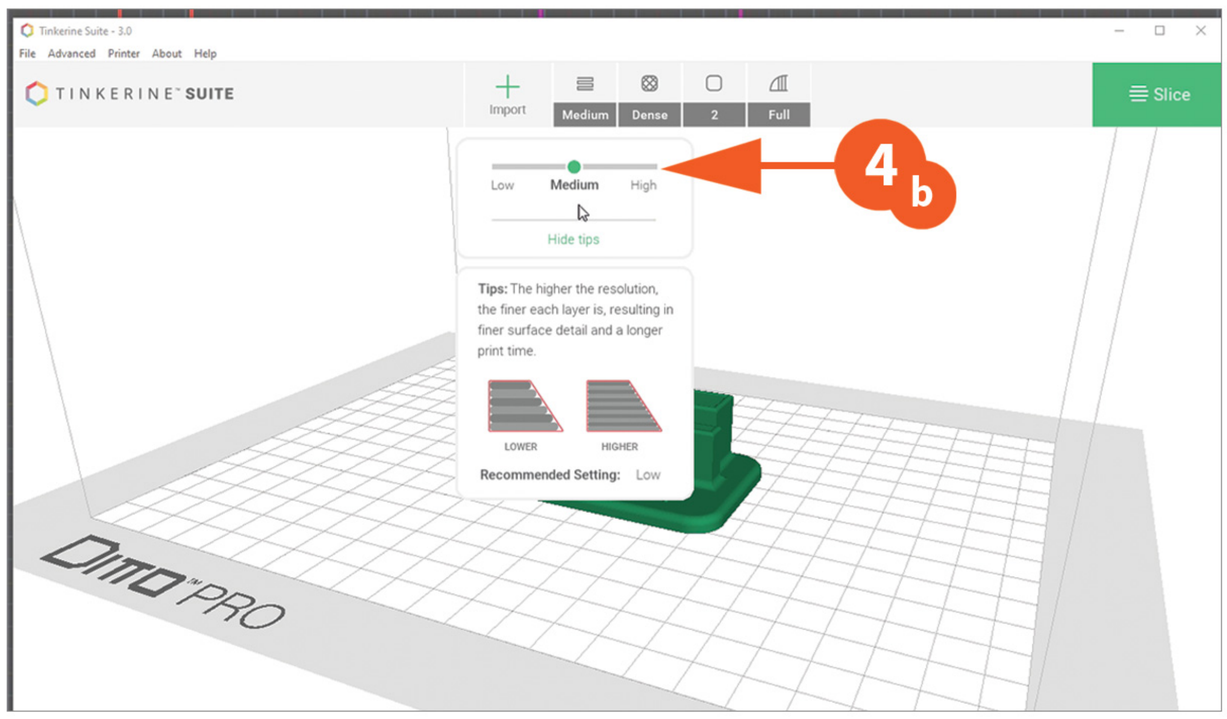
4 Print Resolution

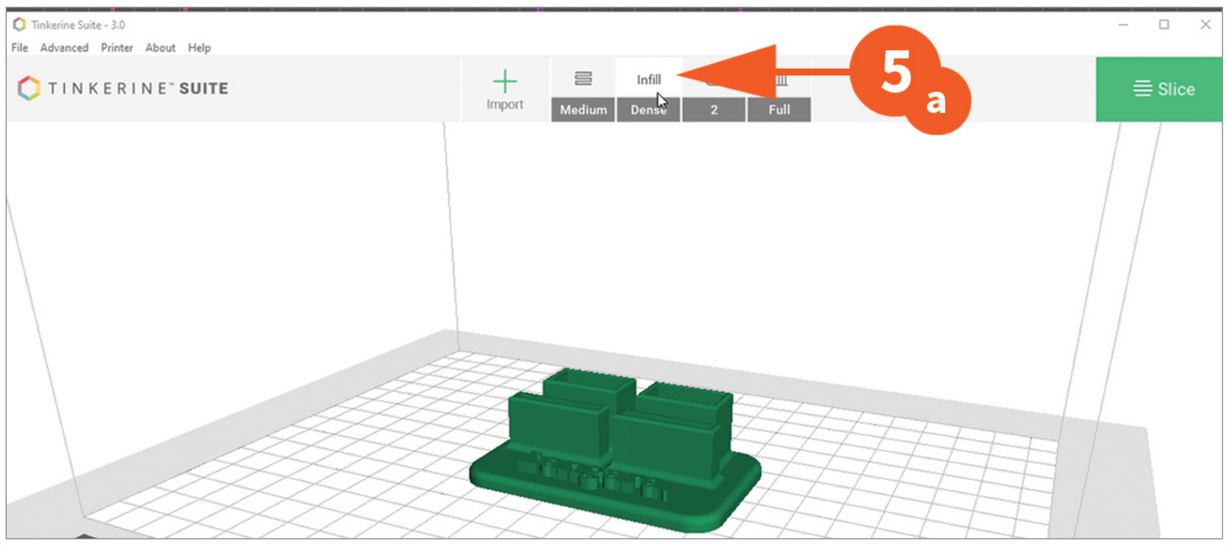
4a - Click on the Resolution button

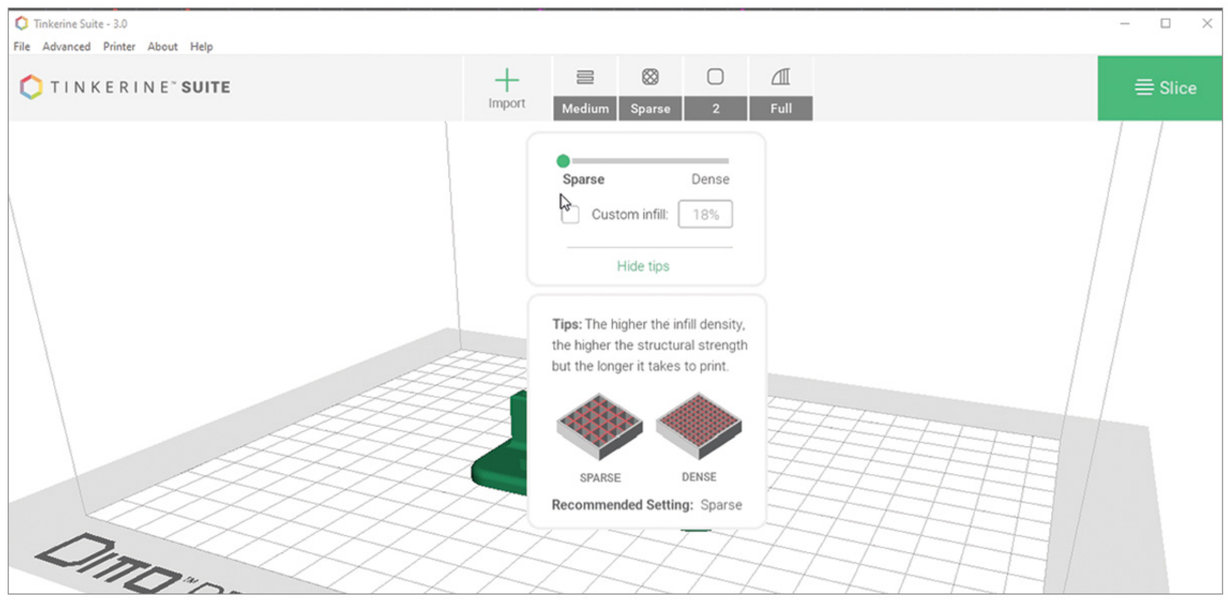
4b - Set to Medium* Resolution

* Unless your object has very small details, Medium Resolution will work well.

Tip:
The higher the resolution, the longer the print will take.







