How to Turn your Minecraft Creations into 3D Models for Printing in

Minecraft: Education Edition

Link to YouTube Video: https://youtu.be/6V_v9vOzG7U

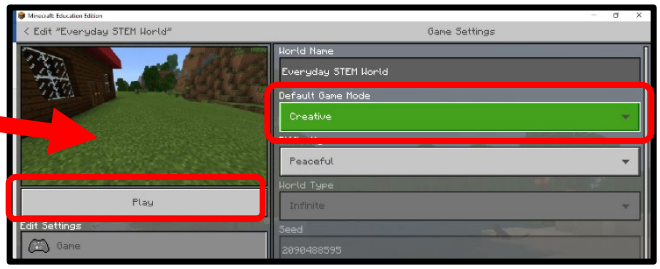
This process will require the following software in a Windows 10 environment:

- Minecraft Education Edition
- Microsoft 3D Builder (available in the Microsoft Store)

Note: The steps in this process can be replicated in other operating systems with software that:

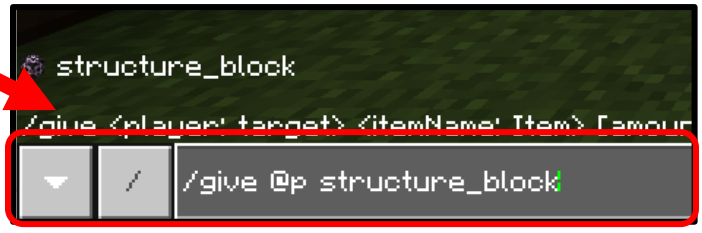
- **Allows you to open exported .glb files from Minecraft**
- **Allows you to save files in a format that your 3D printer slicing software will open**

Step 1: Open or enter a "Creative" world in the Minecraft: Education app.



Step 2: Complete the design and construction of the creation/object in Minecraft: Education Edition you wish to export.

Step 3: Once you have finished your creation, you will need to give your in-game player a "Structure Block" by typing "/give @p structure_block" without the quotation marks.

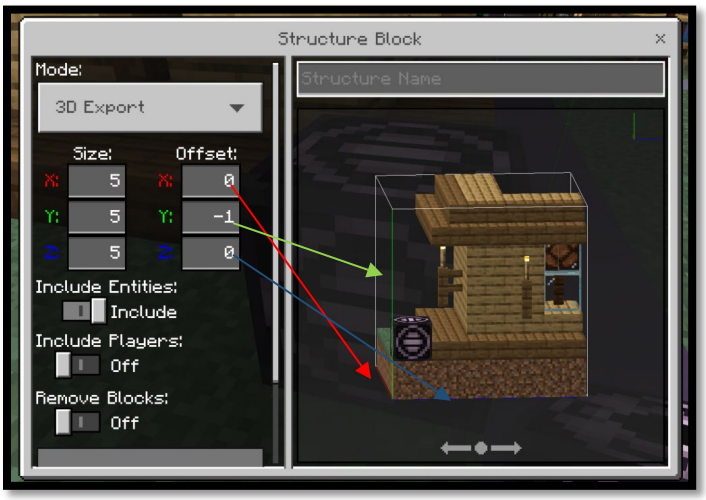


Step 4: You will now see the "Structure Block" in your Hotbar.

Step 5: Place a structure block near a corner of your creation. When you place the structure block a preview box will appear with white, green, red and blue lines, representing the portion of your creation that is being captured. The dimensions can be adjusted in a later step. Find the corner of the creation where the structure block captures at least a portion of your creation and place it.

