

HOW TO 3D PRINT

with



CHOOSE WHICH 3D PRINTER TO USE

MAKERBOT REPLICATOR+

- More Color Choices
 - Faster Print
- Better For Less Detailed Prints
- Wider Objects May Curl At Edges
 - Supports Are More Difficult To Remove!



MAKERBOT METHOD

- Higher Quality Print
 - Supports Dissolve in Warm Water
- Fewer Color Choices
- Takes Longer To Print



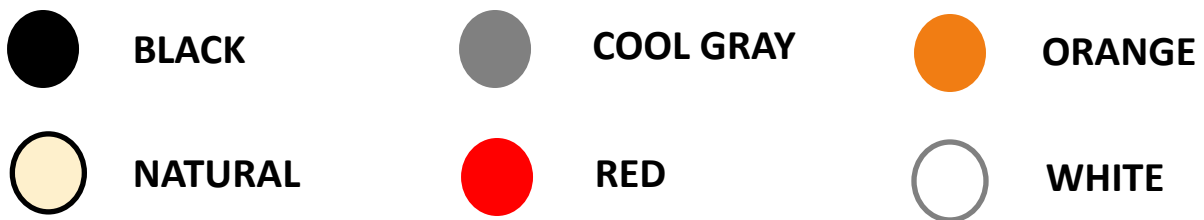
REPLICATOR+ FILAMENT COLORS



REPLICATOR+ SPECIALTY FILAMENTS



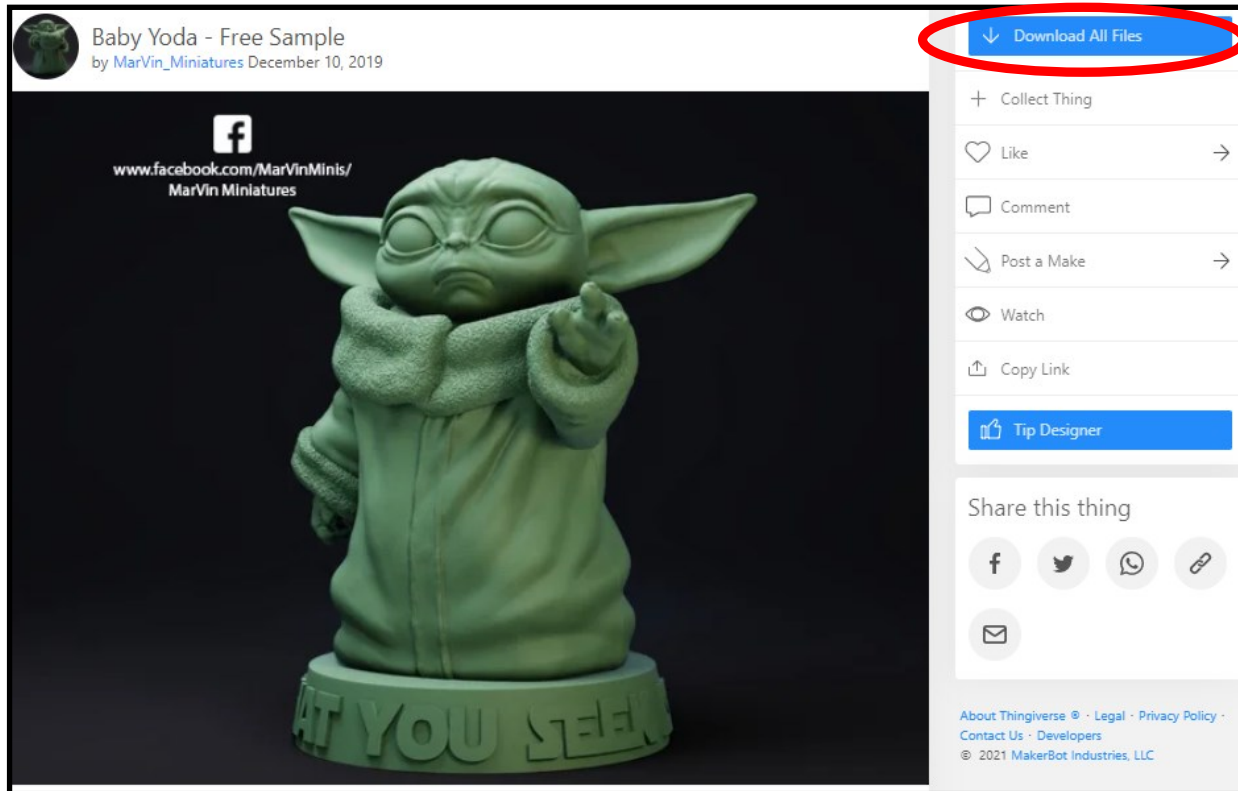
METHOD FILAMENT COLORS



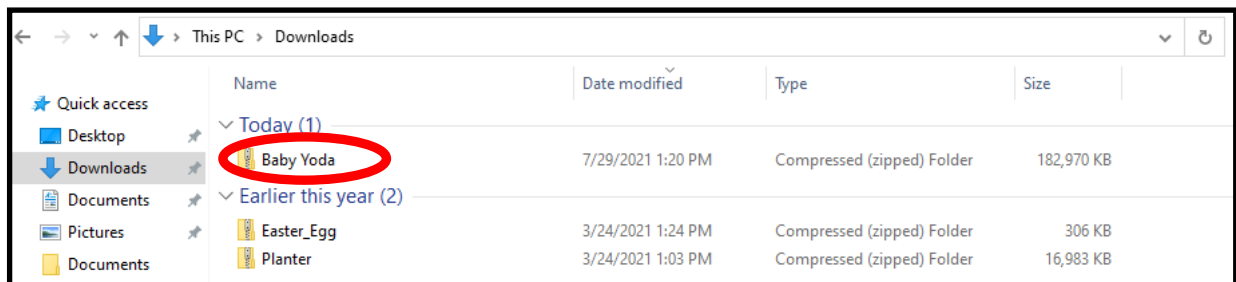
NOT ALL COLORS MAY BE AVAILABLE AT ALL TIMES

DOWNLOAD YOUR 3D PRINT FILE

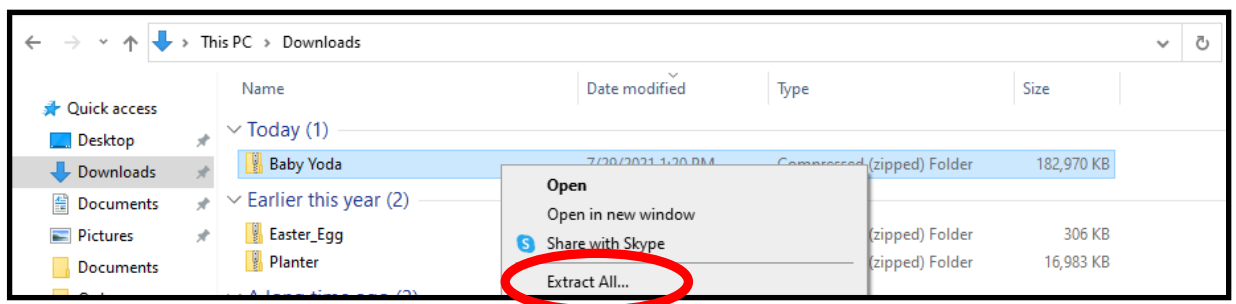
1. Browse *Thingiverse.com* (shortcut available on the Desktop) for a 3D model or create your own on TinkerCAD.
2. Click the project you want to make and click **DOWNLOAD ALL FILES**. Navigate to the *Downloads* folder if not already there.