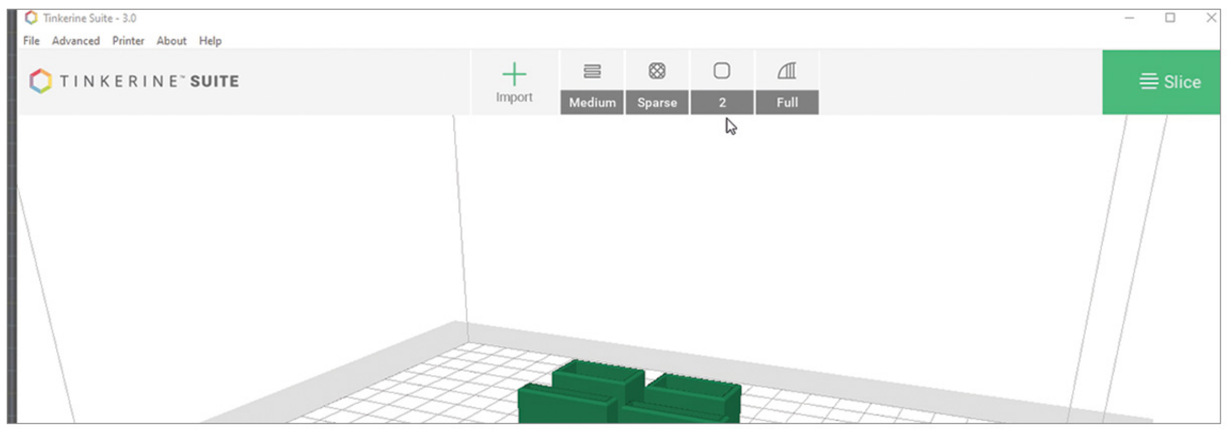
5 Print Density

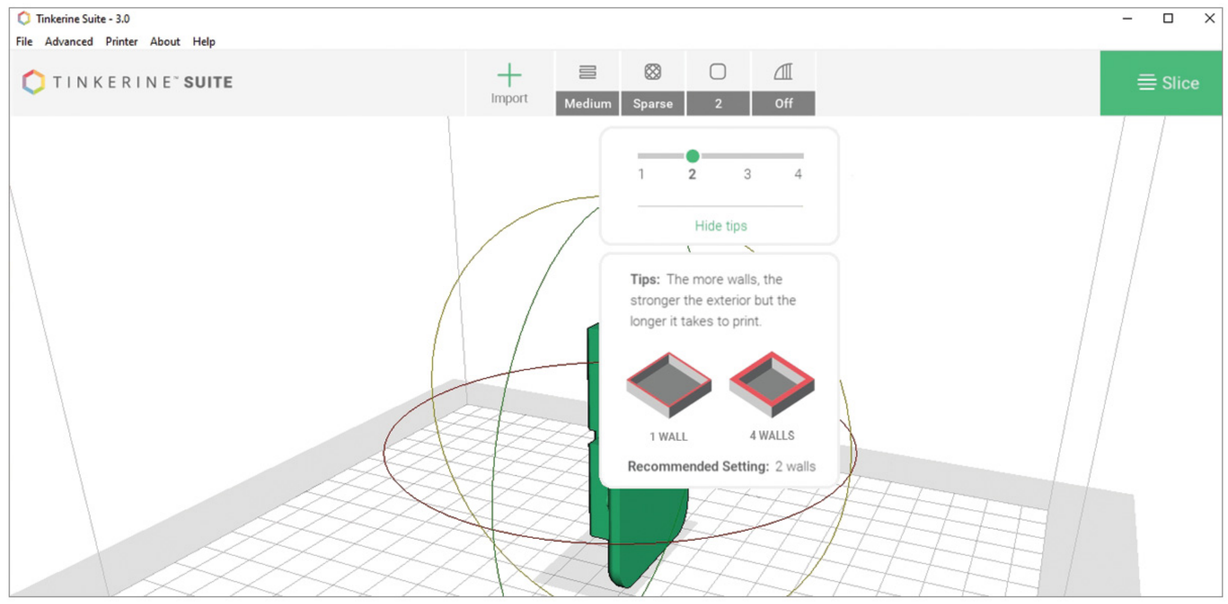
5a - Click on the Density button

5b - Select Sparse*

* Use Dense if your object is one of the following:
- A very thin object.
- An object that requires strength and maybe bent during use.

Tip:
The print will take longer if Dense is selected.

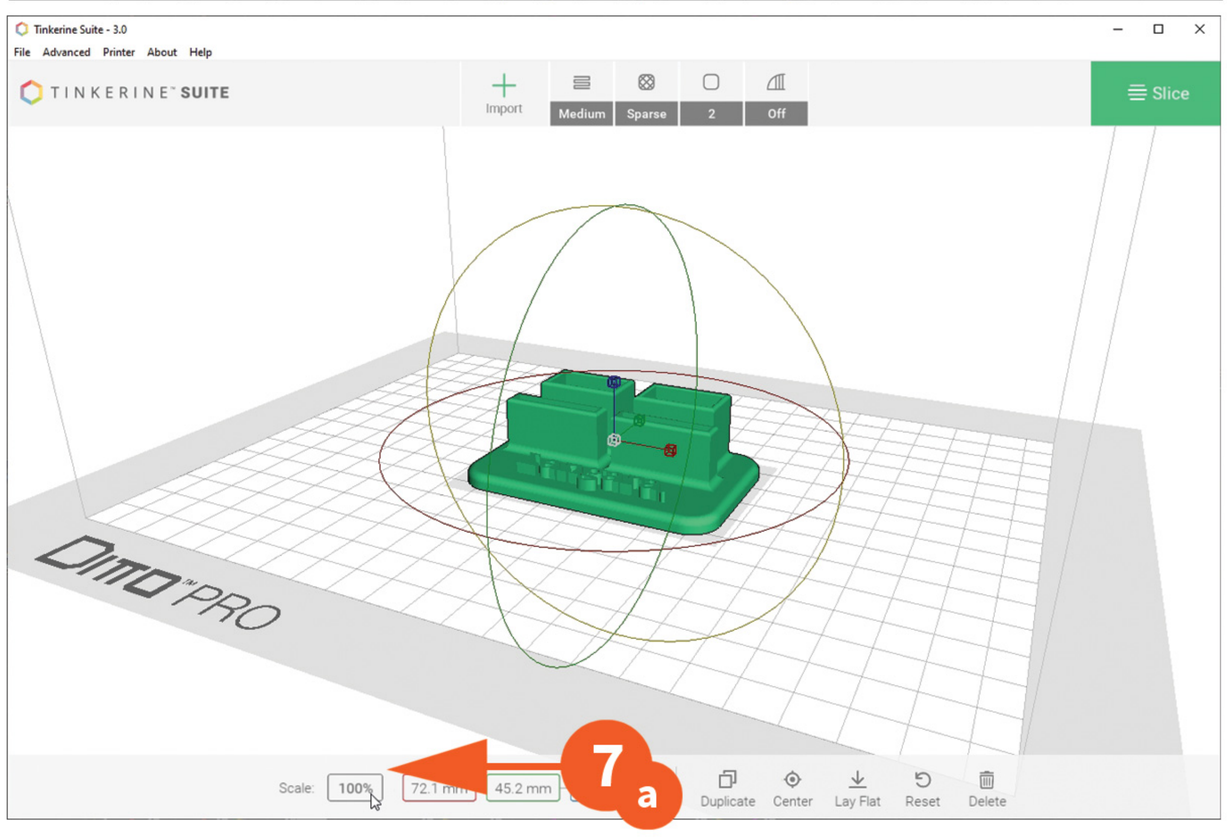




6 Wall Thickness

6a - Click on the Wall Thickness button.

6b - Unless your object is hollow or very small use #2.