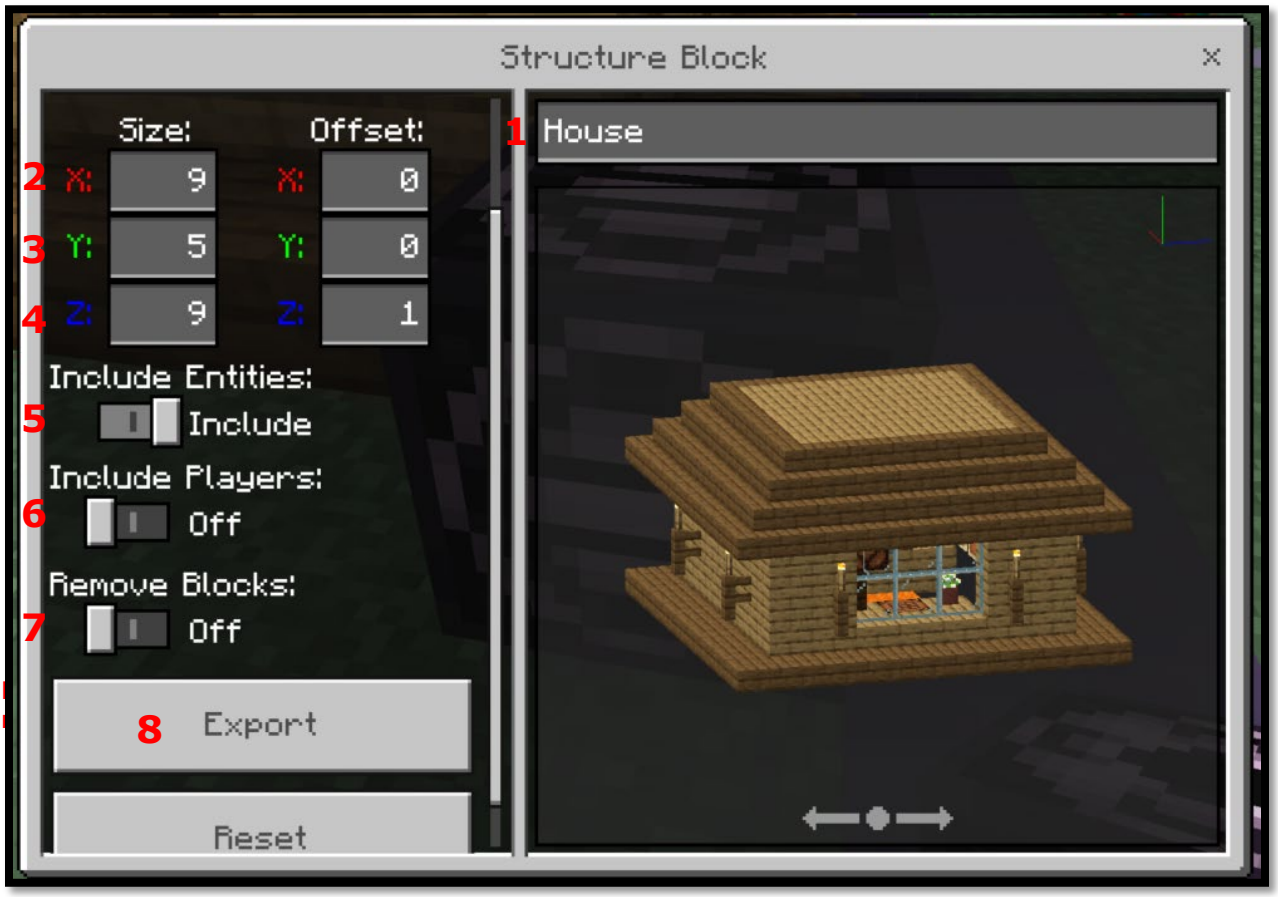
Step 6: Count the number of blocks tall your structure is (Y value), wide your structure is (x value), and deep your structure is (z value). These values will be used to inform how you input your "Structure Block Size and Offset" fields.

Step 7: Right-click the placed Structure Block to open up the Structure Block's settings. You will notice that the entire creation may not be capture on the right-hand preview window.