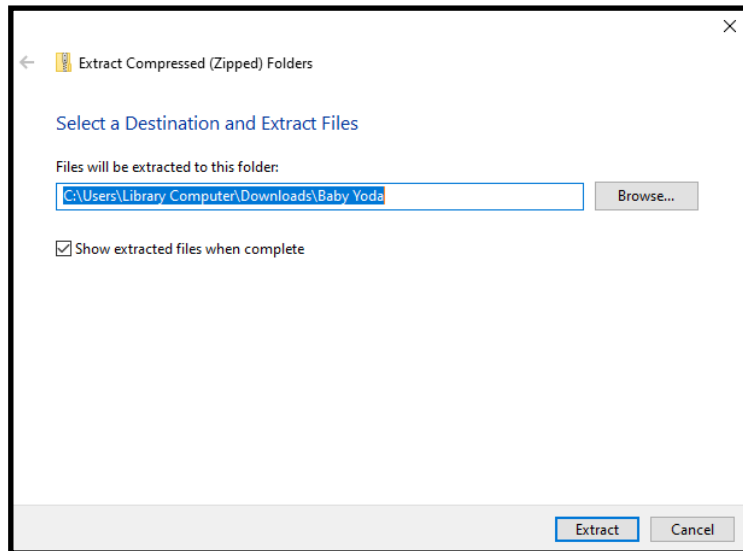
3. Go to the **DOWNLOADS** folder and find your project. You may need to unzip the file first, if not proceed to Step 8.



4. Then Right-Click on your project and select **EXTRACT ALL**.



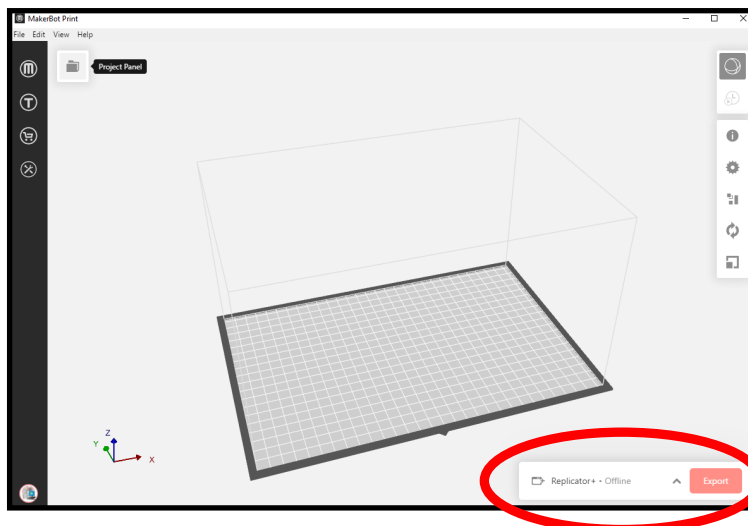
5. Click **EXTRACT**.



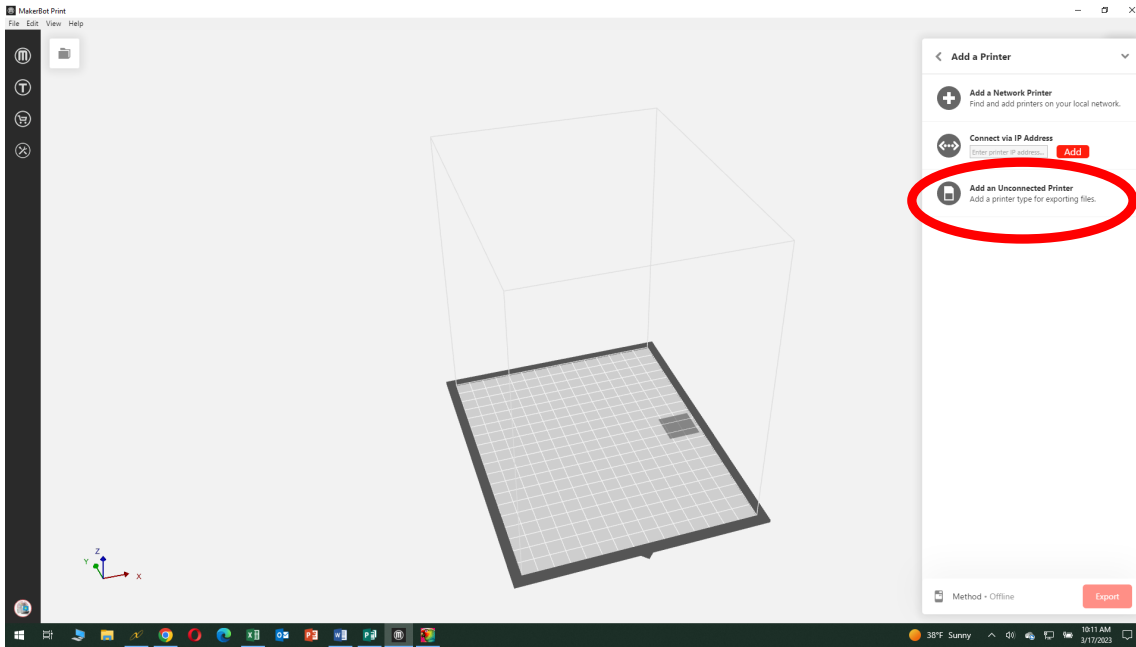
6. Open the **MakerBot Print** application from the shortcut on the Desktop or from the Start Menu.