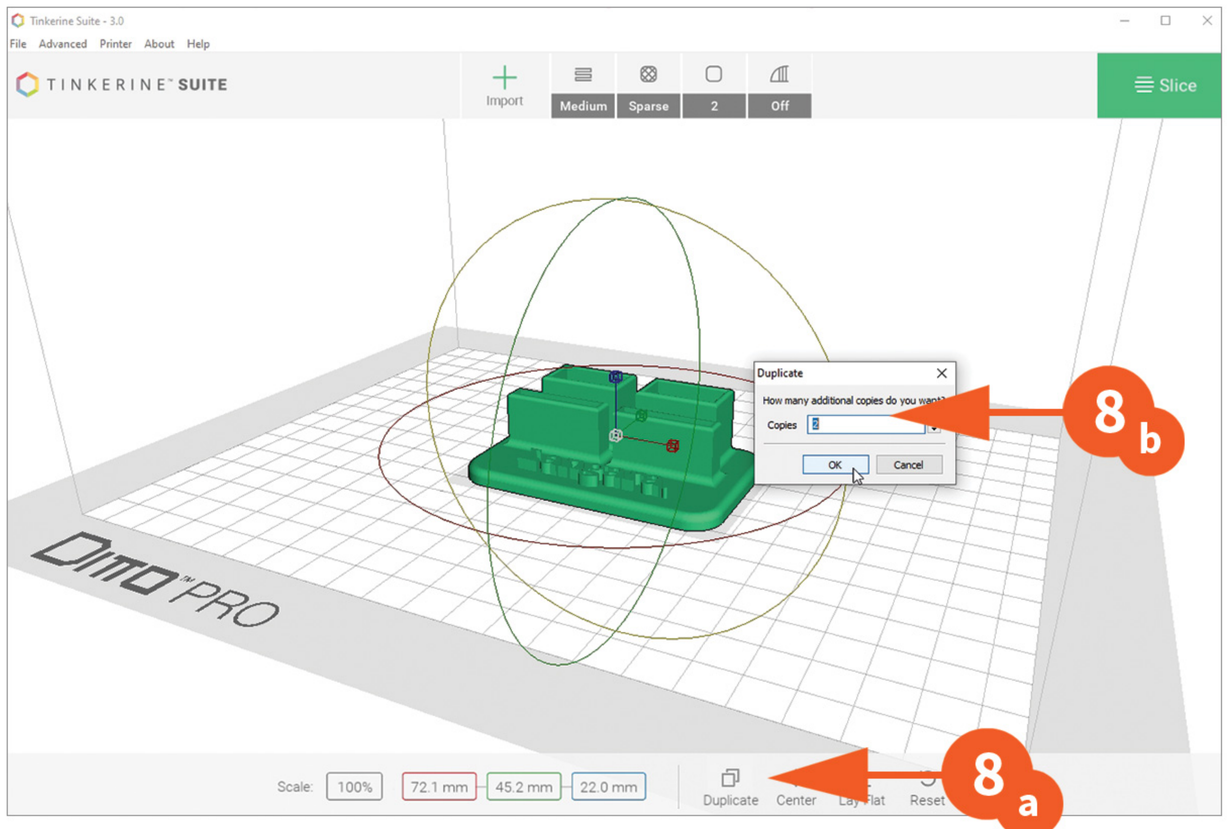
7 Scale

7a - To scale your object up or down, enter a new percentage number.

i.e. 110% would make your object 10% larger.

i.e. 90% would make your object 10% smaller.

Conversions:
1” = 2.54 mm
1cm = 10mm

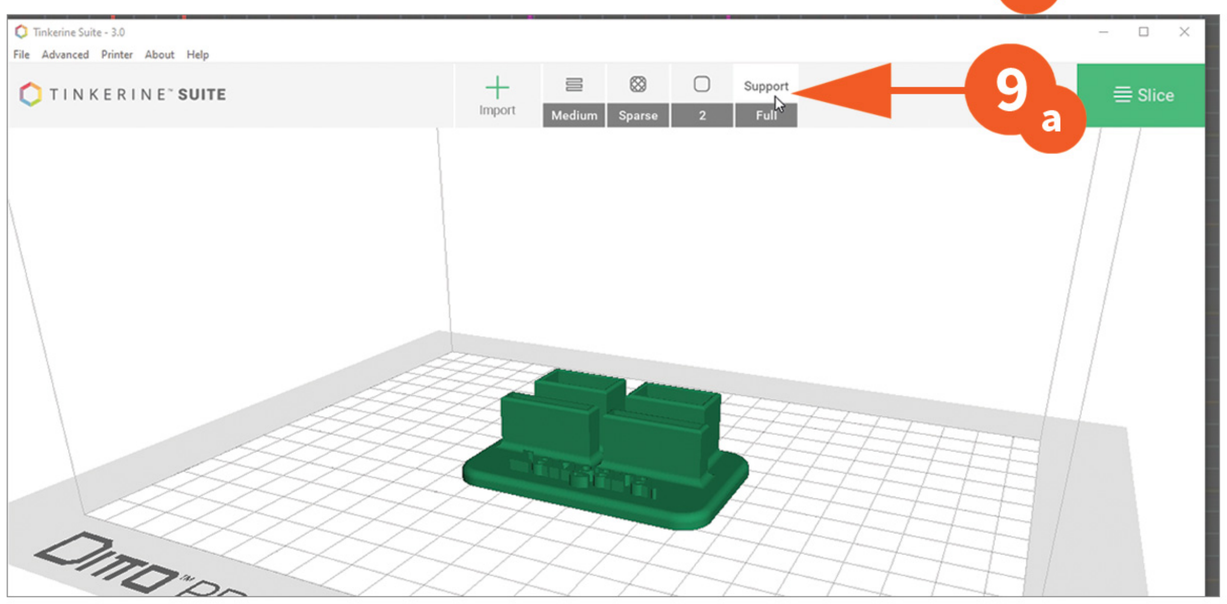


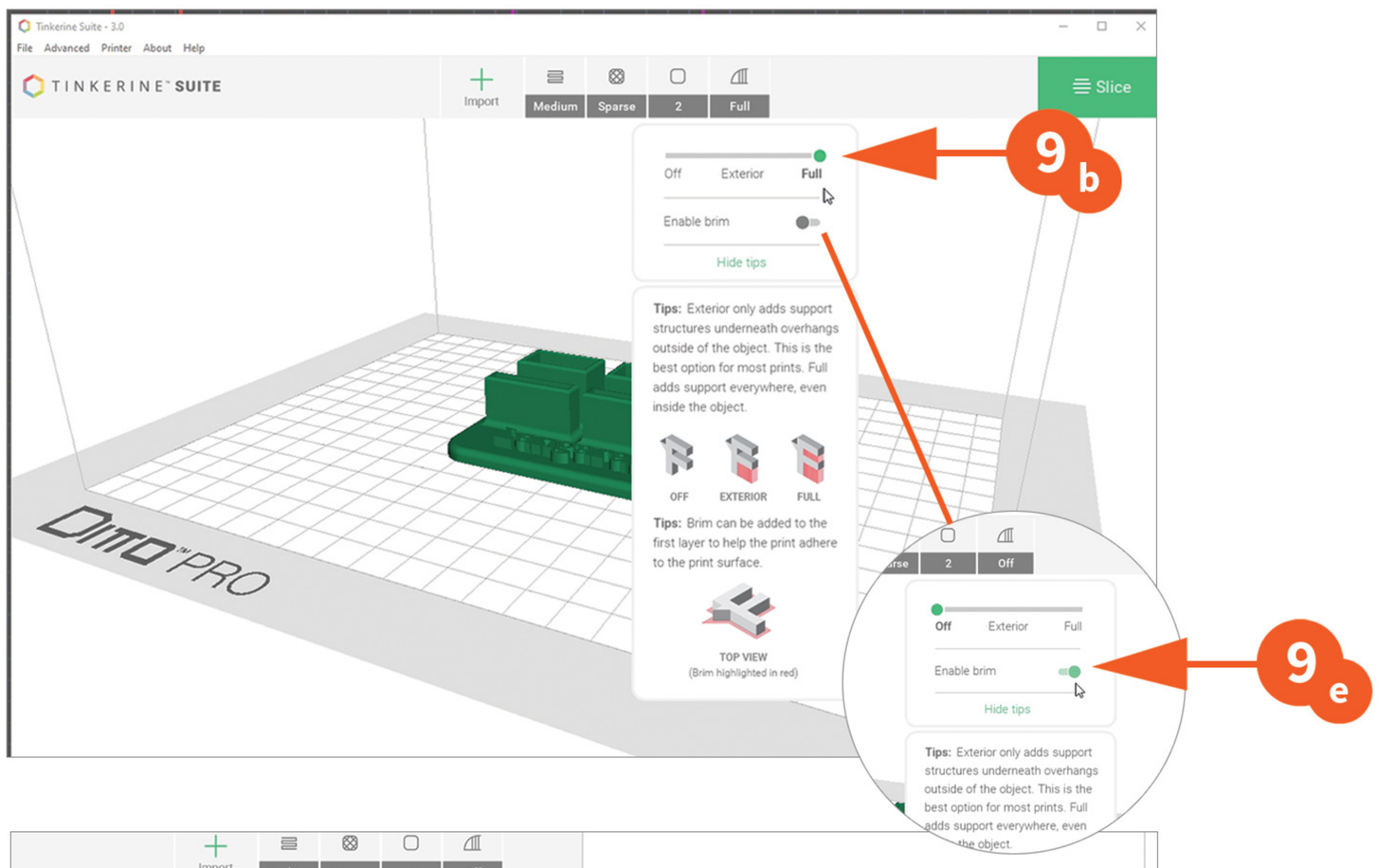
8 Duplicating Your Object

To duplicate your object, click on it (it should turn green)...