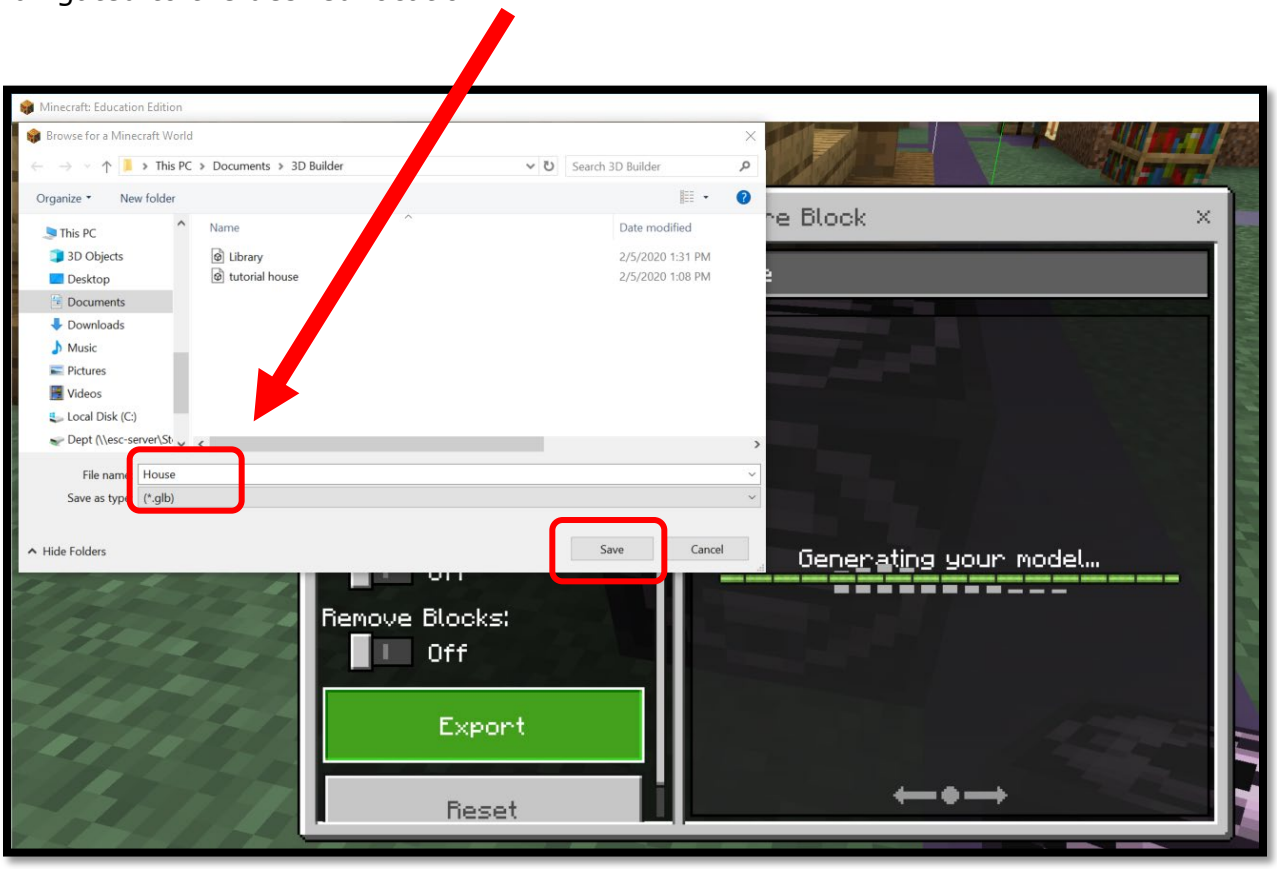


Step 8: Once in the Structure Block's settings, complete the following:

1) Name your Structure.
2) Input the total width of your object in the "X: Size" text-field and how far away from the Structure Block your object extends as a value in the "X: Offset" text-field.
3) Input the total height of your object in the "Y: Size" text-field and how far away from the Structure Block your object extends as a value in the "Y: Offset" text-field.
4) Input the total depth of your object in the "Z: Size" text-field and how far away from the Structure Block your object extends as a negative value in the "Z: Offset" text-field. (Notice a 1 was entered to remove the structure block from what was captured.)
5) Enable or disable the "Include Entities:" option.
6) Enable or disable the "Include Players:" option.
7) Enable or disable the "Remove Blocks:" option.
8) When the object's preview is exactly what you want to export (left-click and drag the preview image around to get a 360° view), left-click "Export" to begin generating your 3D model's file.



Step 9: A File Explorer window will open. Save your 3D model file using the .glb format in the desired location. Left-click the "Save" option when you have navigated to the desired location.



Congratulations! You have successfully exported your Minecraft creation! The next section will share how to prepare your creation for 3D printing as one solid object.

Step 11: Open Microsoft 3D builder on your computer. This program will be needed to:

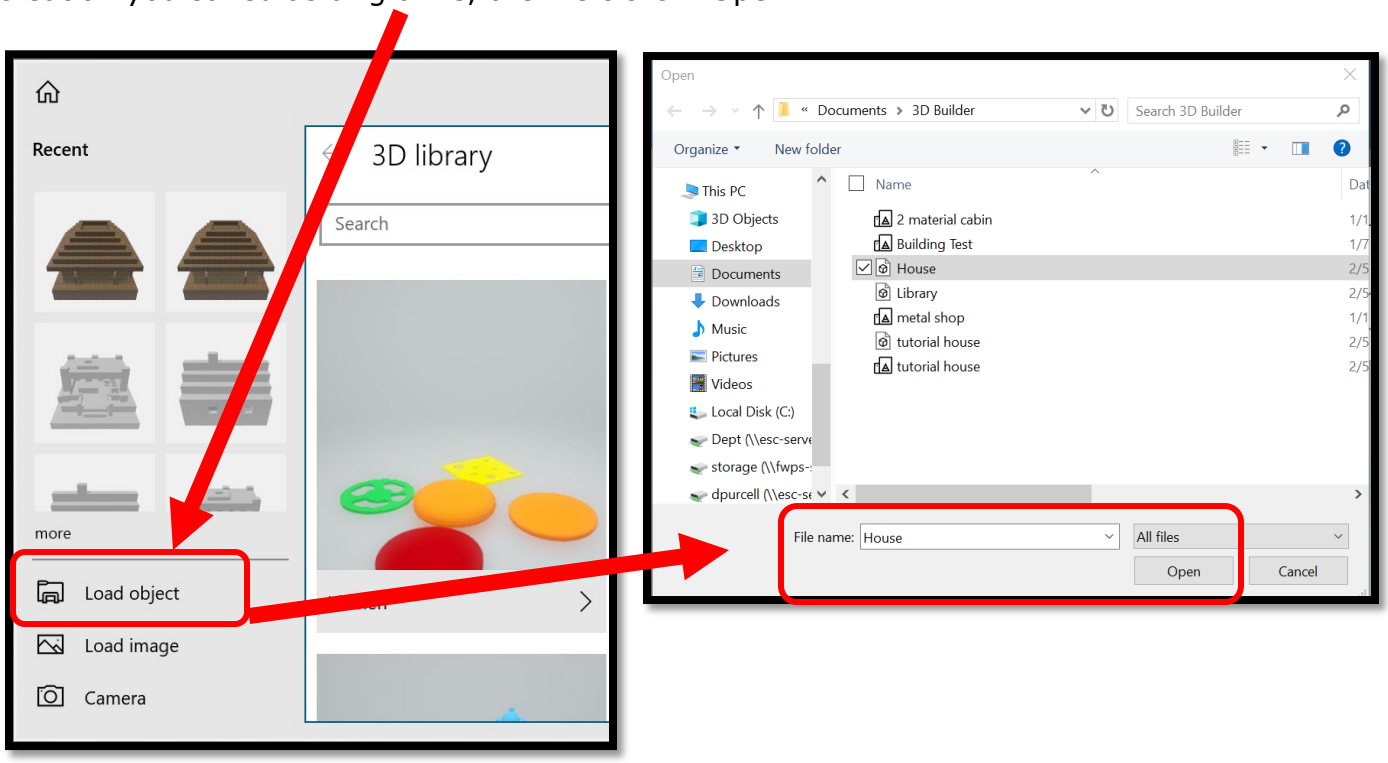
- Merge the separate objects that make up your Minecraft creation. Your creation may be made up of multiple parts that need to be merged before you can successfully convert the model file type to .3MF, which is a file type that can be imported into Afinia Studio, our 3D printing software.
- Save the file in a file format that your 3D printer slicing software will accept. Some examples of file formats that are common are:
  - .STL
  - .3MF
  - .OBJ
  - .AMF