SELECT YOUR PRINTER (REPLICATOR+ OR METHOD)

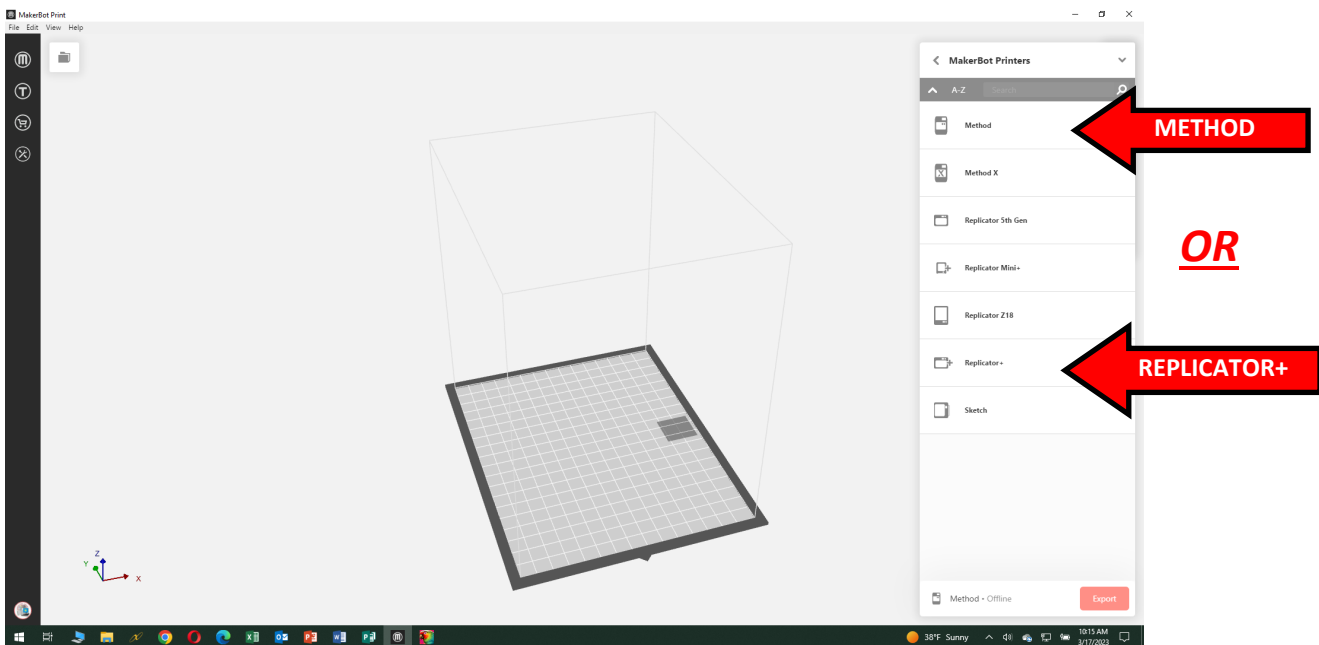
7. Click the **Up Arrow** next to the **EXPORT** button.



8. Click **Add an Unconnected Printer**.



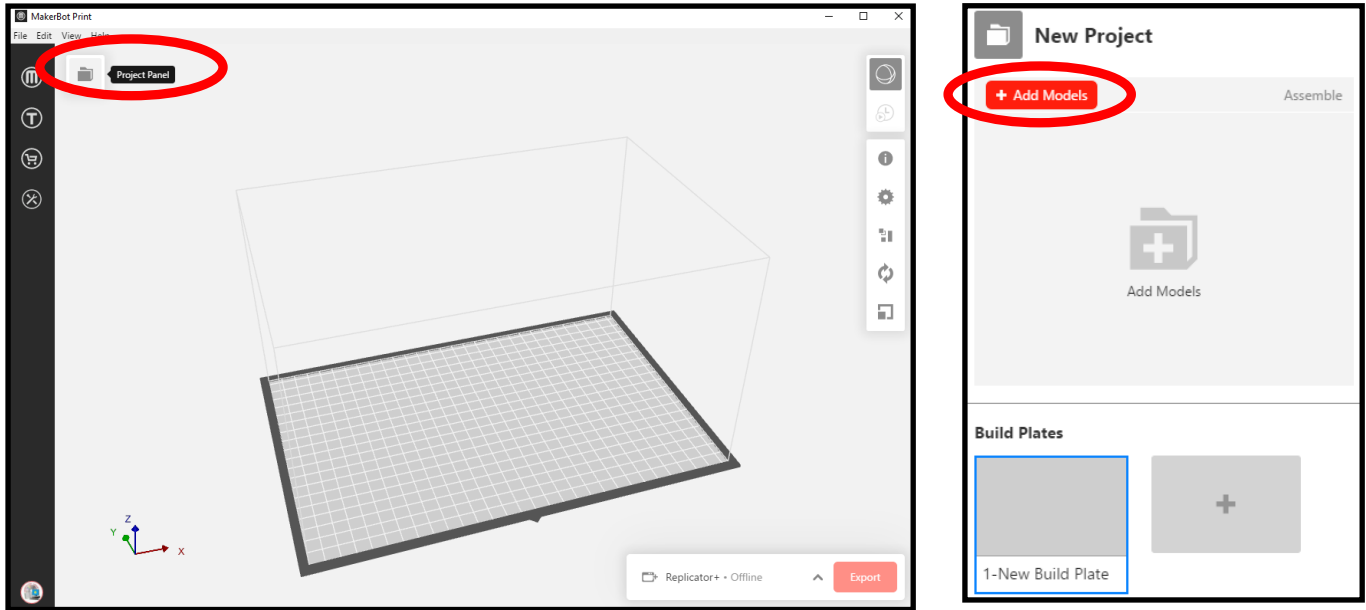
9. Click on **Method** or **Replicator+**



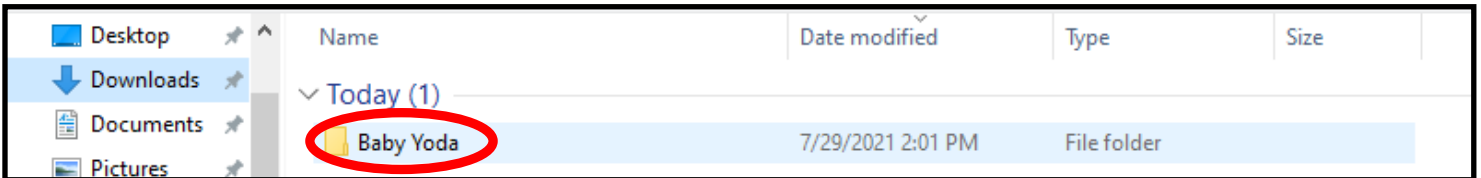
REPLICATOR+ INSTRUCTIONS

FOR *METHOD* INSTRUCTIONS GO TO *STEP 15*

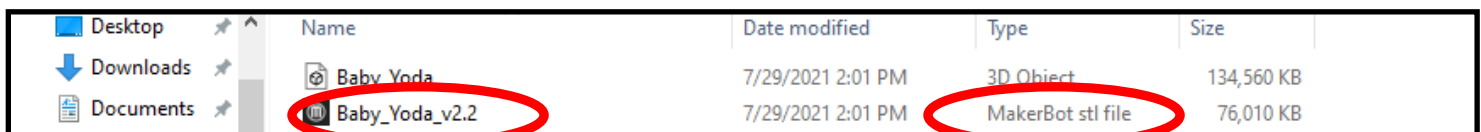
10. Click the top left **Project Panel** and then click **+ Add Models**.