8a - Then click on the Duplicate button

8b - And enter the number of copies you would like.
i.e. 1 would make 1 more copy, 2 would make 2 more.





9 Print Supports & Brim

9a - Click on the Support button.

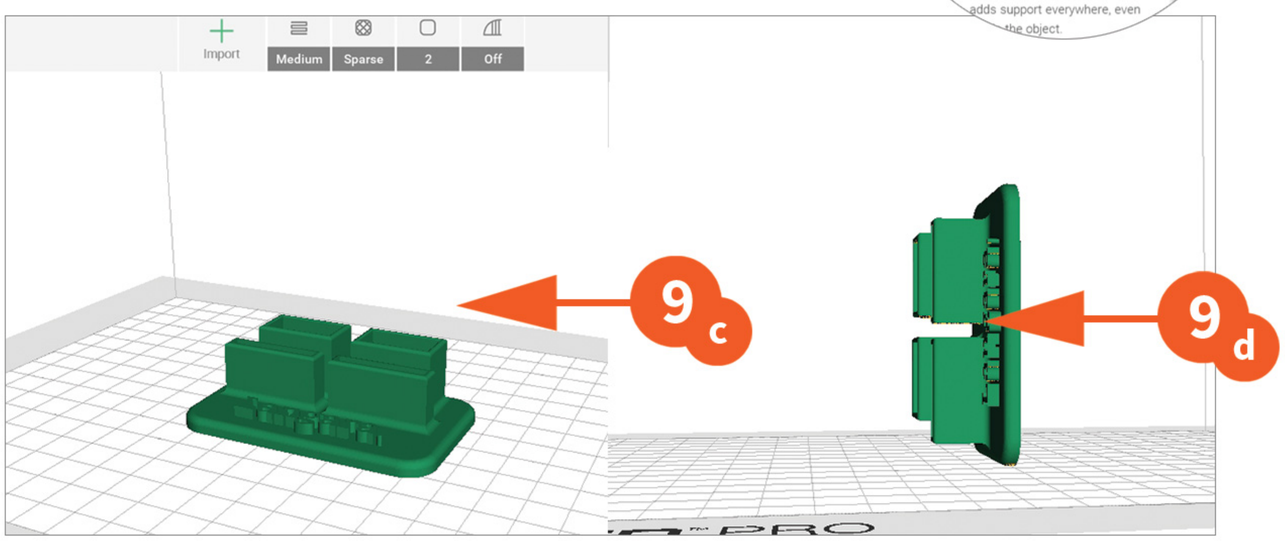
9b - If your object has any overhangs* use Full Support, otherwise use No Support. Supports can leave a rough edge after removed, so it is best to avoid them if possible.

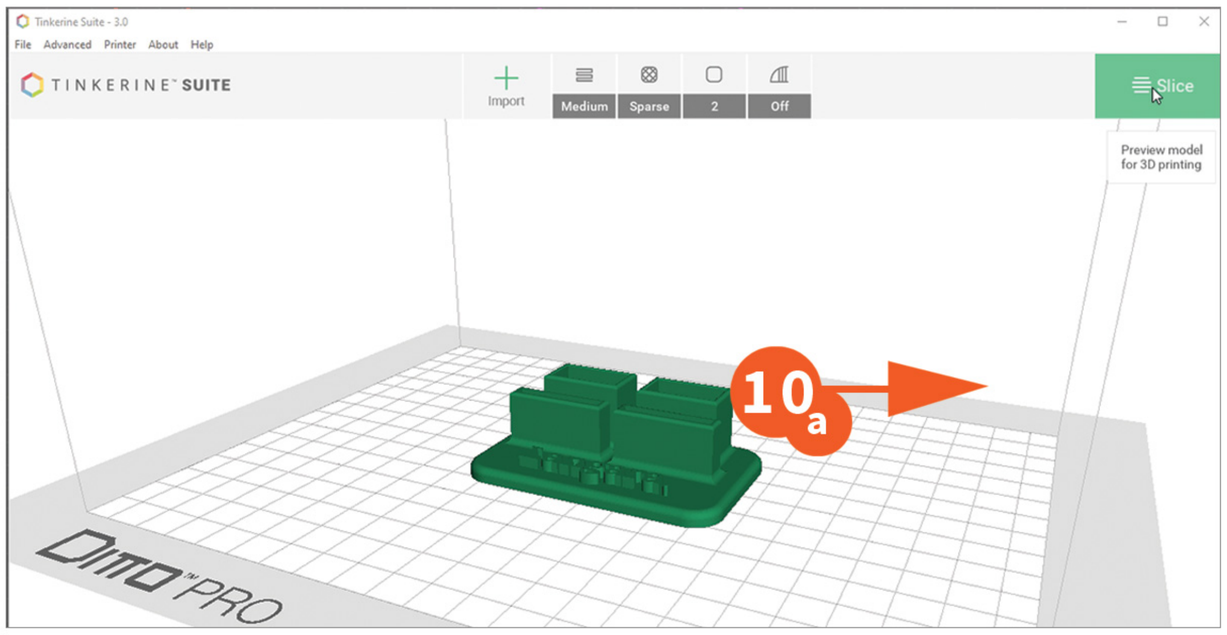
* To understand an overhang:
stand upright, both arms to your side... this would be No Overhangs.
Now stand with one of your arms extended out fully, this would be Overhangs.

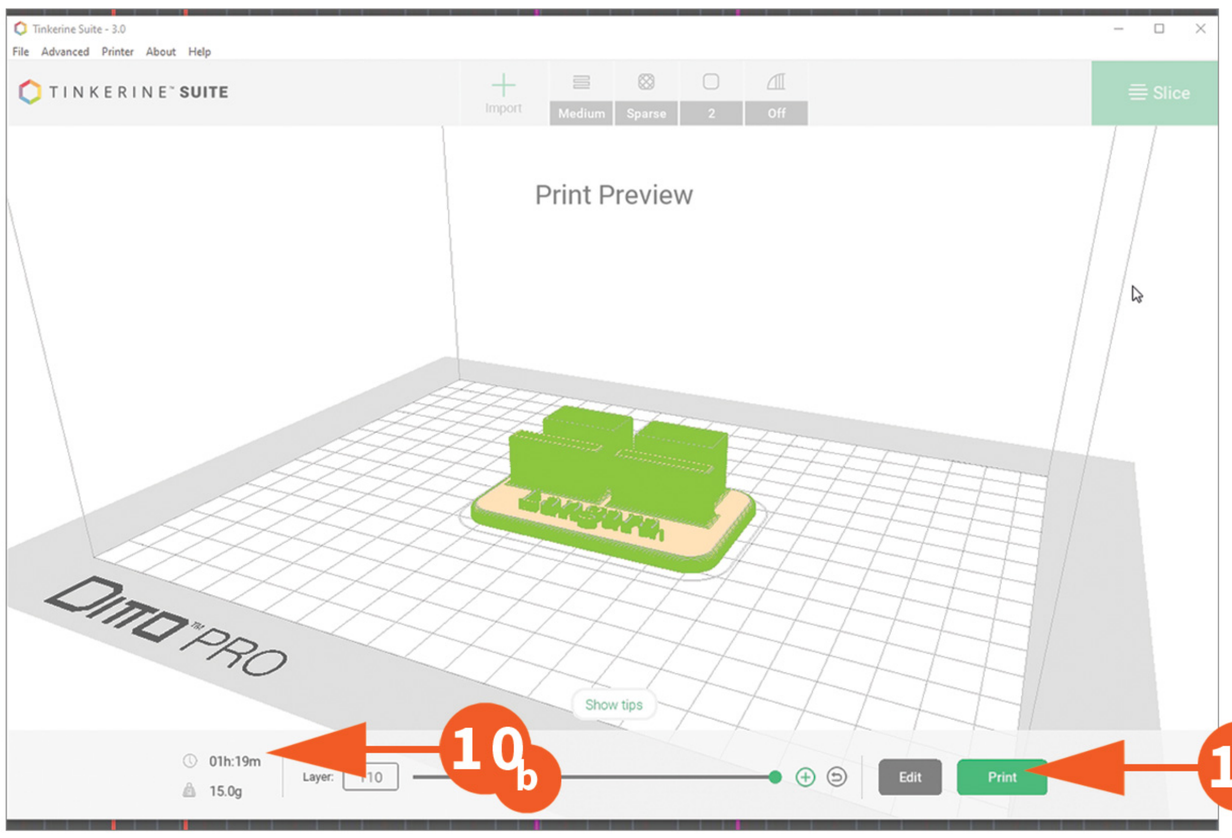
9c - An example of No Overhangs.