Note: This scenario is assuming you are in a Windows 10 environment. The app 3D Builder is available in the Microsoft Store. Check with your organization to confirm access to the Microsoft Store.

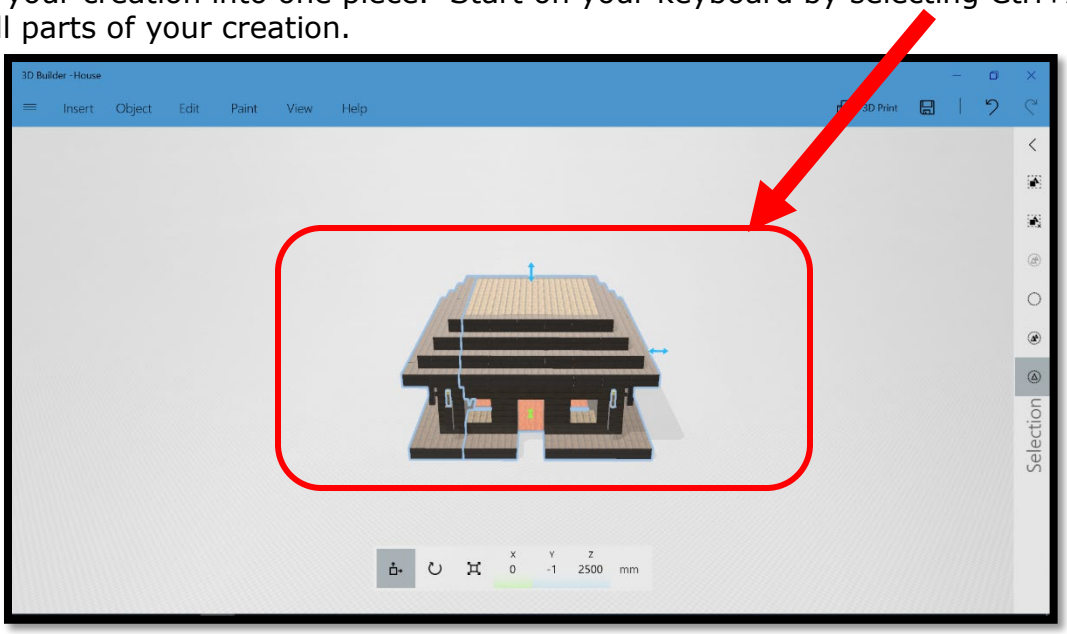
If you are using a different operating system, you can use a different software that serves the same two purposes listed in Step 11.

Step 12: In the 3D Builder opening screen select "Open."

