



# Learn About 3D Printing

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Digital Literacy Specialist

# Upcoming Classes

- Microsoft Publisher 2016 for Beginners 12/16/17
  - 10:30 AM - 11:30 AM
  - Computer Classroom
- Google Hangouts 12/28/17
  - 7:00 PM - 8:30 PM
  - Radmacher Meeting Room



# Classroom

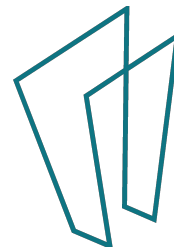
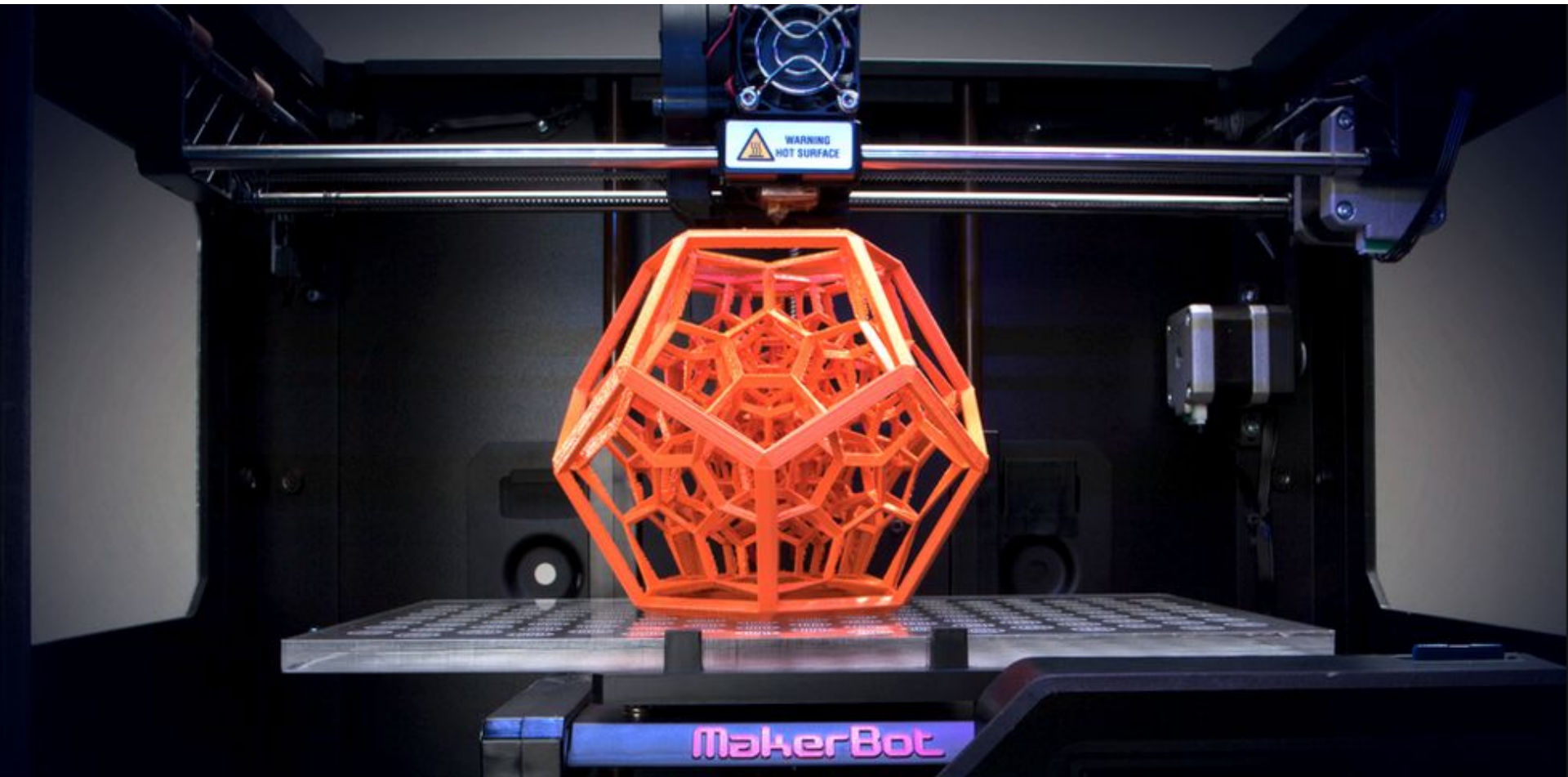
- What is 3D Printing?
- Thingiverse - Download Files
- TinkerCad Introduction - Create Files
- 3D Print Demonstration