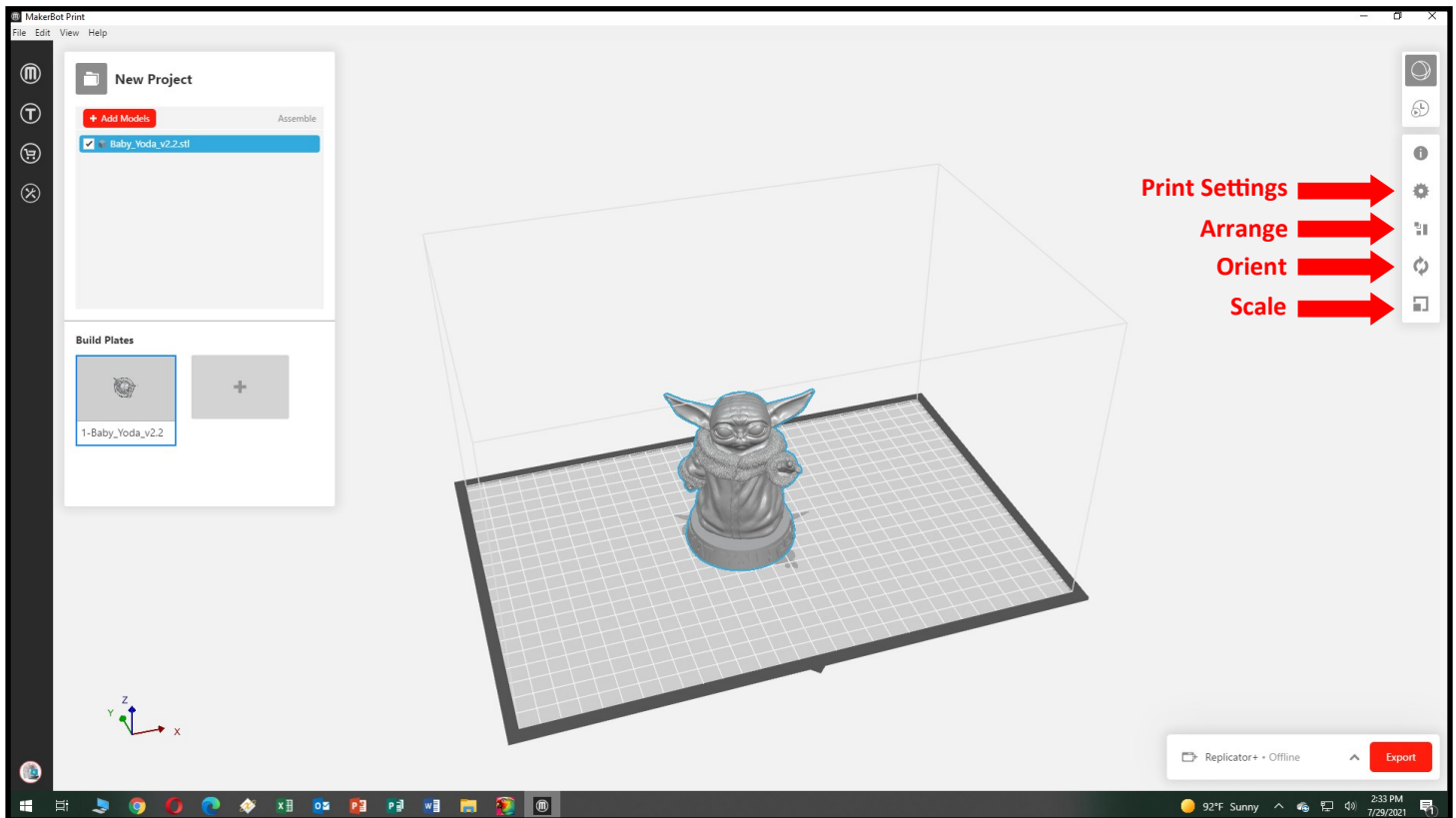
11. Find your project in the **Downloads** folder and double-click it to open it.



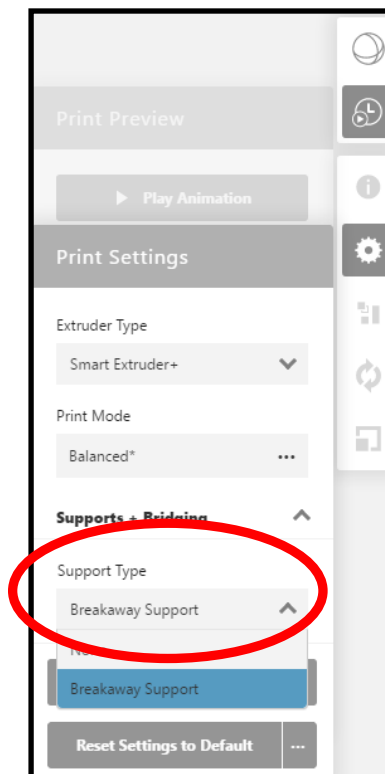
12. Double-click on the **Files** folder, then select the **Makerbot stl** file and click on **Open**.



13. Depending on your project, you may adjust the model or change setup. You can move your object around on the build plate by using the **Arrange** button, change its orientation (vertical, sideways, etc.) by using the **Orient** button, or increase or decrease the size of your object with the **Scale** button.



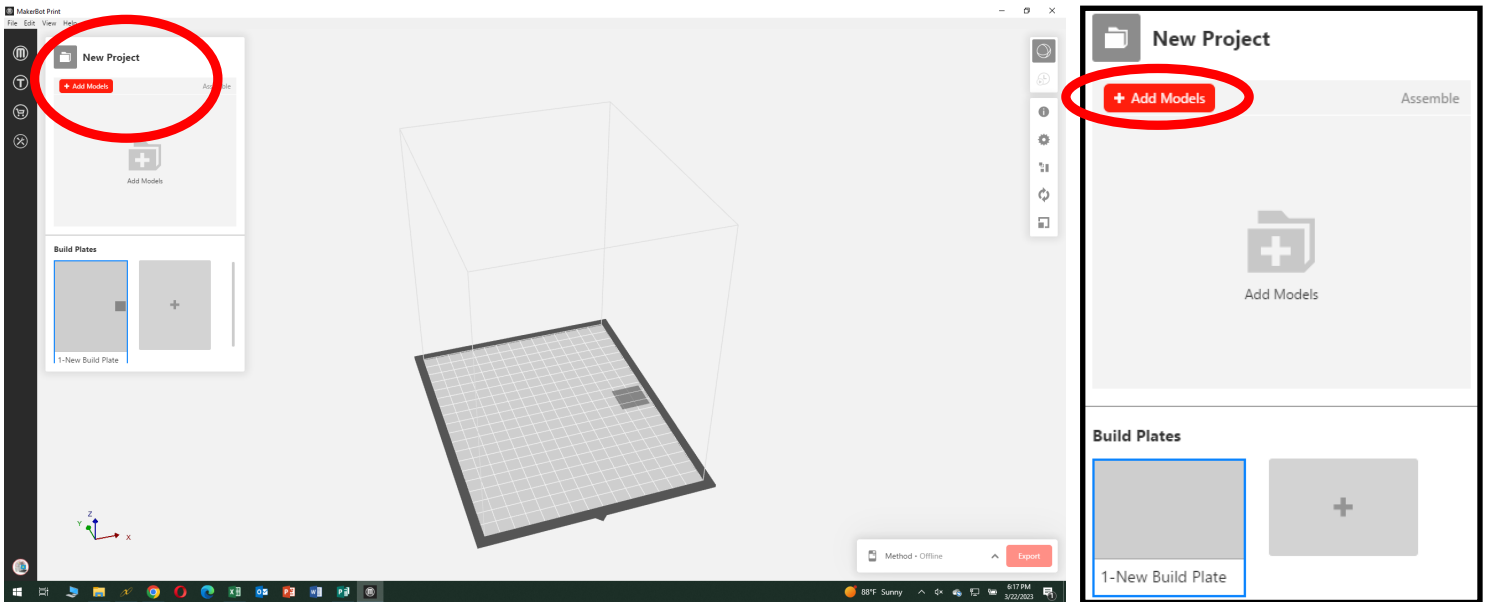
14. Many 3D projects will require supports. If part of the object extends out into mid air (such as Yoda's ears above) it will need supports. Click the **Print Settings** button and select **Breakaway Supports**.



