Getting started with 3D printing

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# What is 3D printing?

3D printing uses three-dimensional digital models to create a physical object.

3D printing is also called additive manufacturing since it adds material to create an object—like creating intricate designs with icing on a cake. This contrasts with traditional manufacturing, which starts with a solid block and removes material to create an object—like carving a statue from a block of marble.

# How does 3D printing work?

Before printing, you must prepare the 3D digital model with 3D slicer software. 3D slicer software slices the model of the object you want to print into tiny layers. Most 3D printers come with 3D slicer software—our Creality and ELEGOO printers all come with slicer software.

When your 3D printer creates an object, it prints each layer in the 3D model one by one.

The two most popular types of 3D printers are FDM and SLA printers, which print objects in different ways.

Our starter printer [link to product page] is an **FDM printer**, which stands for Fused Deposition Modeling. FDM printers use a spool of plastic filament that is heated, melted, and pushed through a nozzle to print your object layer by layer.

**SLA printers** (Stereolithography) create objects from liquid resin by hardening each layer with a UV light. SLA printers have a vat of resin that rests above an LCD panel. Each layer of the object is displayed on the LCD panel, which directs the UV light to cure the resin in the exact pattern of each layer.

# What do you need for 3D printing?

Our starter kit [link to product page] includes everything you need to start 3D printing your own projects. It includes:

* Creality - Ender 3 3D printer
* 1.75mm PLA Filament - White
* 1.75mm PLA Filament - Black
* 1.75mm PLA Filament - Red
* 1.75mm PLA Filament – Blue

## You need a printer

The Creality Ender 3 3D printer comes with all the necessary parts, including:

* the print bed, which is the platform surface onto which objects are printed
* the Bowden extruder, which pushes the printing material through the nozzle
* the nozzle, which pushes out the melted material to create the layers of your object

You don’t need additional parts to get started with 3D printing, but you may want to try out different parts as you try out new projects. [link to accessories page].

## You need filament

The Creality Ender 3 3D printer uses filament to print, which is a plastic thread that comes in spools. Filaments come in a variety of materials. Our starter kit comes with PLA (Polyactic acid) filaments in a variety of colours. PLA filaments are one of the most popular types of 3D printing filaments because they have a low printing temperature and no off-putting odour.

You should store your filaments in air-tight plastic bags or containers to keep them dry for the best printing performance. We recommend using our air-tight storage boxes—you can find these on our [accessories page].

# What can you make with 3D printing?

You can make anything that you can imagine! You can make:

* crafty projects, like [vases,](https://www.thingiverse.com/thing:5526556) and [cookie cutters](https://www.thingiverse.com/thing:769727)
* practical projects, like [replacement parts](https://www.thingiverse.com/thing:5517197), [tool parts](https://www.thingiverse.com/thing:5551987), and a [cellphone charging station](https://www.thingiverse.com/thing:4602753)
* fun projects, like [board game pieces](https://www.thingiverse.com/thing:2568988), and [figurines](https://www.thingiverse.com/thing:5525221)

Or create your own 3D models!

We like websites like [Thingiverse.com](https://www.thingiverse.com/) that offer free 3D models for any type of 3D printing project.

# Our recommended products for starting out

Check out our FDM printers here.

Check out our range of filament colours here.

Check out our fun 3D pens here.