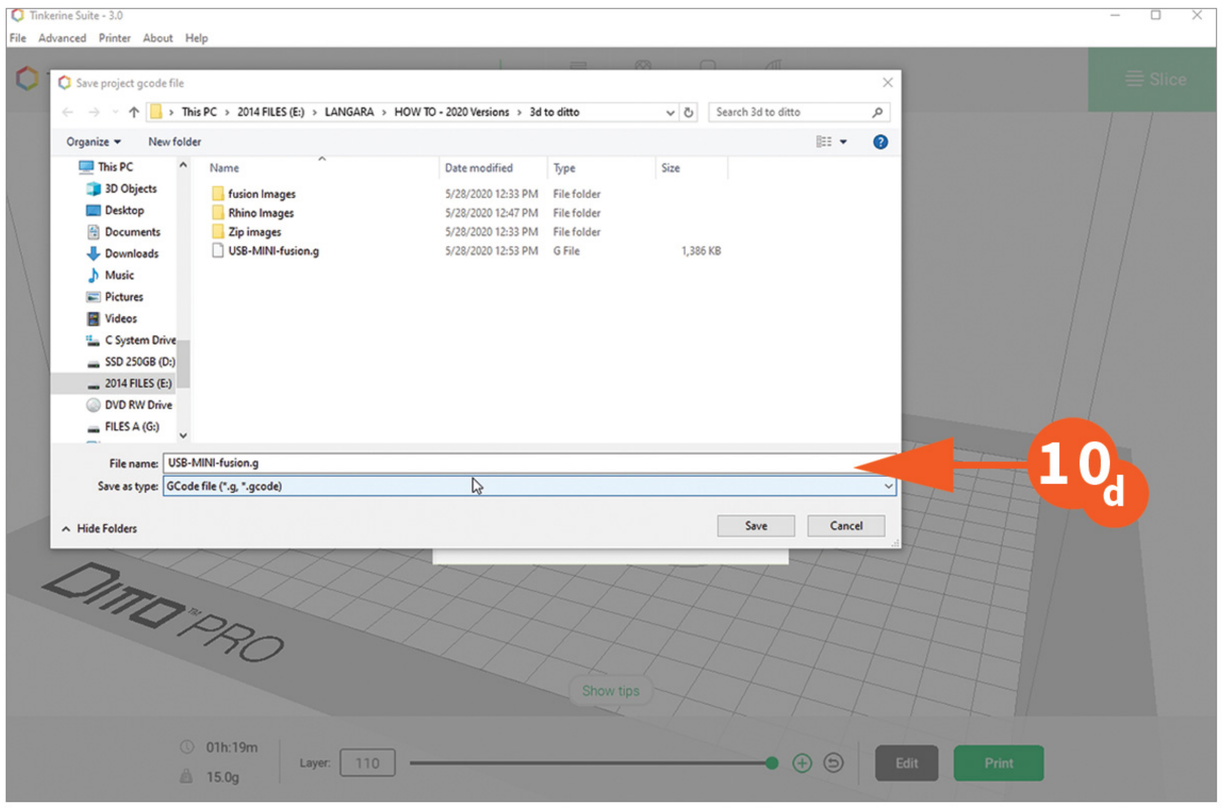
9d - An example of Overhangs.

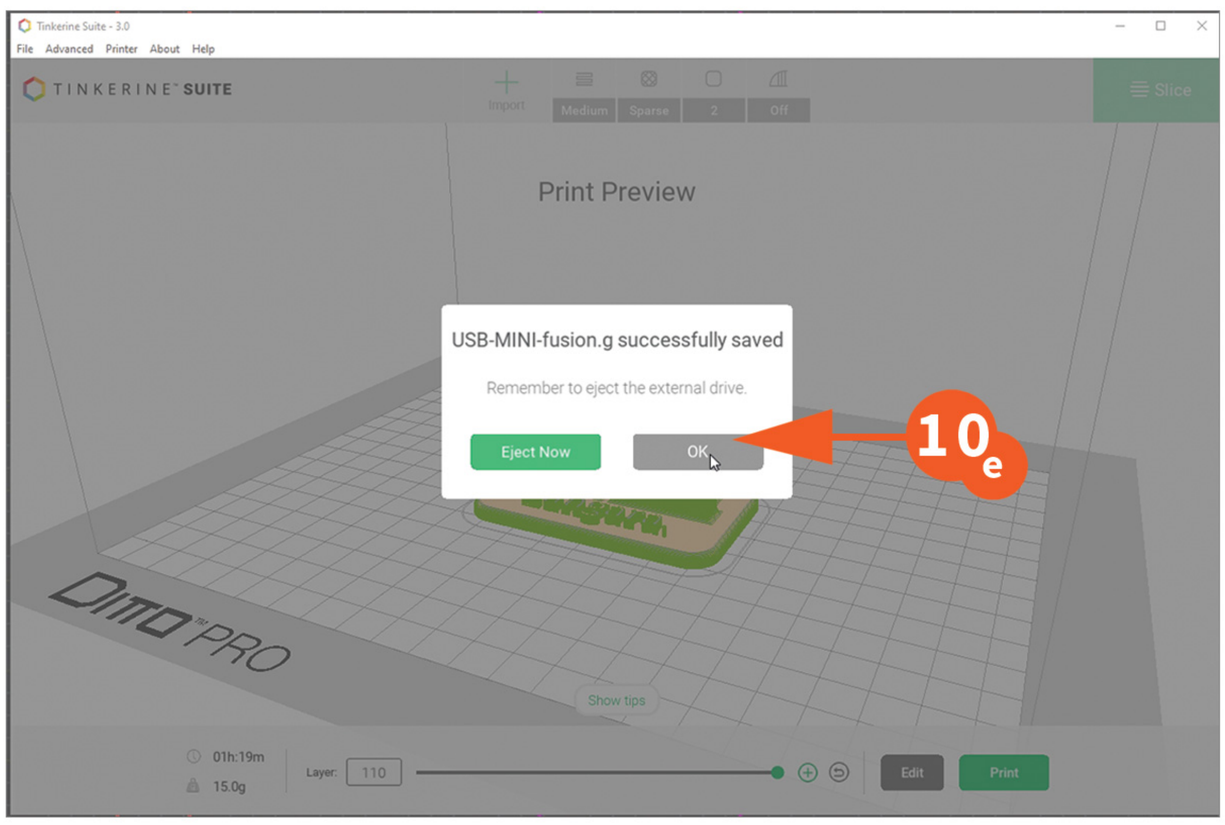
9e - Only if your object has a small bottom area or base, should you use Brim.
Brim lays down a foundation layer that can be hard to get off later.