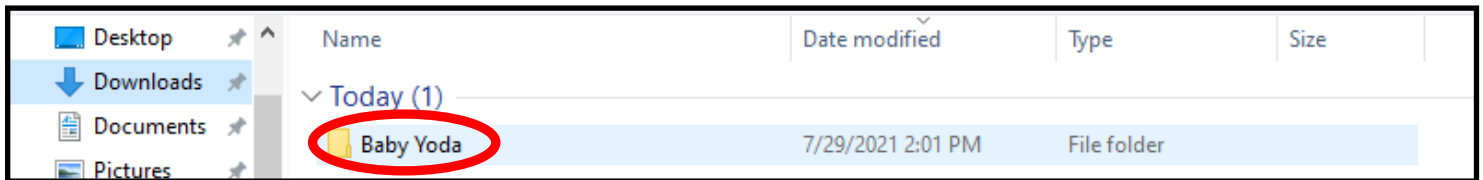
TO CONTINUE, GO TO STEP 21 ON PAGE 10

METHOD INSTRUCTIONS

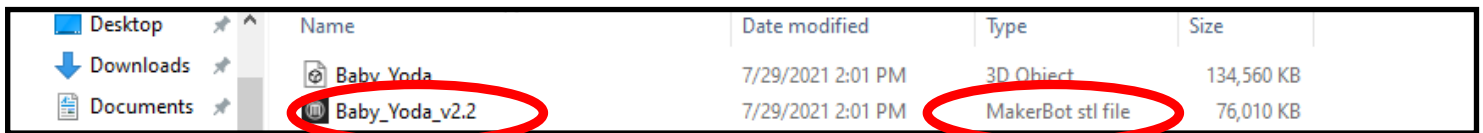
15. Click the top left **Project Panel** and then click **+ Add Models**.



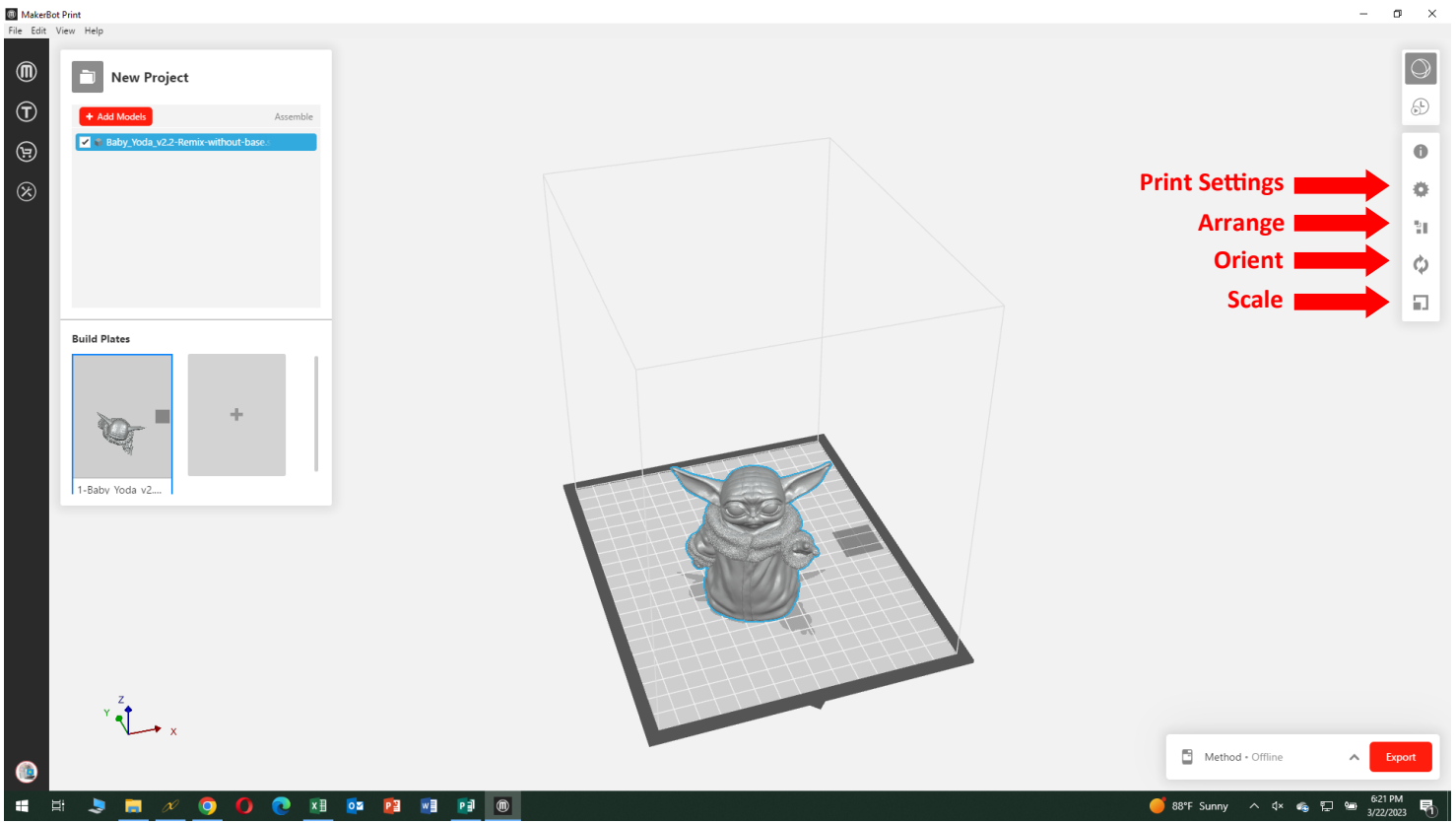
16. Find your project in the **Downloads** folder and double-click it to open it.



