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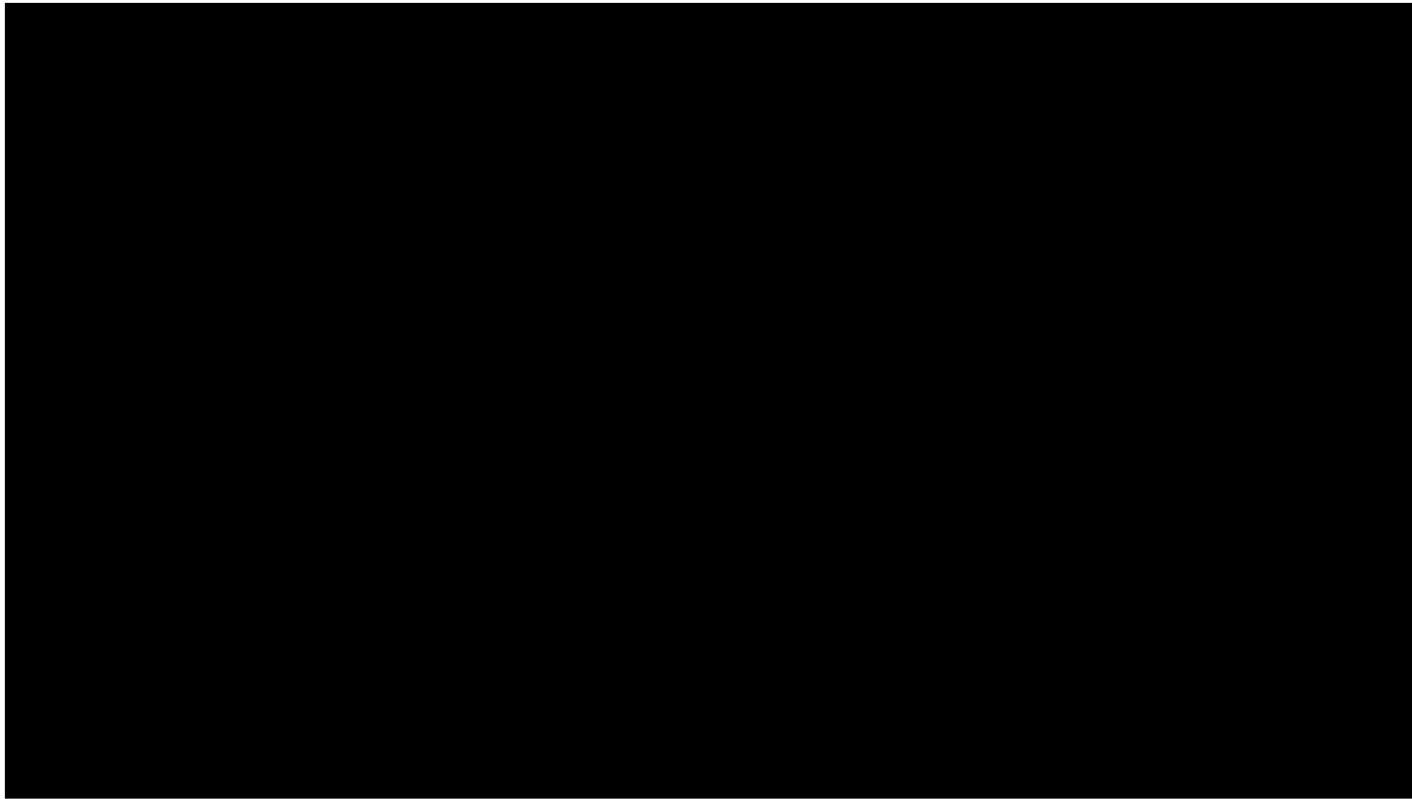
3D Printing