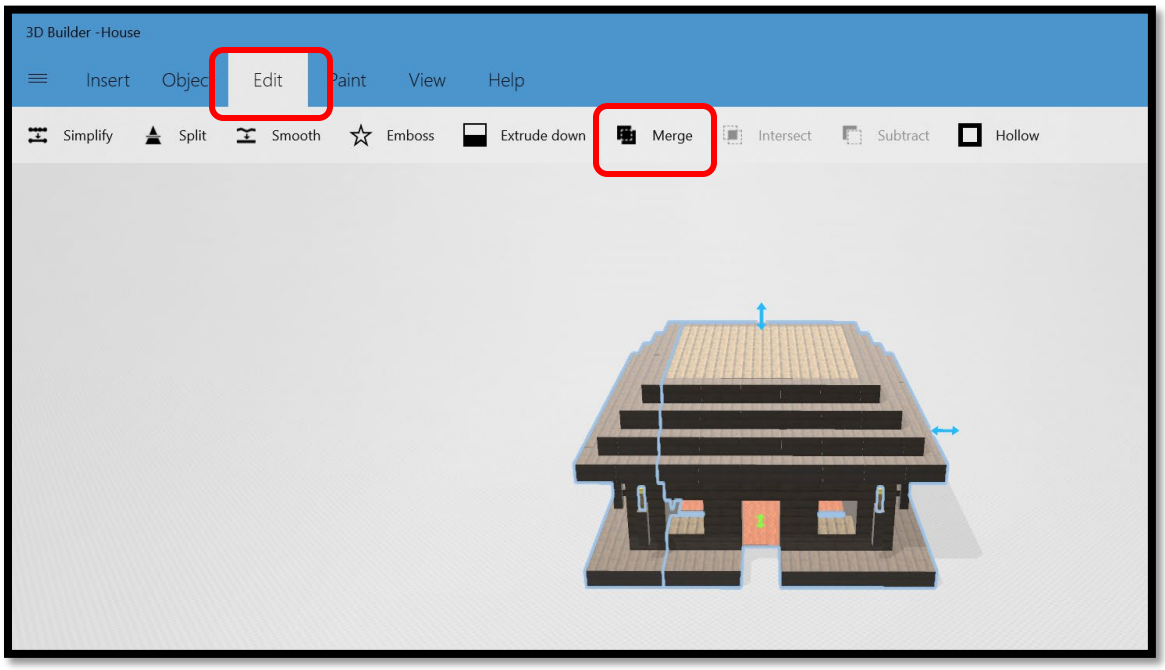
Step 13: In the next window, select "Load Object" to browse for the Minecraft creation you saved as a .glb file, then left click "Open."