# What is 3D Printing?

- There are lots of ways to make things
- 3D printing is when you use a computer to make a real world object

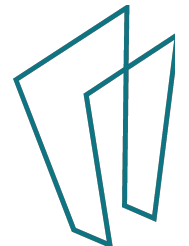




# Printing with Plastic

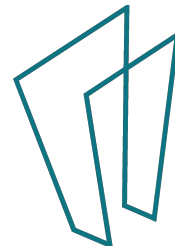
- 3D Printers use a special type of plastic
- This is called **filament**
- The plastic is melted to very hot temperatures
- When it cools down, it becomes solid again
- PLA vs ABS





# PLA vs ABS

	PLA	ABS
Printing Temperature	180-230°C	210-250°C
Print Bed Temperature	20-60°C	80-110°C
Print Bed	Optional	Mandatory
Enclosure	Optional	Recommended
Clogs/Jams Nozzle	Occasionally	Never
First Layer Adhesion	Minor problems	Minor problems
Fumes	Little to none	Bad and intense
Absorbs Moisture	Yes	Yes

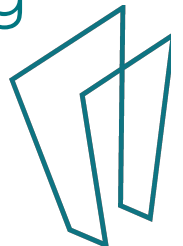






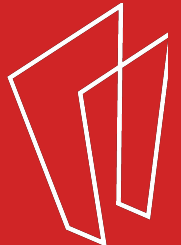
# Where did 3D Printers come from?

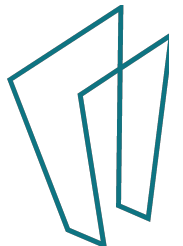
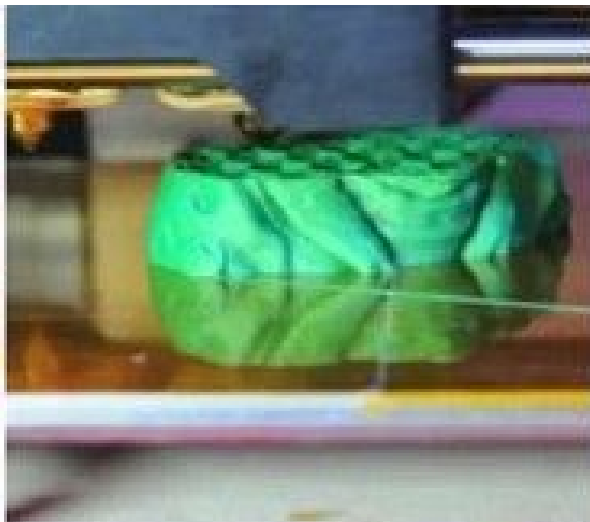
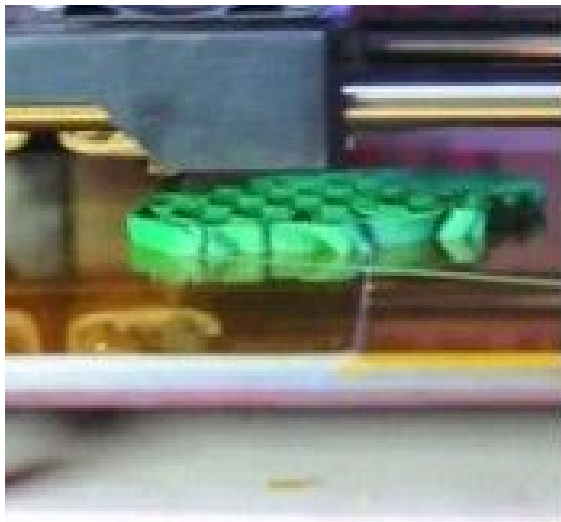
- 3D Printing has been around since 1981
- Used in factories to make **prototypes**
- Allows companies to make sure their pieces and parts fit together before going into mass production



# Additive Printing

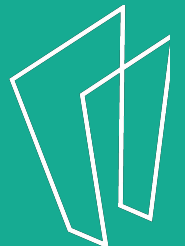
- 3D printers draw very thin layers of melted filament with the nozzle
- A print job gets taller as layer after layer is stacked on top of each other
- One layer at a time





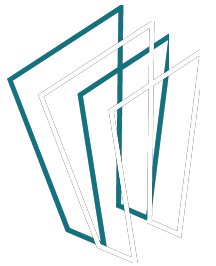
# What can 3D Printers Make?