Where to Learn More

- <http://skokielibrary.info/resources/online-training-tutorials/>



3D Printing Defined

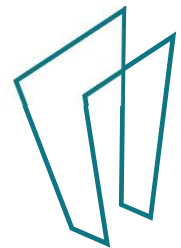
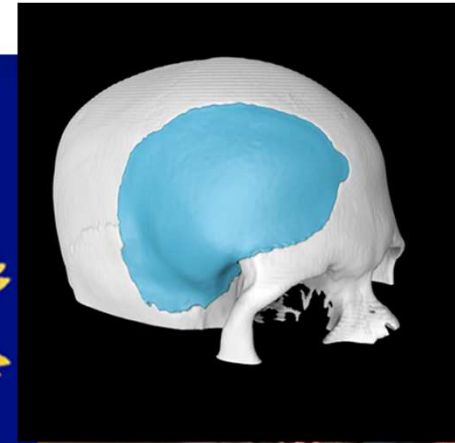
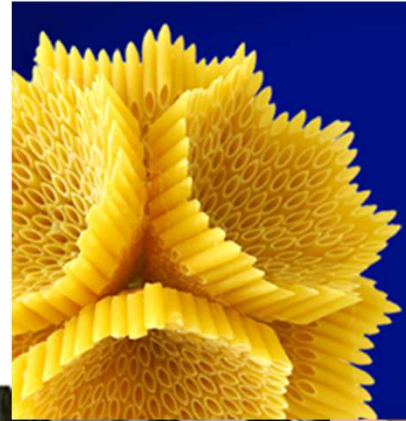


<https://www.youtube.com/watch?v=Vx0Z6LplaMU>



Application for 3D Printing

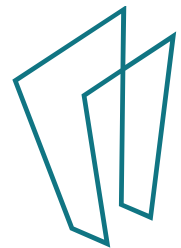
- Prototyping
- Repair
- Art and Fashion
- Medical
- Food