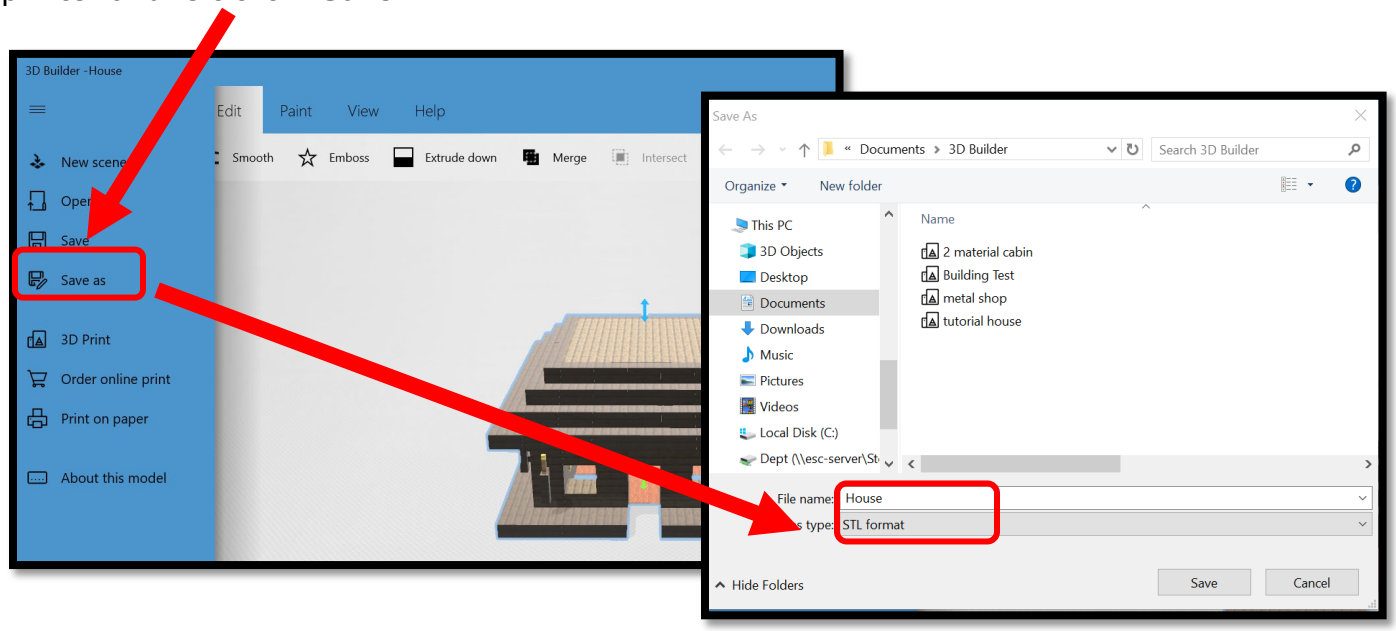
Step 14: Once you see the object in 3D Builder, the first step will be to merge the parts of your creation into one piece. Start on your keyboard by selecting Ctrl+A to select all parts of your creation.



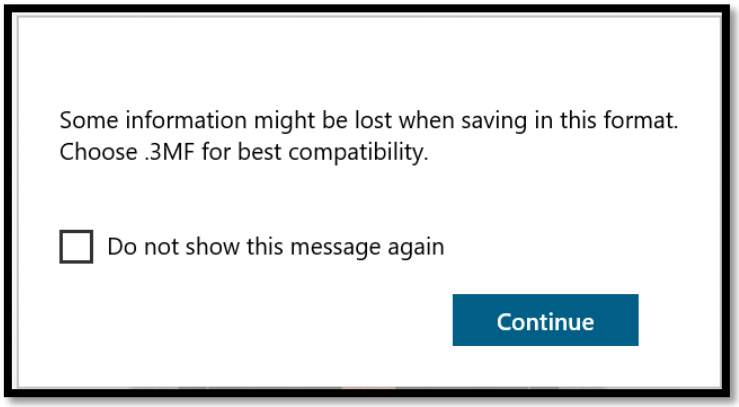
Step 15: With all parts of the object selected, next go to the "Edit" option in the menu bar, then left click "Merge." You will see a progress bar appear in the lower right corner of the window. Once the multiple parts of your creation are merged, it is ready to be saved in an appropriate file format for your 3D printer.



Step 16: To save, click on the three lines in the upper left-hand corner of the window and select "Save as." Then choose the file format that works with your 3D printer and left click "Save."



Note: If you see the warning on the right, click "Continue" to finish the process.



Congratulations! You have successfully merged the parts of your Minecraft creation into one printable piece and saved your creation in a file format compatible with your 3D printer software!

Some additional tips:

- **When you open your Minecraft creation in your 3D slicing software, it may be very large. Be sure to scale it down until you are certain it will fit in your printing platform.**
- **Depending on how intricate your creation is, it may need additional support to print correctly. Be sure to double check supports in your printing software to be sure your models prints properly.**
- **If you have very small or fine components in your creation, be sure to print it large enough for those parts to be printed successfully.**

Works Cited:

This is how you turn your Minecraft creations into 3D models. Microsoft, 2017, news.microsoft.com/en-gb/2017/10/12/this-is-how-you-turn-your-minecraft-creations-into-3d-models. Accessed 21 May 2019.