

3D PRINTING COSTS

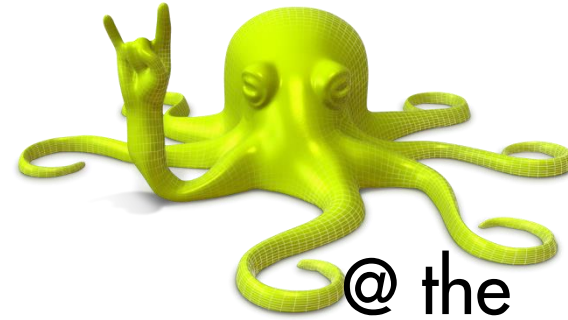
PLA/HIPS: \$3.00 up to one ounce
\$2.00 for each additional ounce

ABS: \$5.00 up to one ounce
\$3.00 for each additional ounce

Completed 3D prints must be paid for at time of pick-up.
No refunds will be given for completed 3D prints.
Library staff will only be able to provide an estimated
cost before printing. Final charges will be based on
completed 3D print weight.

If estimated project cost is \$15.00 or more, payment of
50% of total estimated print cost is due at time of request.

3D PRINTING



Leach
Public
Library

Quick Start Guide

Leach Public Library

417 2nd Ave N

Wahpeton, ND 58075

www.leachlibrarywahpeton.org

(701) 642-5732

leachplib@midconetwork.com



Leach
Public
Library

HOURS

Monday 9:00 AM – 7:00 PM

Tuesday 9:00 AM – 7:00 PM

Wednesday 9:00 AM – 5:30 PM

Thursday 9:00 AM – 7:00 PM

Friday 9:00 AM – 4:00 PM

Saturday 9:00 AM – 1:00 PM

Closed on Saturday Memorial Day- Labor Day

Closed on Sunday

3D Printing at the Leach Public Library: Step-by-Step

1. Find or Design a 3D Model to print.

File format must be .stl [STereoLithography]

Websites with free or paid 3D Models for download:

www.thingiverse.com 3dwarehouse.sketchup.com
www.yeggi.com cults3d.com

Websites where you can design your own via CAD software:

www.tinkercad.com www.autocad360.com
<http://www.sketchup.com/>

2. Provide Library Staff member with .stl file

Files can either be saved to a USB drive, or pulled up via the web on the computer adjacent to the 3D printer. Library staff will upload your .stl file in our 3D print software system, and provide you with an estimated time/cost for your project.

3. Print

If your model meets our guidelines, you will be able to select your material, plastic color, and your 3D model will be queued for printing.

PRINT GUIDELINES:

- Prints will be done on a first come/first serve basis
- All prints over 4 hours are subject to staff approval/printer availability
- Staff will advise you as to the design of your 3D model [see FAQ *Are there any design rules for 3D printing?*]

4. Pay

All completed prints must be paid for at time of pick-up. No refunds will be given for completed 3D prints.

See back of this guide for print costs/guidelines.

FAQs

How does it work?

3D printing takes molten material and passes it through a super-heated nozzle via a robotic arm. The machine will form the material (we use plastic) layer by layer into the desired object. The plastic cools off within a few seconds, so the finished object can be used right away.

Where do 3D designs come from?

There are 3 methods for obtaining 3D designs for printing:

- *Download:* many designs can be found online, copyright-free, for personal use.
- *Scan:* You can take an object that already exists and scan or digitize it to obtain the right dimensions for a 3D replica. (We do not currently own a scanner)
- *Make your own:* Many people use computer-aided design (CAD) software to create their own objects for printing. Some commercial software is very sophisticated, but free online software such as Tinkercad can get you started on the concepts of 3D design.

How long does it take to make a 3D print?

If an object has many layers or a complicated structure, it can take hours to print. Simpler, flatter designs can be finished in as little as 5 minutes.

Are there any design rules for 3D printing?

3D printing does not do well with “overhangs.” Each layer of a 3D model needs a base layer below it, so the machine will have a hard time printing something that hangs out into space. You can add breakaway supports to any overhangs that can be snapped off at the end, but the edges might not be as smooth.