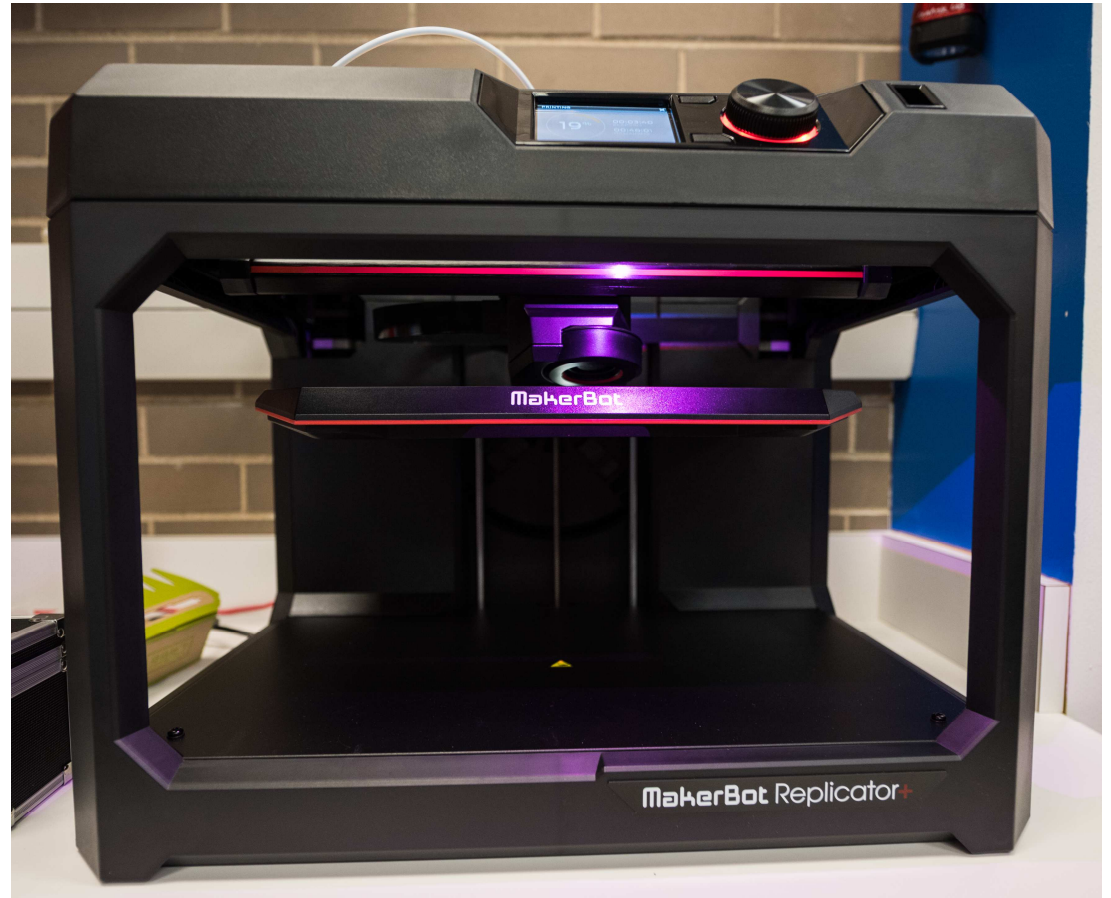
All Made with a 3D Printer



<https://www.youtube.com/watch?v=HCRJlxGfzHI>

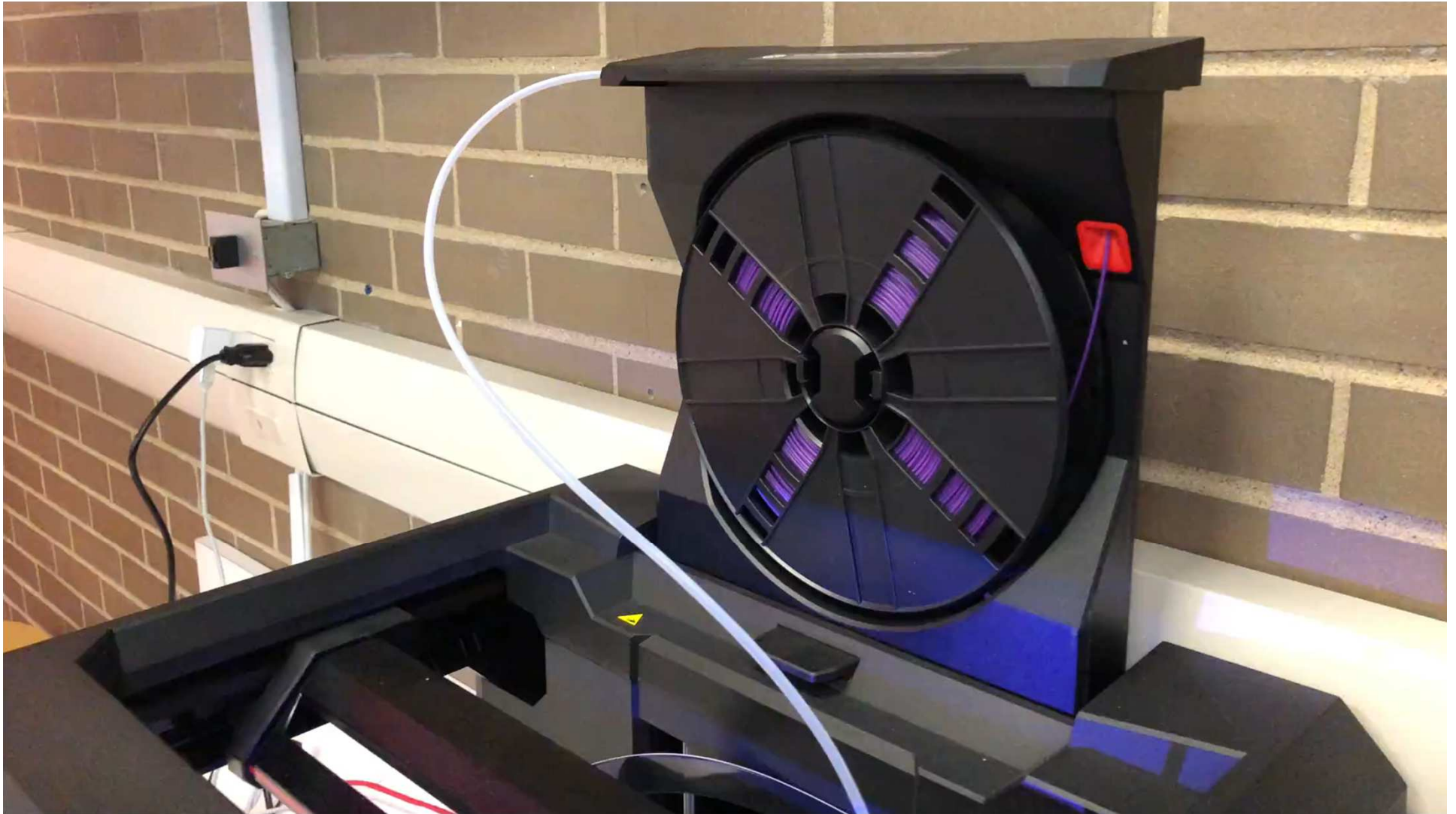


- MakerBot Replicator
- PLA filament
- 10x8x8in print area
- .STL –Standard Tessellation Language