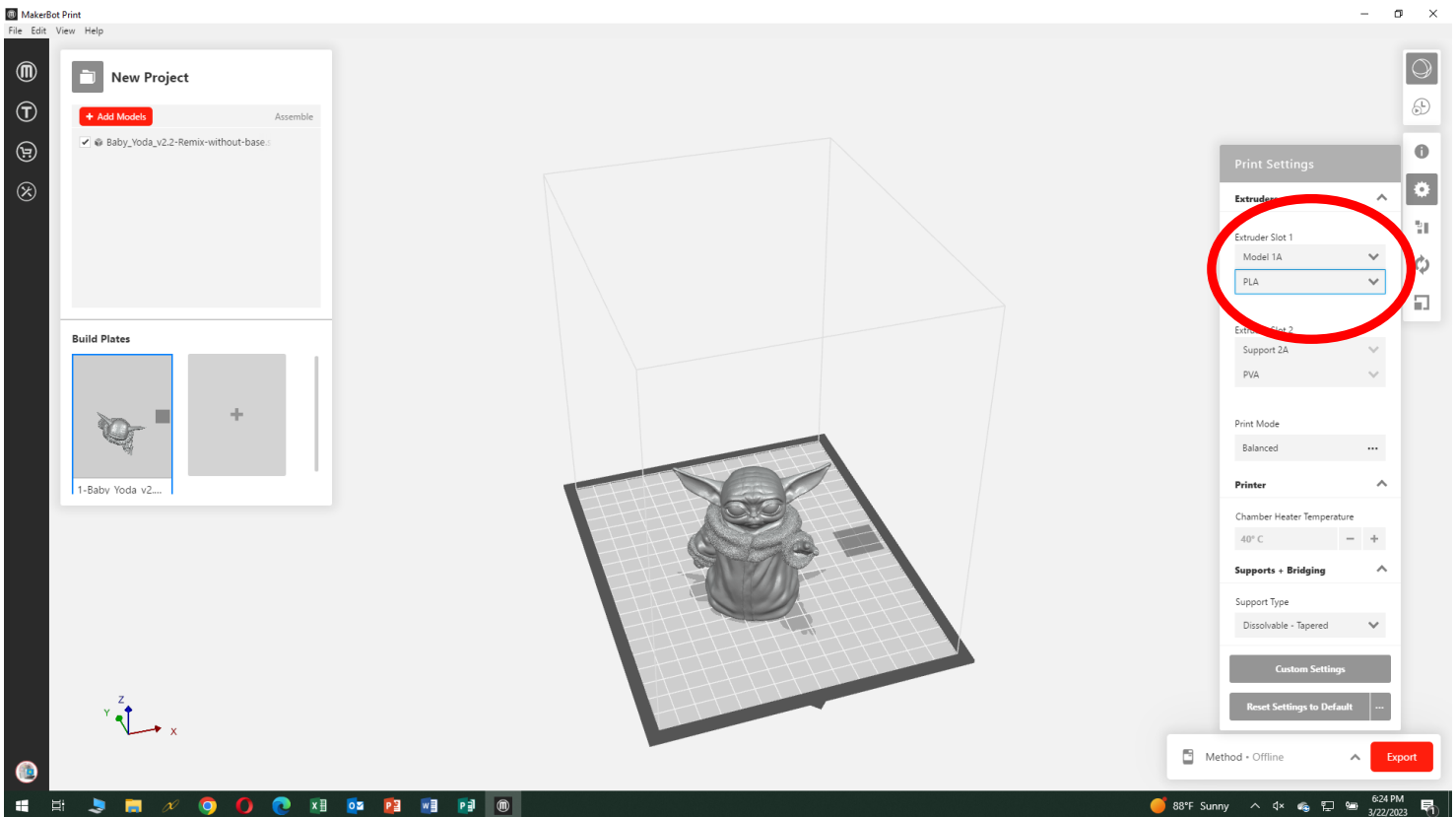
17. Double-click on the **Files** folder, then select the **Makerbot stl** file and click on **Open**.



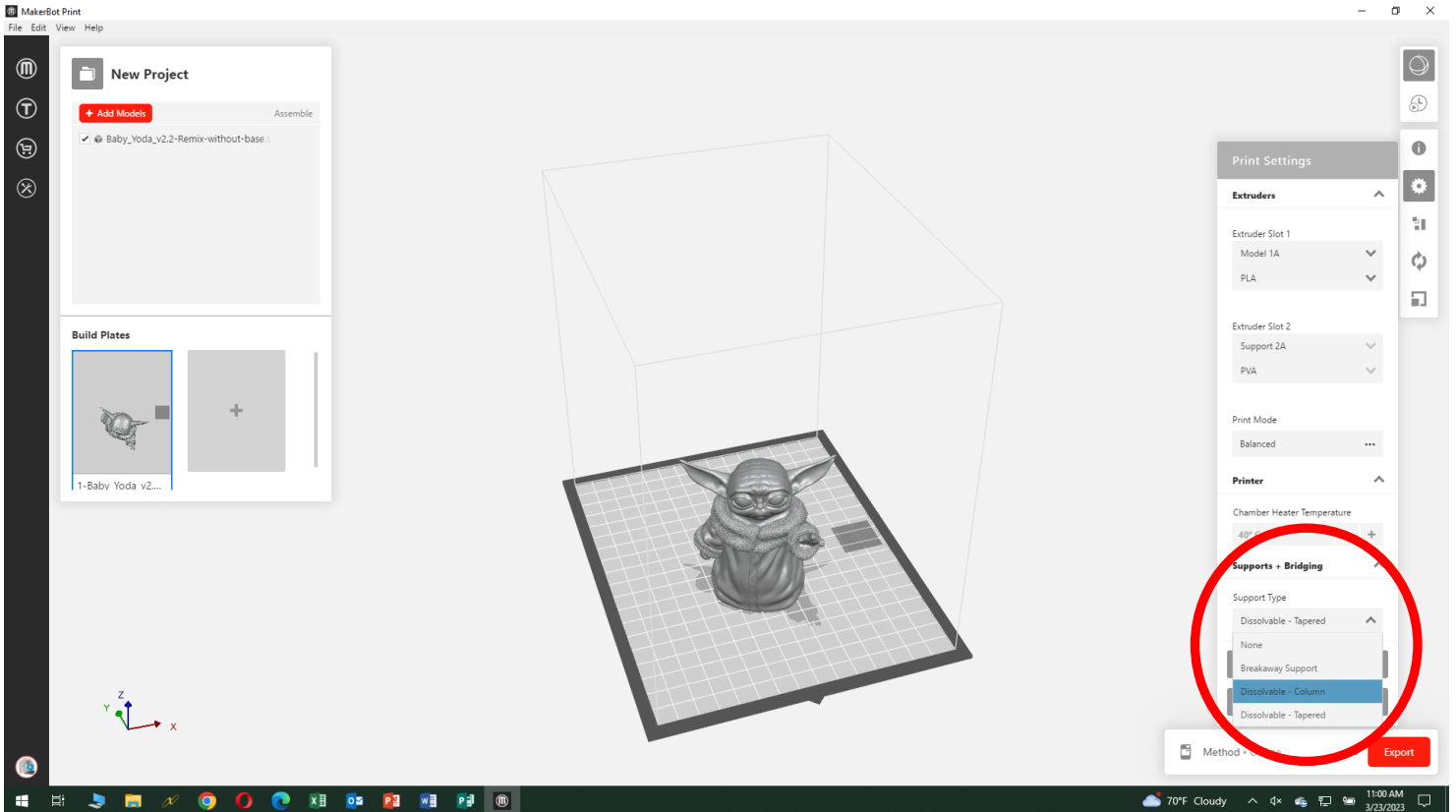
18. Depending on your project, you may adjust the model or change setup. You can move your object around on the build plate by using the **Arrange** button, change its orientation (vertical, sideways, etc.) by using the **Orient** button, or increase or decrease the size of your object with the **Scale** button.



