



# 3D Printing at the Moncton Public Library

## TIP SHEET

### A few definitions:

**Filament:** Is what the extruder melts in order to print your object. There different types of filament:

**PLA:** “Polylactide” filament is biodegradable, non toxic thermoplastic derived from natural sources. This is what our printer uses.

**ABS:** “Acrylonitrile butadiene styrene” filament is a thermoplastic polymer filament that is much stronger and resistant.

**Other:** Metals, clays, rubber, porcelain and even edible materials are being used to 3D print.

**Extruder:** The printer “head” that is responsible for melting the raw material and forming it into a continuous flow.

**.stl file:** “Stereolithography” file is the most common file format supported by our printer. Other supported file types are OBJ, THING and MAKERBOT.

**Slicer:** The software that converts the STL file into a series of thin layers to print.

**Makerware:** Makerbot’s proprietary slicer. What we use to take your files and send them to our printer.

**CAD:** “Computer Assisted Design” software is used by architects, engineers, drafters, artists, and others to create precision 3D and 2D drawings or technical illustrations.

**Blender:** is a professional free and open-source 3D computer graphics software product used for creating animated films, visual effects, art, 3D printed models, interactive 3D applications and video games.

**Thingiverse:** website dedicated to the sharing of user-created digital design files.

**3D scanner:** Laser scanners will scan real world objects and create a 3D model.

**Photogrammetry Software:** Photogrammetry is the science of making measurements via photographs. This type of software will extract measurements from ordinary photographs to create 3D models.

### So you want to print something...

3D printable models can be made using CAD software, Blender or other Open Source modeling software, with a 3D scanner or with photogrammetry software. Or you can find a model that someone already made online, in particular via the website Thingiverse.

### THINGIVERSE: [www.thingiverse.com](http://www.thingiverse.com)

Thingiverse is a website dedicated to the sharing of user-created digital design files. Providing primarily open source designs that are licenses through Creative Commons. There are hundreds of thousands of things, and is a great option for people who want something printed, but aren’t ready to do their own design.

### How to 3D print at the Moncton Public Library:

1. Find or design a model. Save the STL file on a USB key.
2. Fill out a 3D Print Request Form: Available on the library website, or ask for one at the Reference Desk
3. Bring these things to the library with a \$5 deposit.
4. We will call you when your object has been printed!