

3D Printing at PRPL

Overview

PRPL provides patron access to our Tinkerine Ditto Pro 3D printer. The printer melts a PLA resin filament and deposits it layer by layer to build up 3D images. The PLA resin is based on corn starch and can be recycled or can be composted using a special process.

TERMS OF USE

1. The printer is available to patrons to make three-dimensional objects in PLA resin using a design that is uploaded from a digital computer file. The Library's 3D printer may be used only for lawful purposes. The public will not be permitted to use the Library's 3D printers to create material that is:
 - Prohibited by local, provincial or federal law.
 - Unsafe, harmful, dangerous or poses an immediate threat to the well-being of others.
 - The PLA resin is not food-grade so it should not be used for making anything that comes in contact with food. Since the surface is not smooth it cannot be cleaned properly.
 - Obscene or otherwise inappropriate for the Library environment.
 - In violation of another's intellectual property rights. For example, the printers will not be used to reproduce material that is subject to copyright, patent or trademark protection.
2. A fee of \$1.00 will be collected for each use of the printer. This fee is to recover the cost of consumables.
3. Only designated Library staff and patrons who have completed 3D Printer Certification will have hands-on, independent access to the 3D printer. This includes training on:
 - How to use the equipment properly and safely.
 - Reviewing the rules and guidelines for using the 3D printer
4. This service is intended to give patrons a chance to experience and develop some expertise in 3D printing. Those wishing to print larger more complex models should contact Powell River Makerspace, www.prmakerspace.com/.

PROCEDURES

The procedure for printing from the Library's 3D printers is as follows:

1. Eligibility:
 - Patrons must have a valid Powell River Public Library card.
 - Patrons must complete a 3D Printer Certification Course demonstrating knowledge of the basics of using the printer in order to use it independently.
 - Patrons under 10 must be accompanied by an adult who has taken the certification course.
2. Design creation:
 - A 3D object can be created using a CAD program or downloaded from an online source such as Thingiverse.com.
 - The Library recommends Tinkercad as an easy to use CAD program. Training can be found on Lynda.com.
 - Any 3D drafting software may be used to create a design as long as the file can be saved in .stl or .obj.
3. Printing
 - Patrons may sign up for 2 hour slots at the Service Desk.
 - Sign in at the desk at the beginning of your slot.
 - Printing is limited to 10 grams and must be completed in your slot.
 - Only one slot per week may be reserved.
 - All printing must be completed within the reserve period.
 - Patron will print with the filament colour in the machine, changes are not allowed.
 - Slots that are not reserved are available on a first come basis 30 minutes before the start of the slot.
 - The .stl or .obj file needs to be prepared for printing using the Tinkerine Suite. It is available on library computers or can be downloaded from <http://tinkerine.com/tinkerine-suite/>.
 - The file must be downloaded to an SD card to transfer it to the printer.

Printer Specifications

- Maximum Build Volume 21.5x16x22 cm (8.4x6.3x8.7 in.).
- Layer Resolution 50 to 300 microns (0.05-0.3 mm).
- Print speed 120 mm/s.