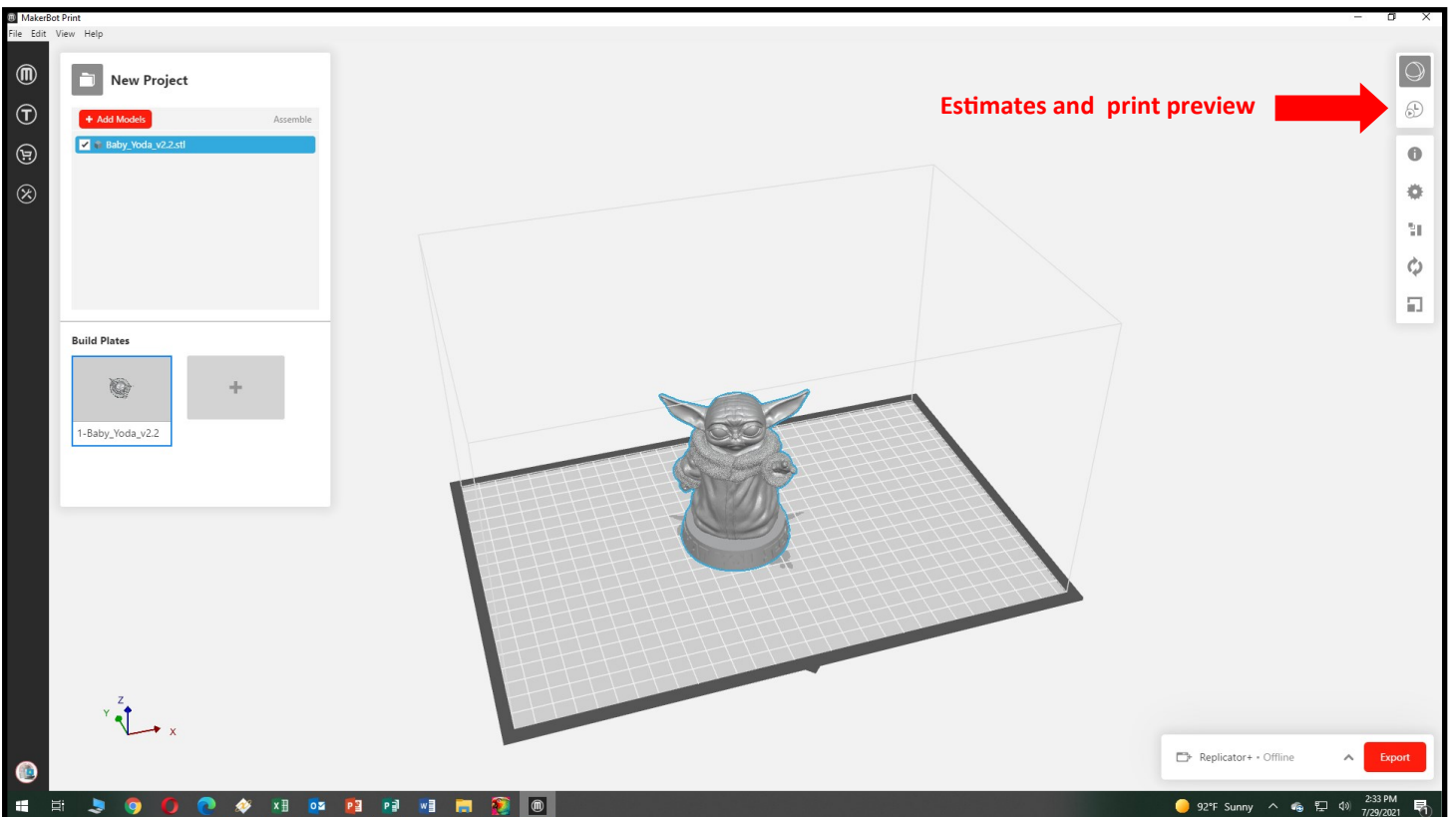
19. Click on **Print Settings** and select the correct filament for **Extruder Slot 1**. This must be set to **PLA**.



20. Choose the type of supports. **Breakaway Supports** are more time-consuming to remove. **Dissolvable Supports** can be removed by submerging your print project in warm water.



21. Once all settings are as you want them to be, click the **Estimates and print preview** button. This may take a few minutes.