10

Slicing Your Object & Saving Your Code

10a - When you object is ready, click on the Slice button.

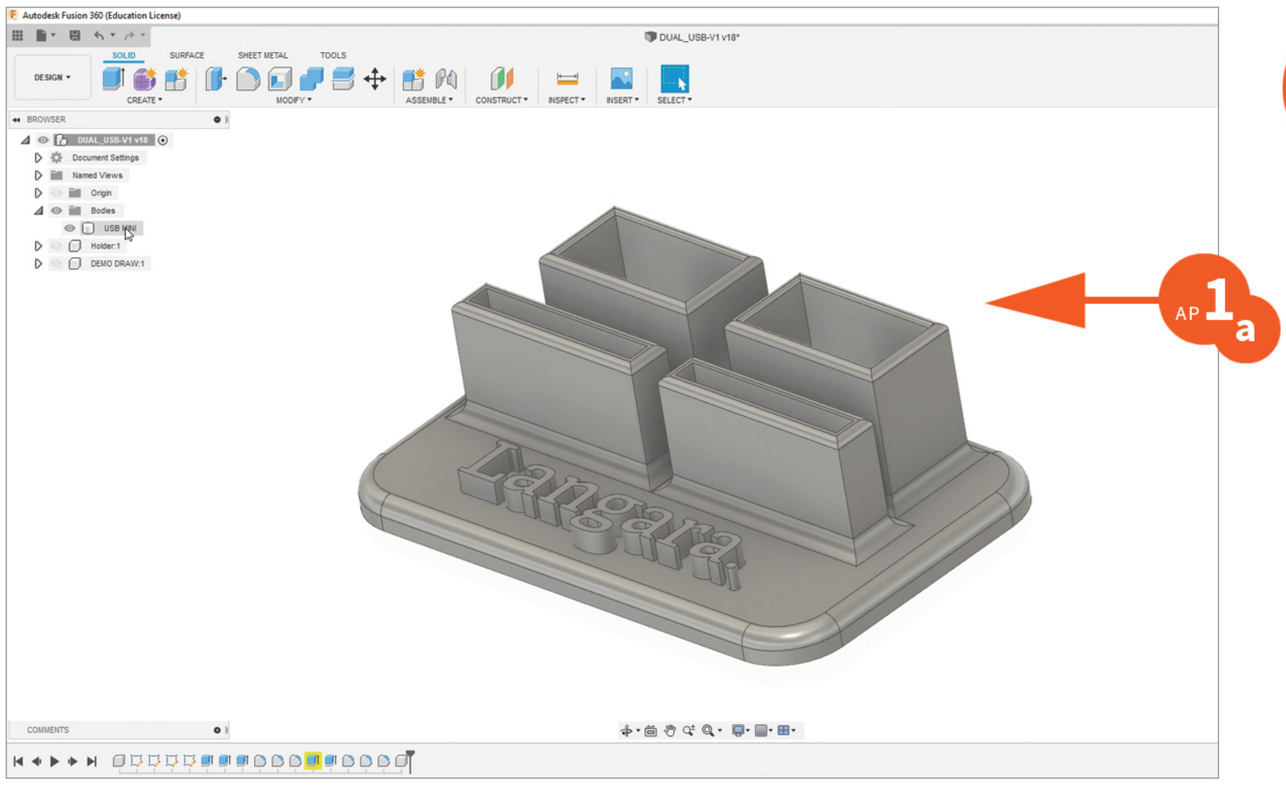
10b - The estimated Print time.

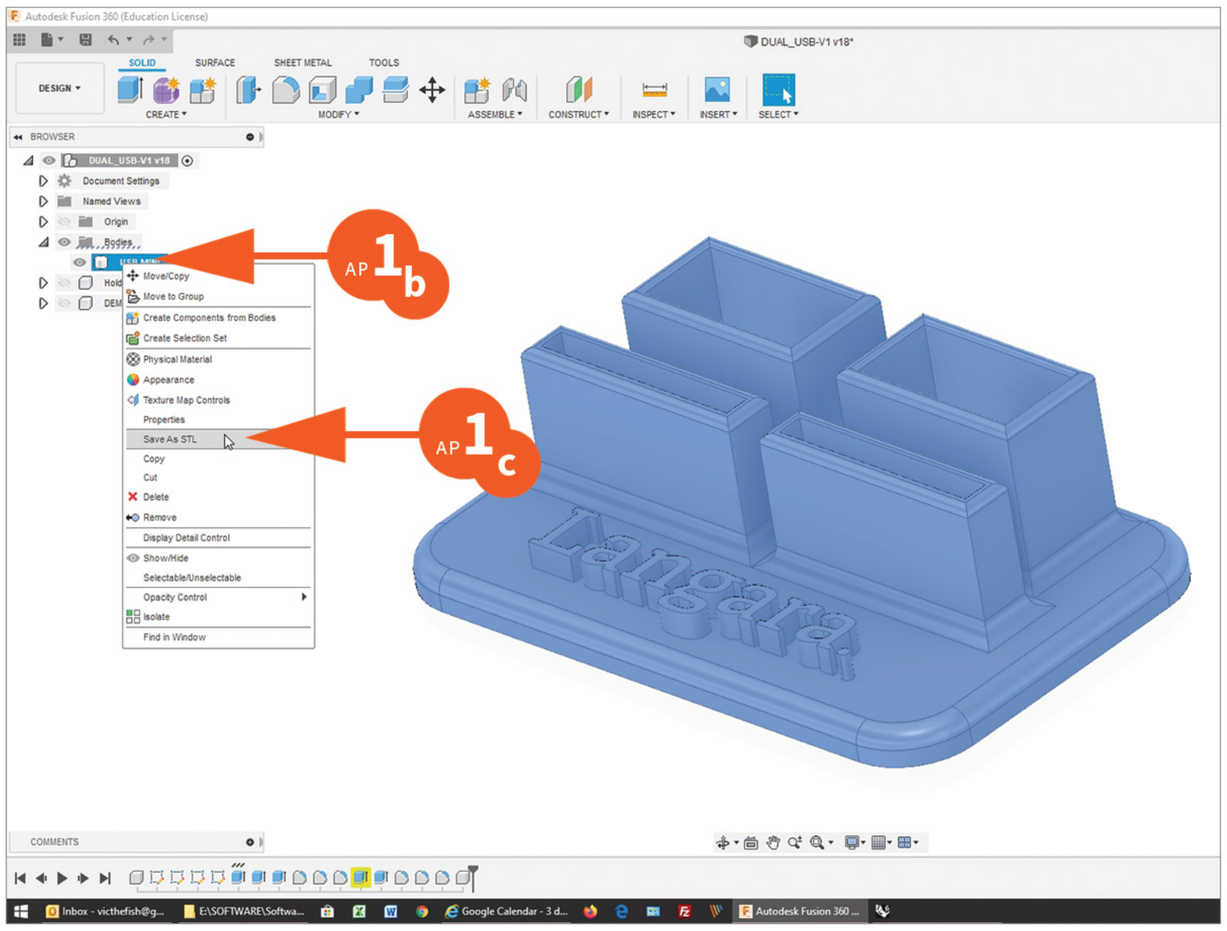
10c - Click on Print, this will save the G code for the Tinkerine DittoPro printer.

