

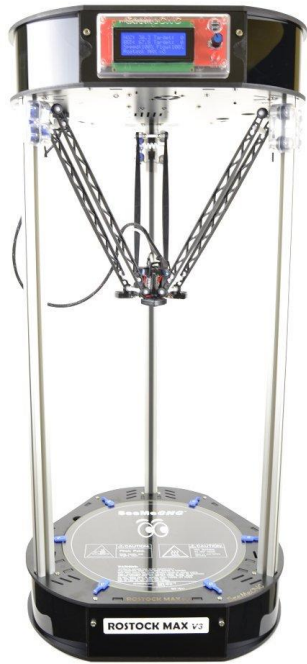
3d Printing

AKA - Additive manufacturing

3D printing -process that adds successive layers of material to create an object



Types of Printers



3D Printing Methods

Two of the most common:

FDM (Fused Deposition Modeling) - Heating materials to fuse layers fo form a printed object

SLA - Stereo Lithography - Resins hardened by ultraviolet light creating chemicaly bonded objects

How do I get 3D objects??

- Repository
 - [Thingiverse](#)

Printable files will have an .stl extension

How do I get 3D objects??

- Scanner
 - Expensive
 - DIY
 - Software

How do I get 3D objects??

- Design with CAD Software(Free----[ish](#))
 - [Tinkercad](#) Little to no experience
 - Limitations - Design limits -Add only
 - [Fusion360](#) -
 - Additive and Subtractive(CAM)

Design to Print

Know your printers specs/limitations

In general:

Overhangs/angles - Anything greater than 45 degrees requires support. Avoid it if you can.

Wall thickness - $>.8\text{mm}$

A Bridge too Far

Size - Can you print it in as a whole, or in pieces?



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From design to substance - Making it Matter

Getting it printed at the Cedar Falls Library

Library Services

If you need more control of materials and settings:

Print it yourself @Cedar Valley Makers