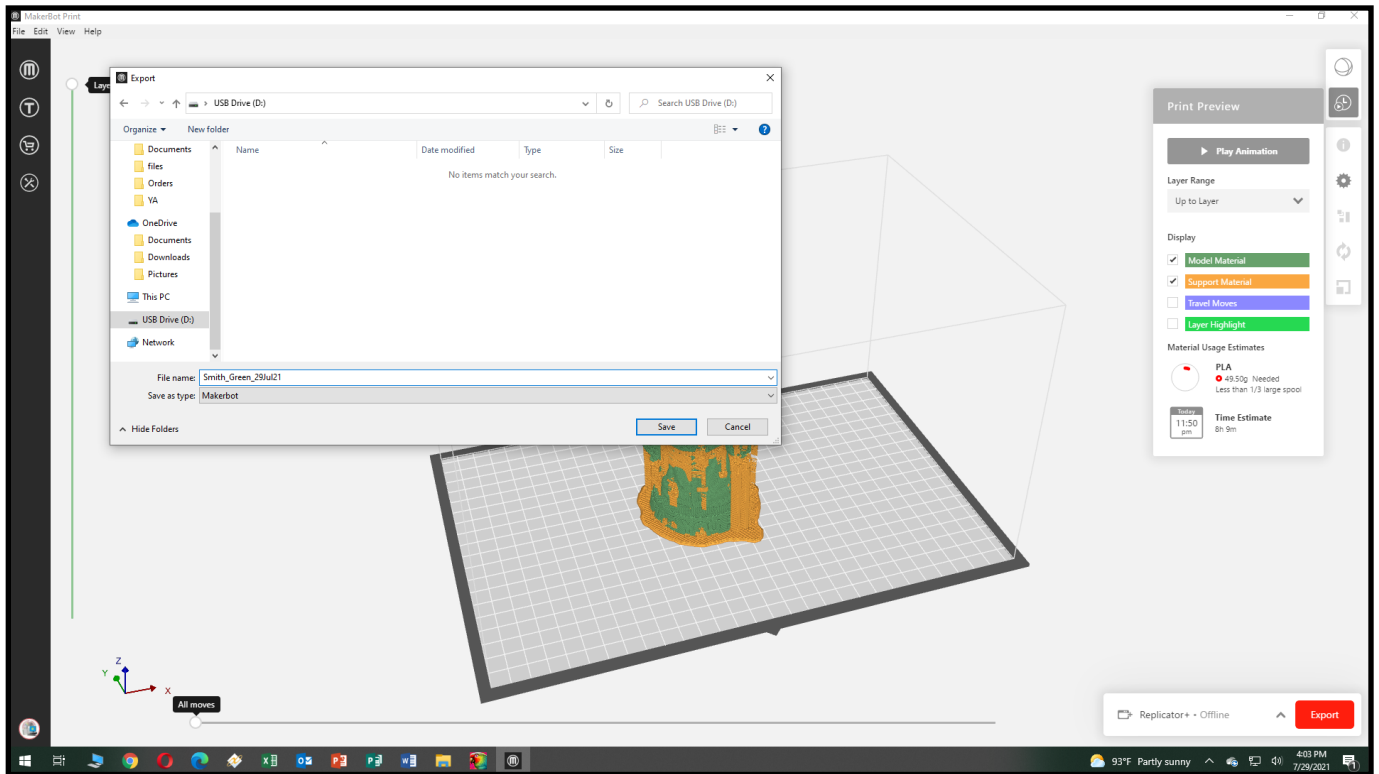
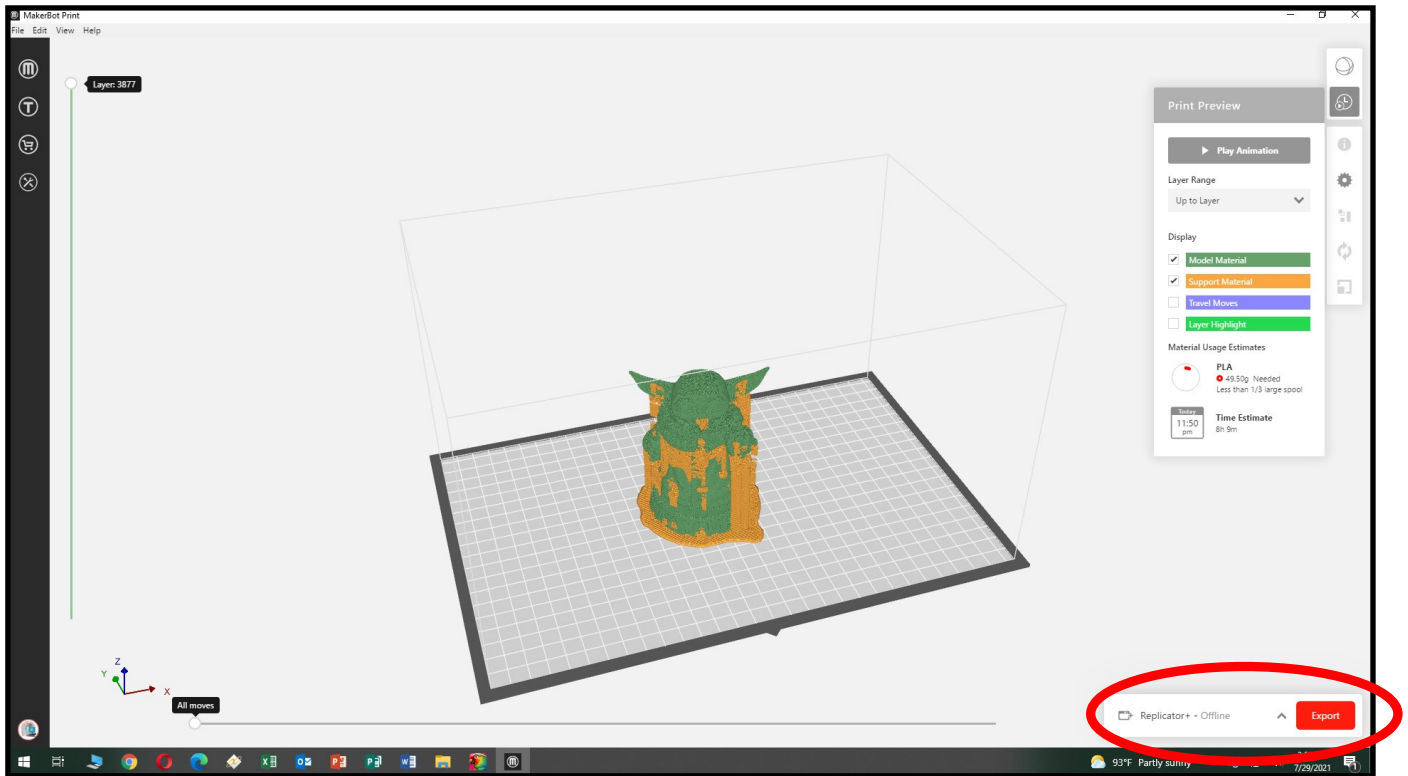


22. Note the **Time Estimate** for your project. You are limited to 12 hours of 3D Printer time per month on the Replicator+ and 20 hours for the Method (which takes longer to print.). If the estimate exceeds this time limit, reduce the scale of your project and click **Estimates and Print Preview** again.

The screenshot shows the 'Print Preview' interface with the following elements:

- Print Preview** (Header)
- Play Animation** (Button)
- Layer Range** (Dropdown menu set to 'Up to Layer')
- Display** (Section with checkboxes):
 - Model Material
 - Support Material
 - Travel Moves
 - Layer Highlight
- Material Usage Estimates** (Section):
 - PLA: 49.50g Needed (Less than 1/3 large spool)
- Time Estimate** (Section):
 - Today: 11:50 pm
 - Time Estimate: 8h 9m** (Circled in red)

22. Click **Export** to save your file to the USB Thumbdrive supplied by the Library Staff. Navigate to the USB Thumbdrive and please use the file name format **Last Name_Filament Color_Date**, i.e., **Smith_CoolGray_29Jul22**. Do NOT close the Makerbot program until you have verified with the Library Staff that the project is properly prepared.



23. Give the USB Thumbdrive to the Library Staff and let them know the estimated printing time. They will verify that the project is properly prepared and schedule your project for printing.