User Guide: 3D Printer

What is it?

With a [MakerBot Replicator+ 3D](#) printer, users can design and create real items, including prototypes. 3D printers lay down thin layers of material, layer by layer until the full design is rendered.

- [MakerBot Replicator Manual](#)

What can I make?

Patrons have created cell phone cases, necklaces, favorite movie characters, pencil holders, hair accessories, tiny dragons, and more.

- [Thingiverse.com](#) provides ideas or models for free that can be downloaded and submitted to print.
- [Tinkercad.com](#) is an excellent website for creating your own designs or tweaking an existing design, and has great tutorials for learning. Look [here](#)for more free design sites. (link to 3D Modeling and Drawing page on our website)

To see full Makerspace equipment usage and rules, see the [Makerspace Policy](#).

What does the Makerspace provide?

- MakerBot Replicator+ printer

  - 8 hour print limit

- PLA Filament
  - $0.10/gram

  - $0.15/gram for specialty colors

What do I need?

- A design to print. See 3D Printing and Scanning <mark>(link to 3D Printing and Scanning @lafourche.org)</mark>

Library staff will then review the request and print the items. Patrons will be notified when their print job has finished. The Library reserves the right to refuse any 3D print that does not comply with policy, size, or time restrictions. If a 3D print is not picked up after 30 days, it becomes the Library's property and a charge will be put on the patron's library card. To see full Makerspace equipment usage and rules, see the Makerspace Policy and the 3D Printer Policy.

Printing designs are not guaranteed to come out as intended and can be affected by any number of variables. The Library does not refund printing fees for completed items which do not come out as intended. The Library reserves the right to refuse any 3D print request.

What materials can I use?

The Makerspace provides different colors of PLA filament to use on the MakerBot Replicator+. The print is weighed at the end and costs 10¢-15¢/gram depending upon the color used. For safety reasons, staff are unable to use filament supplied by the patron.

Learn

- Get started with Thingiverse Learn

- TinkerCad Learn provides tutorials for basic 3D designing

- The YouTube Channels for MakerBot provide videos of real-life applications of 3D printers

- Take an Instructable's online class in 3D Printing

Tips & Tricks

- The standard [settings](#) used for 3D prints are 10% Infill with 0.2mm Layer Height and 2 Shells. Please specify under "Additional Info" if your print requires different settings. Note: Adjusting these setting will increase print time.

NIH-approved files EPL has printed during the Covid-19 Pandemic:

- Face Shield with Visor: https://3dprint.nih.gov/discover/3dpx-013359
  - Recommended settings: 30% Infill Density, No Supports, Raft Enabled, 0.3 Layer Height, 3 Shells
  - Time and cost of item can vary due to print settings. Approximate time is 3.5 hours. Approximate cost is $6.00.
- "Slim" Face Shield: https://3dprint.nih.gov/discover/3dpx-013306?fbclid=IwAR3iuEOTGvFS6oC1slLDC6yG9taQ4IAquviIzUY5kmVqpVm_cXDjnptZpG0
  - Recommended settings: 75% Infill Density, No Supports, Raft Enabled, 0.3 Layer Height, 3 Shells
  - Time and cost of item can vary due to print settings. Approximate time is 1.5 hours. Approximate cost is $2.00.
- Face Mask Strap Helper ("Ear Guard," "Ear Saver," "Ear Comforter"): https://3dprint.nih.gov/discover/3dpx-013410
  - Recommended settings: 80% Infill Density, No Supports, Raft Enabled, 0.2 Layer Height, 3 Shells
  - Time and cost of item can vary due to print settings. Approximate time is 0.5 hours. Approximate cost is $1.50.

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Submit a 3D Print Here