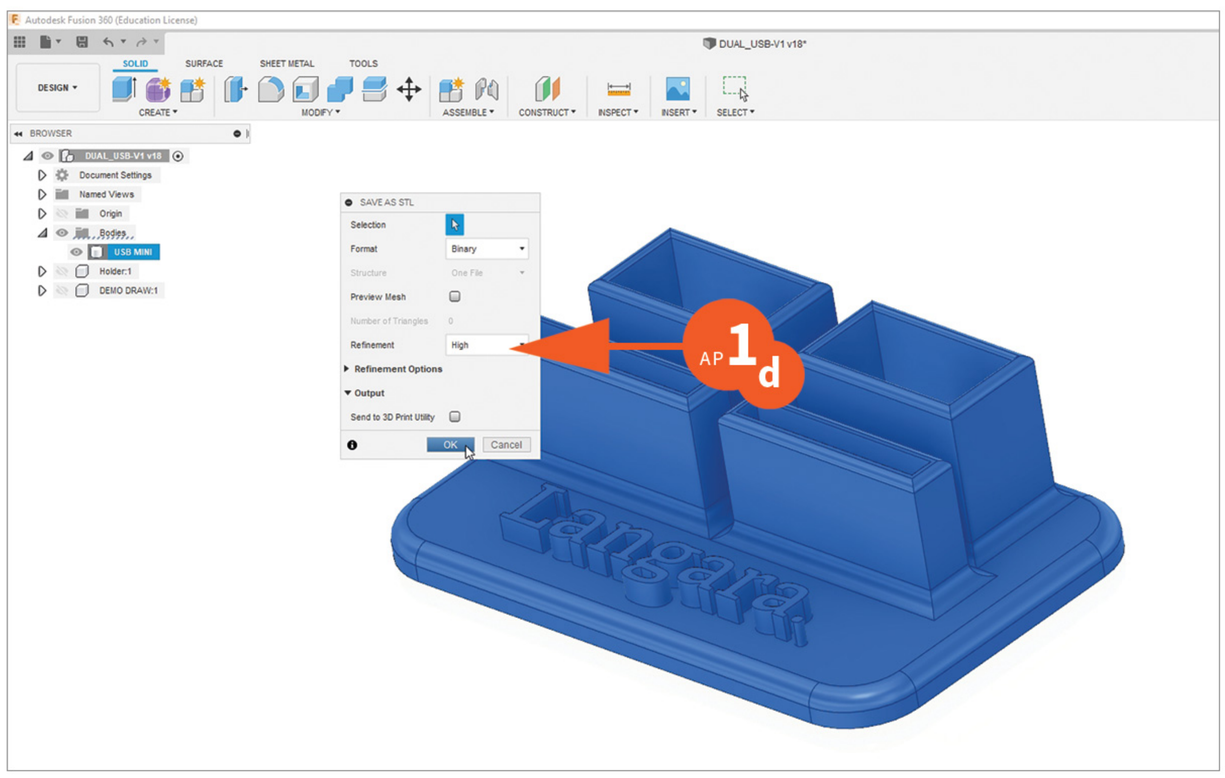
10d - Save your file to a folder or USB.

10e - Only click on Eject if it is a USB you want to eject.

You will need to Zip Compress this file if you are planning to submit it to Makerspace online for printing.







AP 1

Appendix - STL from Fusion 360

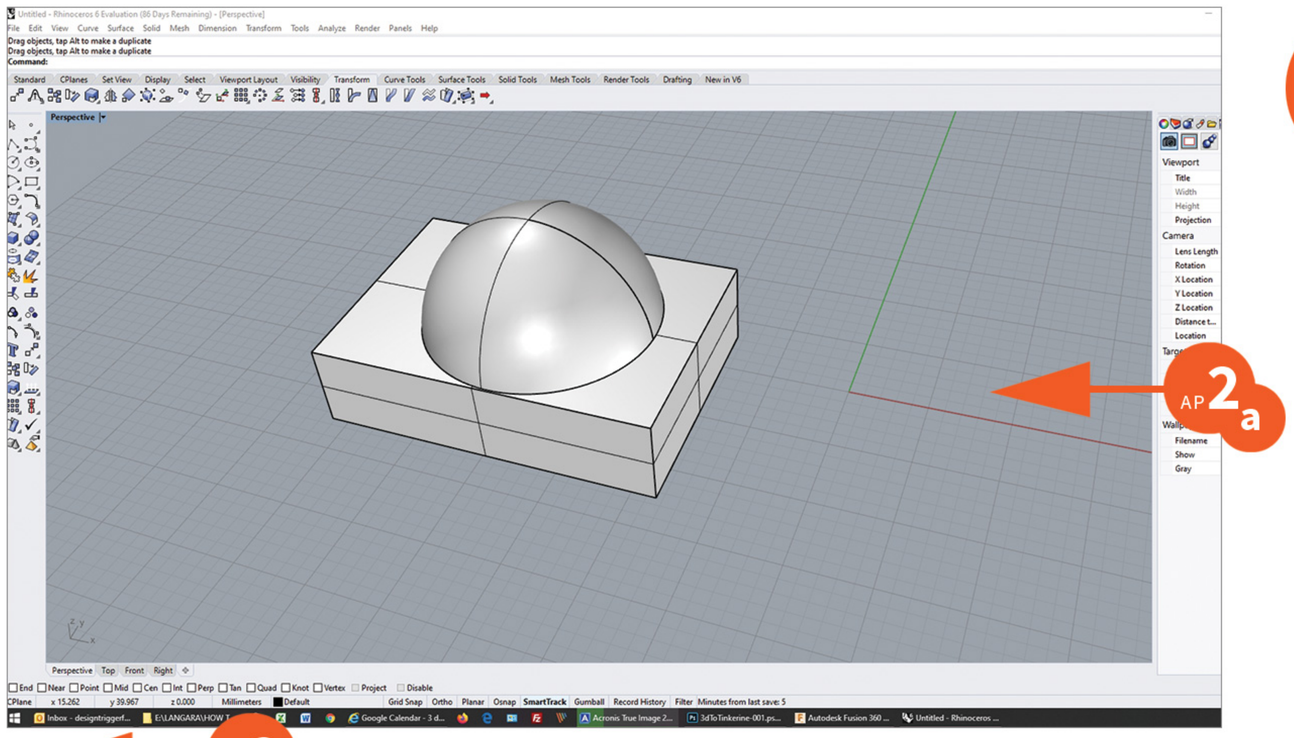
AP1a - Open up your file in Fusion 360.

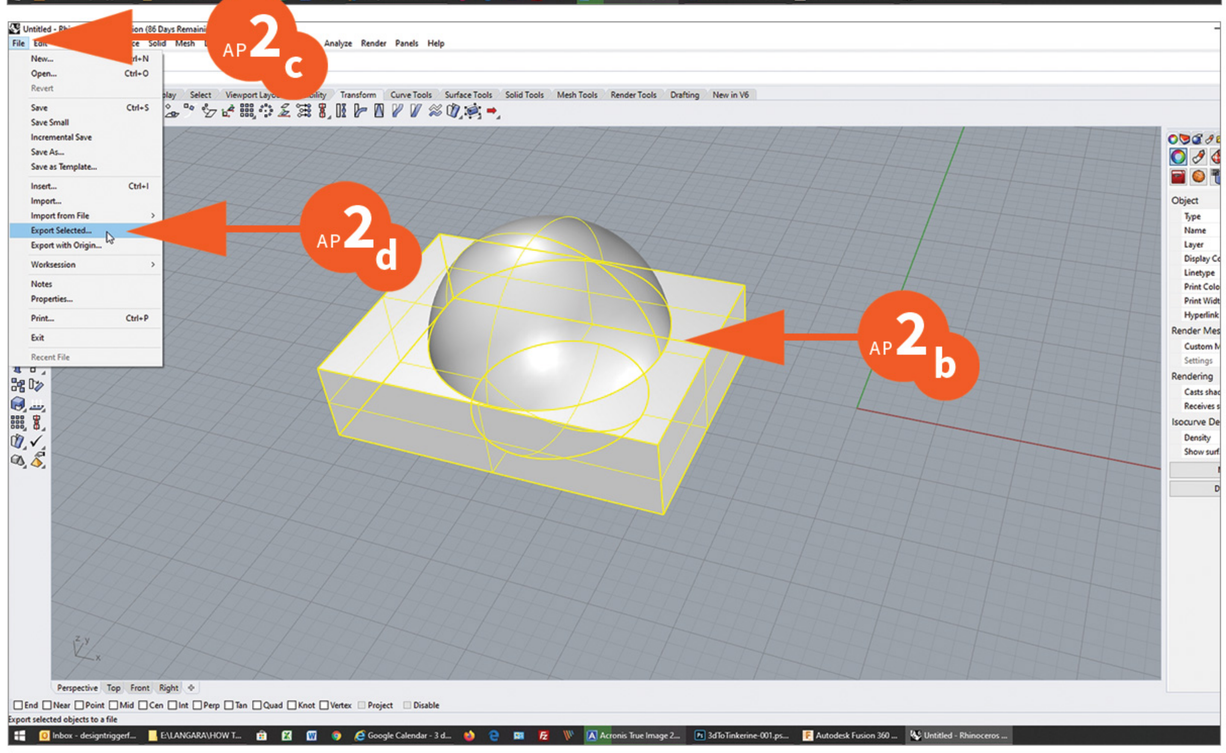
AP1b -Select the object you want to print.

