# Popular 3D Printing Software:

## Design

* TinkerCad, Blender, Fusion

## Slicers

* Cura, Pursa

### Steps to Printing a 3D Model

1. Design or download your model (STL file).
2. Open your slicer and “slice the print.” This will give you a gcode file.
3. Add the gcode file to your memory card.
4. Put the memory card in the printer, and heat up.
5. For PLA Filament, I have the nozzle at 200℃ and the hotbed at 60℃.
6. After the printer is heated up, start your print!
7. Note: Purge lines and skirt will print first (Depending on settings)

### Tips When 3D Printing

* Increase the temperature for smaller prints to help them stick to the hotbed.
  + [Adding a brim, raft, or skirt to the print can also help a smaller print stick to the bed](https://all3dp.com/2/3d-printing-raft-brim-and-skirt-all-you-need-to-know/).
* Any oil, dust, etc. on the hotbed can cause prints to come unstuck…
  + Clean bed with dawn and hot, hot water once a week (helps prints stick)
  + Wipe down the hotbed with rubbing alcohol and a cotton ball after each print (helps print stick)
* Save your failed prints and other filament scraps to melt down in the oven into silicone molds to make other manipulatives
* Use acrylic paint markers and Mod Podge sealer to add color and protection to your prints

### Places to get 3D Models

* **[Paths to Literacy General Link](https://www.pathstoliteracy.org/a-beginners-guide-to-3d-printing-for-tsvis/)**
* [**Round Table 3D Printing Link**](https://printdisability.org/about-us/accessible-graphics/3d-printing/repositories/)
* [**TacTiles 3D Printing for VI**](https://tactiles.eu/database/)**:** 
  + O&M Crossings
  + School Yard
  + Shape Tower Game
* [**Thingiverse 3D Designs for Physical Objects**](https://www.thingiverse.com/psu_vil_and_om/collections/27235416/things)
* [**Braille and Large Print Services 3D**](https://www.thingiverse.com/blps/designs)
* [**Braille and Print Blocks**](https://www.thingiverse.com/thing:1702802)
* [**3D Printing Braille**](https://touchsee.me/)
* **Perkins School for the Blind**
  + [3 D printing](https://www.perkins.org/resource/3d-printer-resources/)
  + [Printing models](https://www.perkins.org/resource/3d-printed-teaching-models/#:~:text=3D%20printed%20resources%20for%20teachers%20of%20students%20with%20visual%20impairments!&text=3D%20printing%20is%20a%20natural,printable%20science%20and%20math%20projects)
* [**3D Models Donated**](https://see3d.org/)
* **3D Models Databases (collections of *all types* of 3D models)**
  + [You Magazine](https://www.youmagine.com/)
  + [Thingiverse](https://www.thingiverse.com/)
  + [Yeggi](https://www.yeggi.com/)
  + [Printables](https://www.printables.com/)
  + [Cults3d](https://cults3d.com/en)
  + [My mini factory](https://www.myminifactory.com/)
  + [Pinshape](https://pinshape.com/)
* **Assistive Writing/Drawing Guide**
  + [model 753450](https://www.printables.com/model/753450-drag-assistive-writing-and-drawing-device)
* **Models of the Eyes**
  + [model 381790](https://www.printables.com/model/381790-human-eye-anatomy)
  + [Thing:2833672](https://www.thingiverse.com/thing:2833672)
  + [Thing:3117478](https://www.thingiverse.com/thing:3117478)

### TinkerCad Helpful HintsScale. Resize your shapes in all 3 areas by using the shape handles and dimension boxes.Move & Rotate. Transform the position of your shapes in the workspace by using the move and rotate tools.Navigate. Navigate around the Tinkercad workspace by using the orbit, pan and zoom tools.Place. Select predefined shapes and place them into the Tinkercad workspace.



