

Good Resources Sites:

<http://www.makerbot.com/>

<http://www.thingiverse.com/>

<http://formlabs.com/en/>

<http://www.3dsystems.com/>

<http://www.123dapp.com/design>

<http://www.autodesk.com/education/home>

Good Reference Sites:

<https://www.youtube.com/watch?v=G0EJmBoLq-g>

http://en.wikipedia.org/wiki/History_of_printing

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

<http://www.npr.org/blogs/money/2013/01/04/168627298/3-d-printing-is-kind-of-a-big-deal>

<http://www.protoparadigm.com/news-updates/the-difference-between-abs-and-pla-for-3d-printing/>

<https://www.youtube.com/watch?v=WT3772yhr0o>

<https://www.youtube.com/watch?v=wdRswasftfI>

Good 3D Printing Terms to Know:

ABS – Acrylonitrile butadiene styrene. Lego bricks are made from ABS.

PLA – Polylactic Acid

Thermoplastics – plastics that become soft and moldable when heated and return to a solid when cooled.

Types of 3D Printing Technology:

Fused Deposition Modeling (FDM)– Invented in the late 80's. Using this technology, a few drops of certain melted thermoplastic materials are joined together to form a shape. As the material hardens, a 3 D object is formed. **Example:** https://www.youtube.com/watch?v=ik39_sv-wgQ

Stereolithography (SLA) – This method was invented in 1986 and was typically used in the first generation commercial 3D printers. Printers using **stereolithography** concentrate the beam of UV rays on the surface of the object to be replicated. The object is filled with resin (photopolymer). When light hits the resin, you get a high resolution 3 D model of the object you have used. **Example:** <https://www.youtube.com/watch?v=NM55ct5KwiIX>

Selective Laser Sintering – Sometimes called “Powder Printing”, this is somewhat similar to stereolithography but instead of using liquid resin, you can use powdered material in the vat. The material could be anything from nylon, ceramics, glass, aluminum, to steel or silver. **Example:** <https://www.youtube.com/watch?v=wdRswasftfI>

Electronic Beam Melting – In 3D printers operated by the **Electronic Beam Melting (EBM)** technique, electronic beams are used instead of UV rays.

Laminated Object Manufacturing – In this process, to manufacture an object, plastic, paper and metal are glued together. After that, they are cut with a knife or a laser to give them a shape.