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Module 1

How 3D Printing Works

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The purpose of this module is to introduce you to the basics of the 3D printing process and how 3D printers work.

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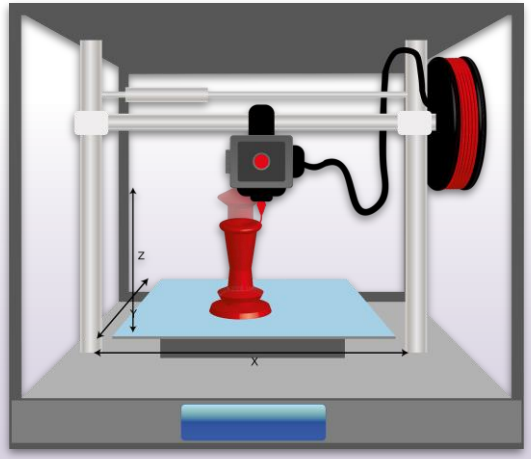
What is 3D printing?

3D printing is also known as additive manufacturing. Additive manufacturing is a process used to create three-dimensional objects by adding successive layers of material piece by piece until the object is fully formed. Each layer is called a slice.



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Slicing

When 3D printing software takes a digital 3D model and converts it into individual printable layers it is known as slicing. Let’s use at the image below as an example. The left dome would be the original digital 3D file and the right dome shows the “sliced” version.

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How do 3D printers Work?

3D printers use the additive process to help turn a digital file into a physical three-dimensional object.

The 3D printer in partnership with its corresponding software will take the digital object and cut it into thousands of tiny slices. After the object has been “sliced” the software will then generate code (also known as g-code) that can be read by the 3D printer.

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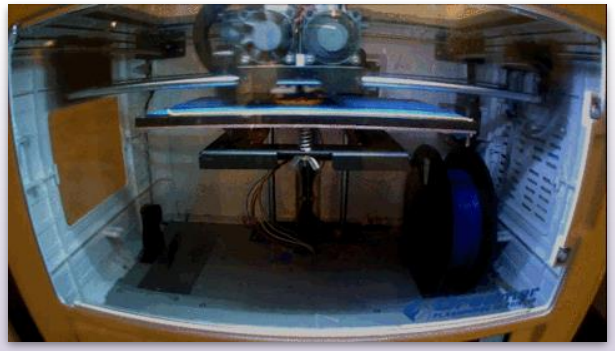
How do 3D printers work?

The 3D Printer then uses this code as instructions to build the physical object.

3D printers heat filament (the material used to make the object) and extrude it through a nozzle head. The filament is used to lay down successive layers slice by slice from the bottom up until the object is complete.



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End of Module 1

https://3dprinting.com/what-is-3d-printing/

https://en.wikipedia.org/wiki/3D_printing