

## Getting Started with 3D Printing: A Beginner's Guide (Bambu Lab X1E Focused)

### What is 3D Printing?

3D printing is the process of turning a digital 3D model into a real, physical object by layering melted material (typically plastic) one layer at a time.

To print at the Longmont Public Library, you will need to first go through a One-Time Orientation with staff. This can be scheduled for the first 30 minutes of your first reservation or at a different time. Please see Computer Lab Staff or Call 303-651-8769 to schedule your orientation!

Reservations are limited to up to 5 hours a week per individual. When creating or searching for a 3D model, especially for your first print, think small, think simple, and think creative!

### Your First Goal: Print Something!

Instead of diving straight into modeling, we recommend starting by printing an existing design. There are thousands of amazing free models online.

#### *Best Sites for Free 3D Models:*

- [Printables](#) – Clean UI, lots of tested prints.
- [Thingiverse](#) – Massive library.
- [Thangs](#) – Geared towards functional and technical prints.
- [Cults3D](#) – Free + paid models, well categorized.

Look for models labeled as:

- "PLA-compatible"
- "No supports required" (for easier prints)
- "Beginner-friendly"

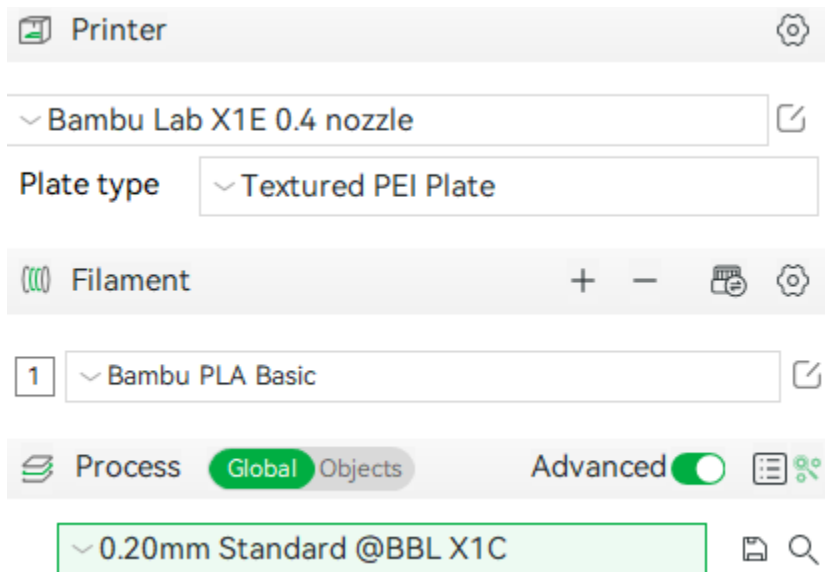
Once you have your file, it is important to slice it. From the sites above you'll likely download an .STL. Once you have your .STL, see staff to check out one of our 3D Printing Laptops. We have **Bambu Studio** installed so you can slice the .STL. This will give you a .3MF file, which is required by our **Bambu Lab X1E** printer.

### ◇ Slicing and Printing Steps (Library Setup)

1. **Open Bambu Studio** on the library laptop.
2. **Drag and drop** your .STL file into the workspace.
3. Choose a print profile (e.g., **0.2 mm Quality** is great for general use).
4. **Make sure that the Printer is set to "Bambu Lab X1E 0.4 nozzle".**

5. The Filament should always be Bambu PLA Basic unless discussed by staff prior to use.
6. Adjust basic settings as needed (ask staff for guidance):
  - a. Layer height
  - b. Infill
  - c. Supports (turn off for simple prints)
7. Click **Slice** – this generates a .3MF file for printing.
8. Save the sliced file to the USB drive provided by staff.
9. Insert USB into the printer and follow on-screen prompts to start your print.

#### Example Settings:



### Materials: Use PLA

PLA (Polylactic Acid) is the easiest and most forgiving filament:

- Low temperature
- Low odor
- Good for indoor use

The library uses PLA filament by default. You do not need to bring your own.

### Optional: Want to Design Your Own?

Start simple:

- [TinkerCAD](#) – Browser-based, intuitive for beginners.
- [Blender](#) – Free and powerful, but has a steep learning curve.

TinkerCAD is best for basic shapes and keychains, while Blender is good for advanced art and sculpting.

## **Final Advice for Beginners:**

- Start small: keychains, desk toys, organizers.
- Watch the first layer: it's the foundation of a good print.
- Don't be discouraged by failure—every failed print is a learning step!

Happy Printing! ✨