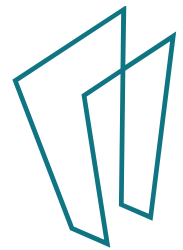


Library 3D Printer





It holds a spool of PLA in back

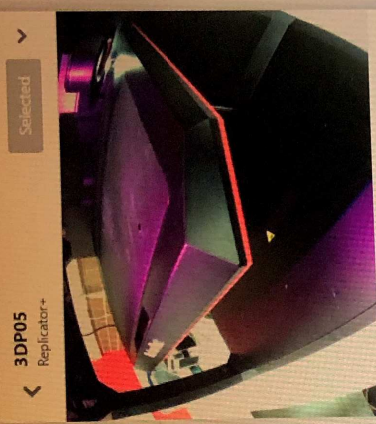




Ready by:
Today
12:41 pm

Time Estimate
8m

 **Material Estimate**
Less than 1/3 large spool
2g (0lb)



3DP05
Replicator+

Selected



Pause



Cancel

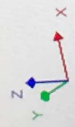


Print



Utilities

Final Heating
Current: 177 °C
Target: 215 °C



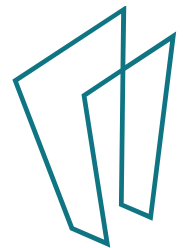
Type here to search

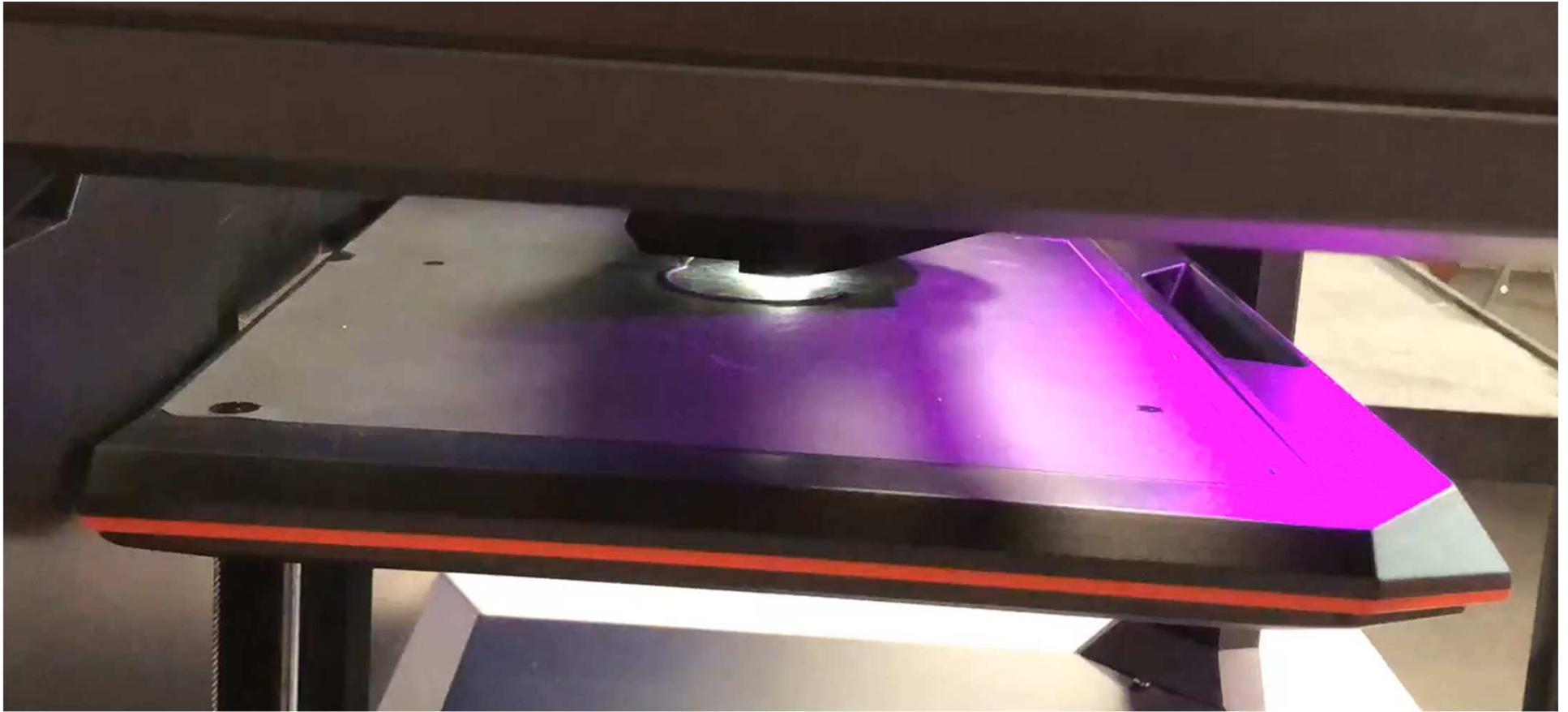
Print

3DP05 - Busy



It initializes by drawing a bead of filament along the edge. Then it creates a “raft” to secure the object.





In this time-lapse video, you can see first the base, then each layer being put down. The item will grow to about 3" tall.

