Video Transcript

What is 3D Printing and How Does it Work? By Mashable

3D printing technology's already changing the way we produce objects from tools and toys to clothing and even body parts. 3D printing is part of a process known as additive manufacturing, where an object is created by adding material layer by layer. Additive manufacturing allows designers to create complex parts for machines, airplanes, and cars, at a fraction of the cost and time of standard means like forging, molding and sculpting. Now, smaller consumer friendly 3D printers are bringing additive manufacturing to home and businesses.

The first step in 3D printing is create a blueprint of the object you want to print. You can use modeling software like Blender to create your own designs or you can visit websites like Thingiverse or Shapeways to find objects other users have 3D modeled.

Once you have a finished design it's time to send it to the printer. Some printers, like the MakerBot Replicator 2, have removable bioplastic spools in the back of the device almost like a string. When the printer receives the data, it pulls the material through a tube, melts it, and deposits it to the plate, where it instantly cools.

As you can see the 3D objected is created through layering, where the printer will add one layer of the object at a time until you have a fully formed structure. The most common material used in 3D printing is plastic, but the use of some other materials allow for the creation of some pretty amazing products beyond simple tools and toys. 3D printing food is becoming very popular and additive manufacturing has allowed for the creation of some pretty intricate treats. In the medical world, doctors are testing bio-materials for regenerative medicine. By using a patient's cells, doctors could 3D print small body parts like ears and noses. Some surgeons have even tested 3D printed organs for transplants.

Recently, giant 3D printers in China, printed ten houses in just one day. And at a cost of less than $5,000.00 per house. Proving just how cost and time efficient 3D printing can be.

For more on 3D printing, check out Mashable's latest coverage, and don't forget to watch the other videos in our Mashable explain series.