

Learn how to 3D design and print cookie cutters while learning the ins and outs of 3D printing machines.

Supplies:

- Bambu MakerWorld website
- 3D Printer + Filament
- Computer with Wifi, Tinkercad access, Bambu Lab

3D Designing 101



Making the digital blueprint.

3D Printing 101



Making the physical object from that blueprint.

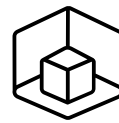
At CPPL...



Design: Tinkercad + Bambu Studio
Print: Bambu X-1 Carbon Combo

Watch 3D printing in action!





3D Designing

The process of creating a digital model of an object using software (like Blender, AutoCAD, or Fusion 360) to design the shape, structure, and features of the object in a virtual 3D space.

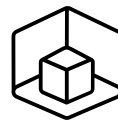
- Who & How:
 - Using 3D modeling software like Blender, AutoCAD, or Tinkercad, create and manipulate shapes and dimensions in a virtual 3D space.
 - Often involves drafting, sculpting, and refining digital models.
- What:
 - Creation of a digital model.
 - This model can be simple (basic shape) or complex (mechanical part or character).
 - The design file is typically saved in formats such as STL, OBJ, or STEP.
- Why:
 - To visualize concepts before making physical objects and to allow for easy modification and testing of designs.
 - Enables innovation and precision in product development.

3D Printing

The process of turning that digital 3D design into a physical object by using a 3D printer. The printer builds the object layer by layer, usually by melting and depositing materials like plastic, resin, or metal.

- Who & How:
 - Bambu X-1 Carbon Combo builds objects layer by layer from materials like plastic filament (PLA, ABS). Others can use resin, metal powder.
 - it reads the 3D design file and deposits material accordingly by melting plastic. Others cure with light or bind particles.
- What:
 - The physical creation of an object from the 3D digital model that is built one thin layer at a time until the full shape is formed (tools, art pieces, replacement parts, and even medical implants).
- Why:
 - To quickly and affordably produce customized products, reduce waste by using only the material needed, and speed up innovation cycles.

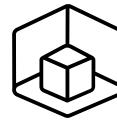




Bambu X-1 Carbon Combo Features

- **High-performance** 3D printer designed for users seeking multi-material and multi-color printing capabilities.
- **Automatic Material System (AMS) Unit**, Supports up to 16-color printing when combined with the AMS system (Humidity control & automatic filament switching)
- **Flexible Magnetic Build Plate** (magnetic, double-sided spring steel PEI)
- **Touchscreen Interface**
- 0.4mm hotend (also 0.2mm and 0.8mm) - think marker tip size; **High-Temperature Hotend**: Supports a maximum hotend temperature of 300°C, allowing compatibility with a wide range of filaments.
- **CoreXY Motion System**: Enables rapid printing with a maximum acceleration of 20,000 mm/s² and speeds up to 500 mm/s.
- **Dual Auto Bed Leveling**: Utilizes LIDAR and force gauge sensors for precise 25-point mesh leveling and first-layer calibration.
- **Material Compatibility**: Compatible with a variety of filaments, including PLA, PETG, TPU, ABS, ASA, PVA, PET, PA, and carbon/glass fiber reinforced polymers.
- **AI-Powered Monitoring**: Equipped with a built-in camera for real-time print monitoring and failure detection.
- **Spaghetti Detection**: Utilizes AI to detect and pause prints in case of filament issues.
- **Bambu Studio Software**: Offers cloud connectivity for remote monitoring and slicing, supporting file formats like STL, OBJ, 3MF, STEP, and AMF.





Learn how to 3D design and print cookie cutters while learning the ins and outs of 3D printing machines.

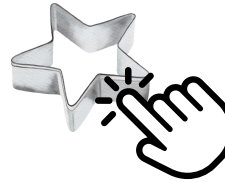
Supplies:

- Bambu MakerWorld website
- 3D Printer + Filament
- Computer with Wifi, Tinkercad access, Bambu Lab

Vetting 3D Objects



Go to makerworld.com and search for “cookie cutters”



Click on a cookie cutter model that you like.



Verify that it has a print profile.

Curating 3D Objects



Does it have ratings? Are they good?



Does it have an X1 Carbon option? Is the print time under 3 hours?

Downloading Models

X1 Carbon

🕒 1 h 📄 1 plate ⭐ 5.0 (3)

Click on the model. Click on X-1 Carbon.

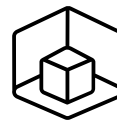
Verify the reviews & time (under 3 hours).



Click the green arrow. Choose download STL.

Go to cedarparktexas.gov/makerspace
-> Tools -> Prototyping -> 3D Printers.
Submit a 3D print request with ALL files
****We will save to a USB as well.**





Learn how to 3D design and print cookie cutters while learning the ins and outs of 3D printing machines.

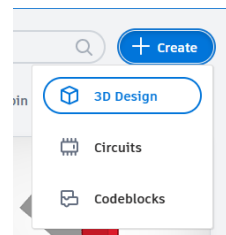
Supplies:

- Bambu MakerWorld website
- 3D Printer + Filament
- Computer with Wifi, Tinkercad access, Bambu Lab

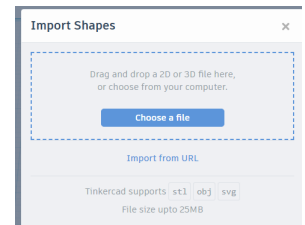
Importing into Tinkercad



Go to
Tinkercad.com.
Create an
account.

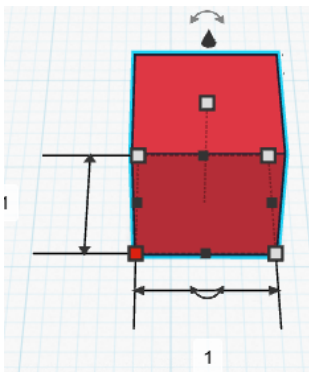


Click Create
→ 3D object



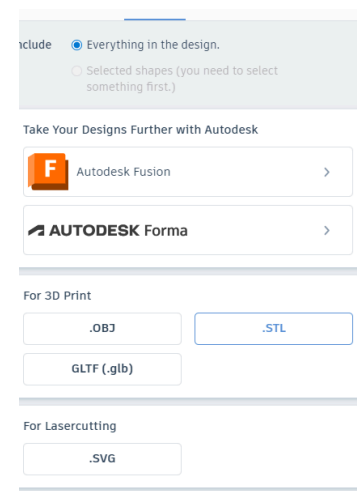
Click Import →
Import file.
Browse for file.

Sizing Objects



Click on the white
boxes. Then, click on
the numbers beneath
them to adjust sizes.
Object should not be
larger than 4" x 4" x 1"

Downloading Models



Make sure no item
is selected. Click
Export → STL

**Go to cedarparktexas.gov/makerspace -
> Tools -> Prototyping -> 3D Printers.
Submit a 3D print request with ALL files
Check out Bambu Studio Slicing if time.