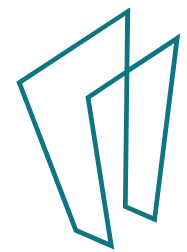




This took 1.5
hours to print

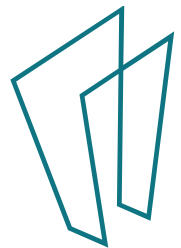


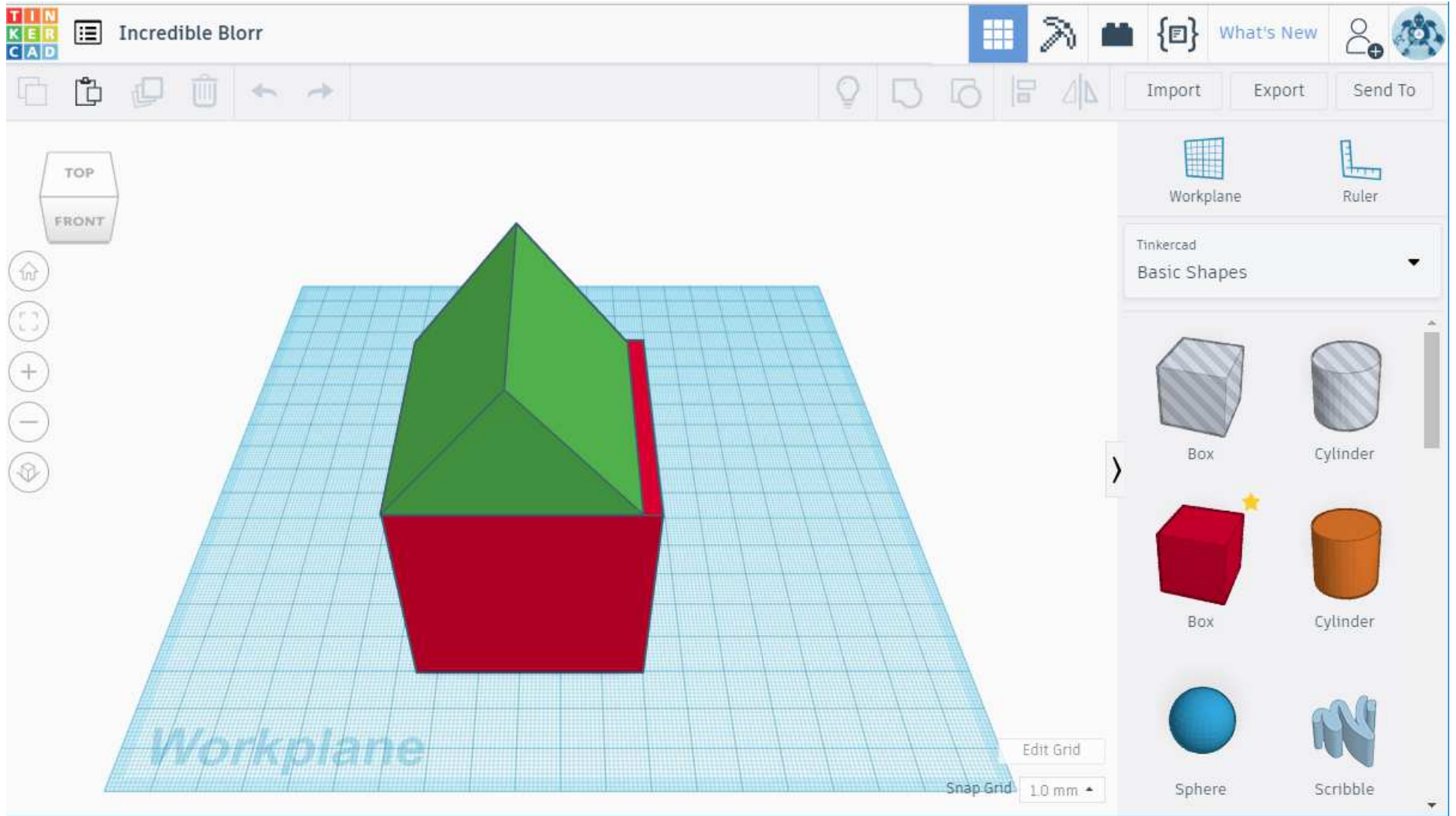
3D Printing Fails



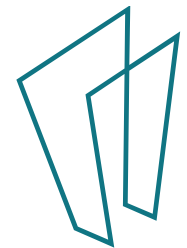
Ways to get a design:

- Design your own using Tinkercad or Blender
- Use a cell phone to scan an existing object (mixed results)
- Find and download a design from Thingiverse or other places.





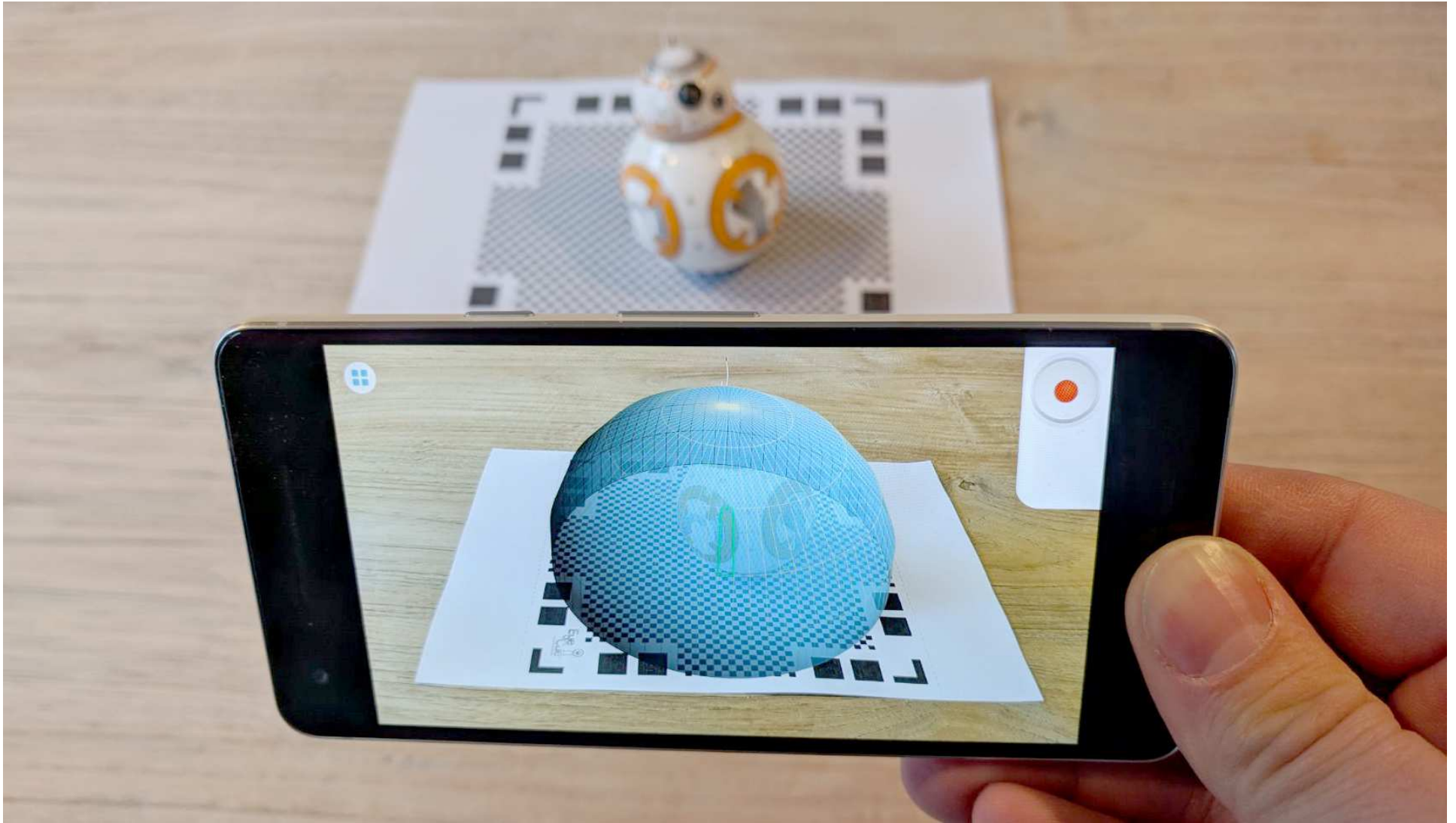
Tinkercad creates simple objects quickly