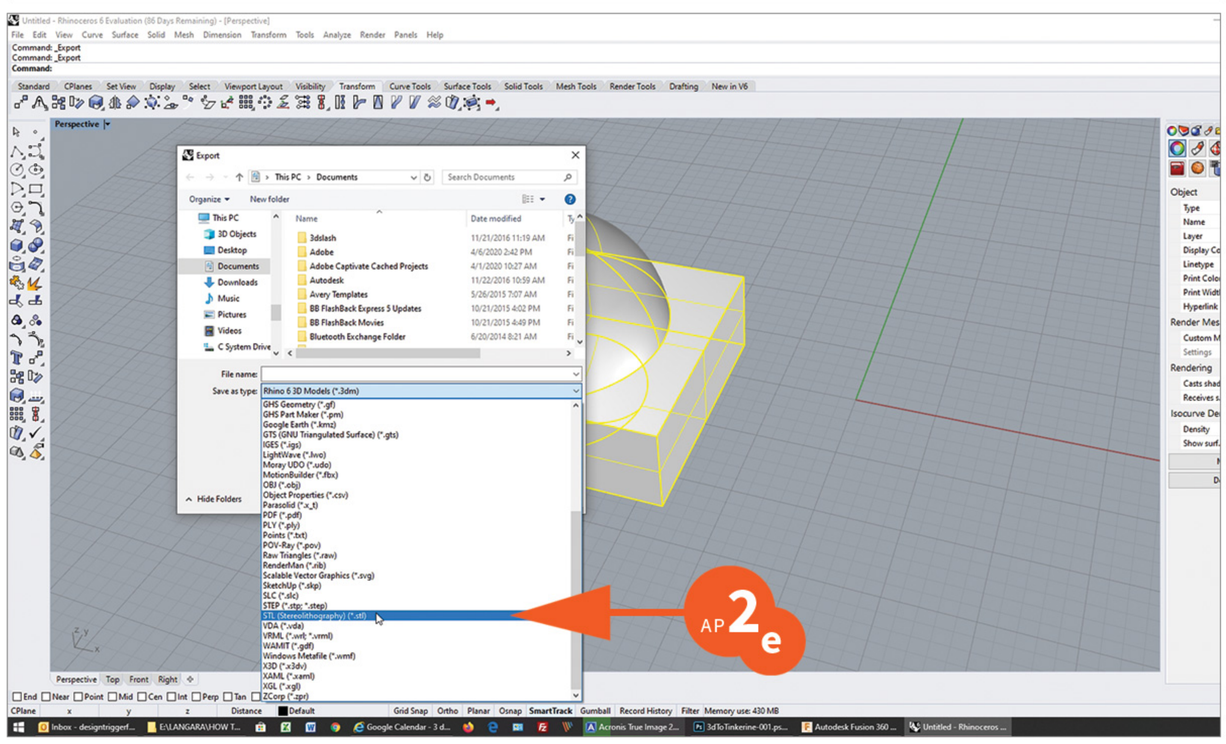
AP1c - Click on Save As STL from the pop up menu.

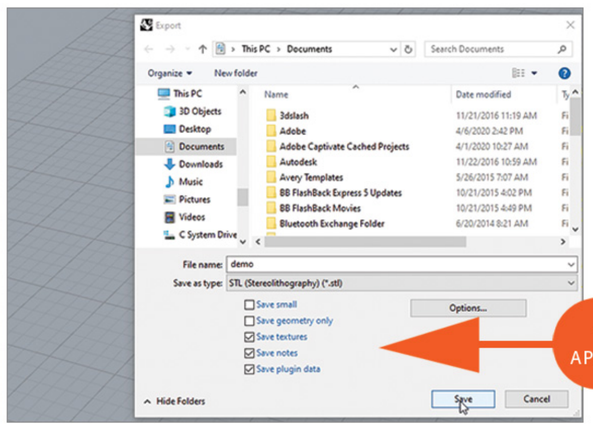
AP1d - Set Refinement to High, and click OK. Save the STL file where you can find it.

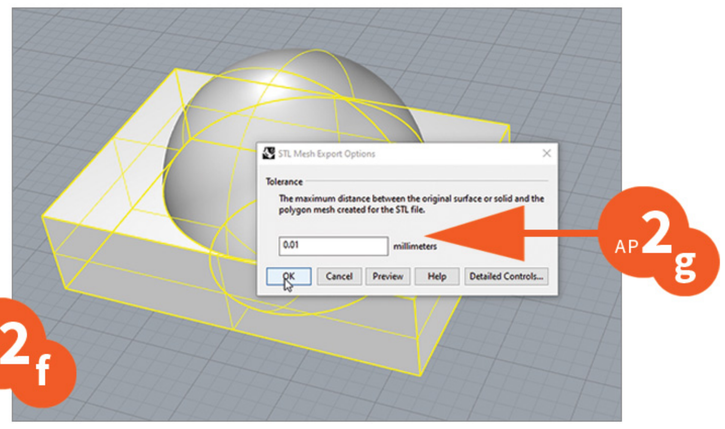
You will need to Zip Compress your STL, if you are uploading it to the Makerspace.

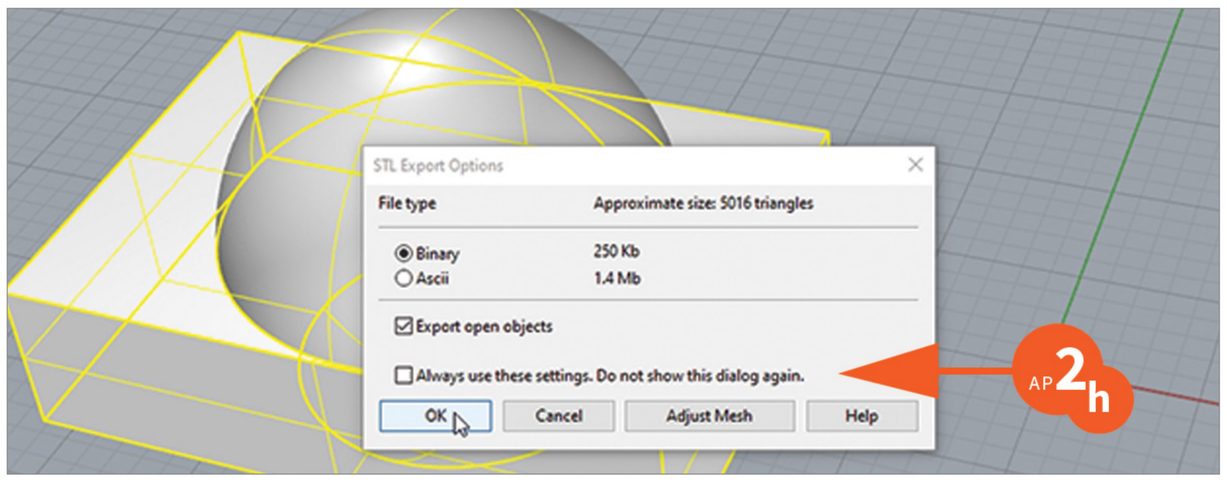












AP2

Appendix - STL from Rhino 3D

AP2a - Open up your file in Rhino 3D.

AP2b -Select the object you want to print.

AP2c - Click on the FILE tab.

AP2d - Select and click on Export Selected.

AP2e - Select STL from the drop down menu.

AP2f - Save with Check Boxes as shown.

AP2g - 0.01 mm, Click Ok.

AP2h - Binary, Click Ok.

You will need to Zip Compress your STL, if you are uploading it to the Makerspace.