



MakerBot Replicator+

What can it do?

The MakerBot Replicator+ creates 3-dimensional objects like models, toys and tools. It does this via a simple method of feeding plastic filament from a spool through a superheated nozzle that turns the plastic filament into a liquid that is then applied layer upon layer to a printing bed. This process will be continued until the very last layer – the tip of the iceberg – has been applied.

What should you know?

The key term in 3D printing is 'additive manufacturing'. That is the principle of adding layer upon layer of a material until you have manufactured the shape you want. The introduction of cheap, accessible additive manufacturing to households and businesses in the form of 3D printers is leading to great strides in economical engineering, and home prototyping.

Now, to actually print something we need to do the following:

1. **Visit staff at the Tech Desk.** Come see us so we can check your booking, sign the appropriate forms and supply you with plastic filament if you have not brought your own.
2. **Obtain a digital 3D model.** A 3D model is a digital file created using 3D modeling software. You can create your own using software such as **Sketchup, Blender, AutoCAD** etc. or you can download pre-made models from websites such as www.thingiverse.com. Save them to a flash drive and bring them with you.
3. **Get a MakerBot account.** You will need an account to log in to MakerBot Print. If you do not have one, you will be prompted to create one in the next step.
4. **Open MakerBot Print.** Log into or create your MakerBot account, select the printer and import your model into MakerBot Print to begin. Here, you will be able to manage settings like infill percentage, size and bed placement. You can also get a time estimate for your print.
5. **Prepare to Print.** Make sure the printer is on and prep it for printing using the following steps:

- a. For proper bed adhesion, we recommend using blue painter's tape and washable glue stick (both are provided when you check out this device). Apply the tape to the print bed in a single layer with as little overlapping as possible. Add glue just before printing.
- b. Navigate to "Filament" on the MakerBot's on-board display or in the MakerBot Print software and select "Load Filament". The device will chime and begin to warm up the extruder. Place the filament spool in the spool holder, **feed the filament through the guide tube and, when the printer is ready, insert the filament into the extruder until you feel a slight pull. When you see material coming out of the nozzle, end the loading process by pressing the navigation wheel on the device.

****Please be careful to keep a hold on the free end of the filament while loading. If it is released, it may tangle and cause issues with printing.**

It may feel unfamiliar the first time you do all of these tasks, however that is half the fun. The other half is actually printing something. Examples of what you can print are endless. Try searching www.thingiverse.com for your favorite animal or pop culture references like Star Wars, Star Trek etc.

We at Do Space, want to light your creative fires. That is why we have provided the hardware, the software, the lab space, the instructional classes and the human resources for you to keep stoking that creative fire. To book the MakerBot Replicator+ for use please visit our website at www.dospace.org and click on **Technology > Tech Reservations**.

Where to find materials?

We have several different colors of MakerBot PLA available to choose from.

Online

Store.makerbot.com