Blender is more powerful than Tinkercad, but it has a steeper learning curve.



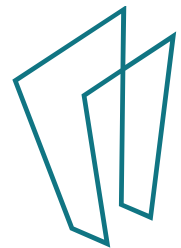


Qlone, 3D ScanR and others are scanning apps for your phone



Powerful software can transform a scan into a sculpture

- Autodesk Alias \$515 a month
- Cinema 4D
- Geomagic Freeform
- Geomagic Sculpt
- Mudbox
- Sculptris
- SolidWorks
- SharpConstruct
- Zbrush \$895
- 3ds Max
- **Blender** ←
- Bryce
- Cinema4D
- Form-Z
- Houdini
- Lightwave 3D
- Maya
- MODO
- Poser
- Rhinoceros 3D
- SelfCAD
- Silo
- **SketchUp**
- Softimage XSI
- Strata 3D
- TrueSpace



Free Design Files



Thingiverse Featured

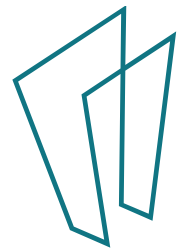
TheGoofy's 3D-printed Watch is a Thing of wonder. It's a mechanical watch with a tourbillon, going barrel, Swiss lever escapement, and a 3d-printed spring. It really works, it's really beautiful, and it's time to make one.

[Learn More](#)



Today's goal:

- Using Tinkercad, create an .stl file and send it to the Library.



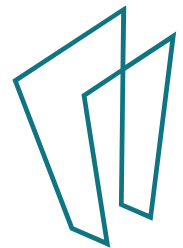
Tinkercad Overview

- Created by Auto-CAD
- Free
- Can create your own ID so you can save your progress.
- Create a new design
- Select a shape on the right column, click and drag it to the workspace.
- Resize shape: length, width, height (x, y, and z axes)
- Color doesn't matter, all objects will be printed using the color we have on hand.
- Can extrude a hole to make a key chain.
- Can use text to customize further.



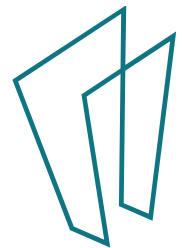


With Tinkercad and our 3D printer,
your design becomes a reality.



Where to Request Prints

- <http://skoki.library.info/services/computers-technology/3d-printing/>



Thank You

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where this presentation will be available
for four weeks.