- Toys - Fidget spinners, figurines, toy cars
- Useful Parts - Nuts and bolts, light switch covers, tools
- Food
- Body parts
- Whatever you can think of!





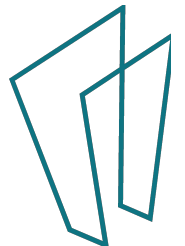




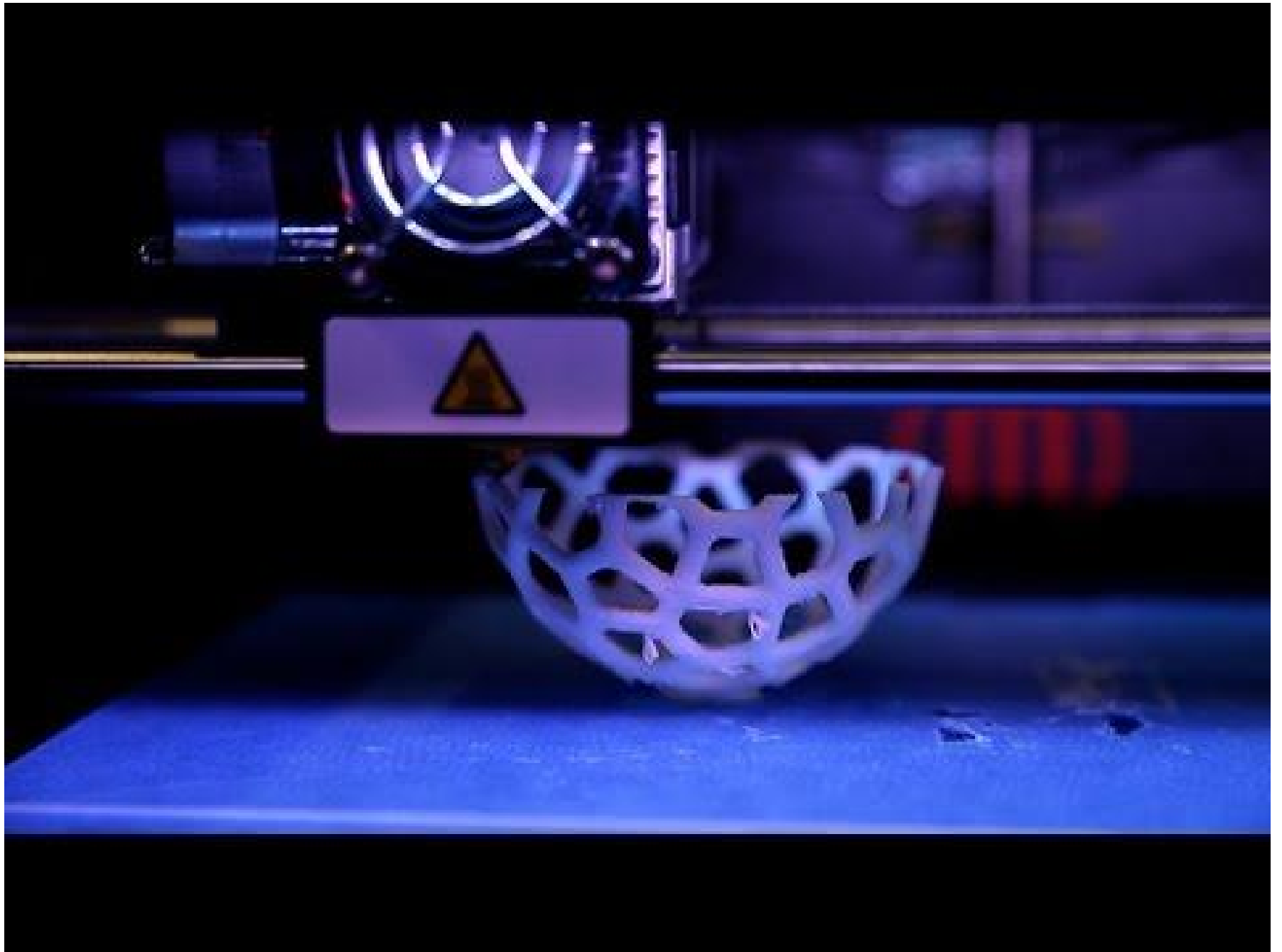


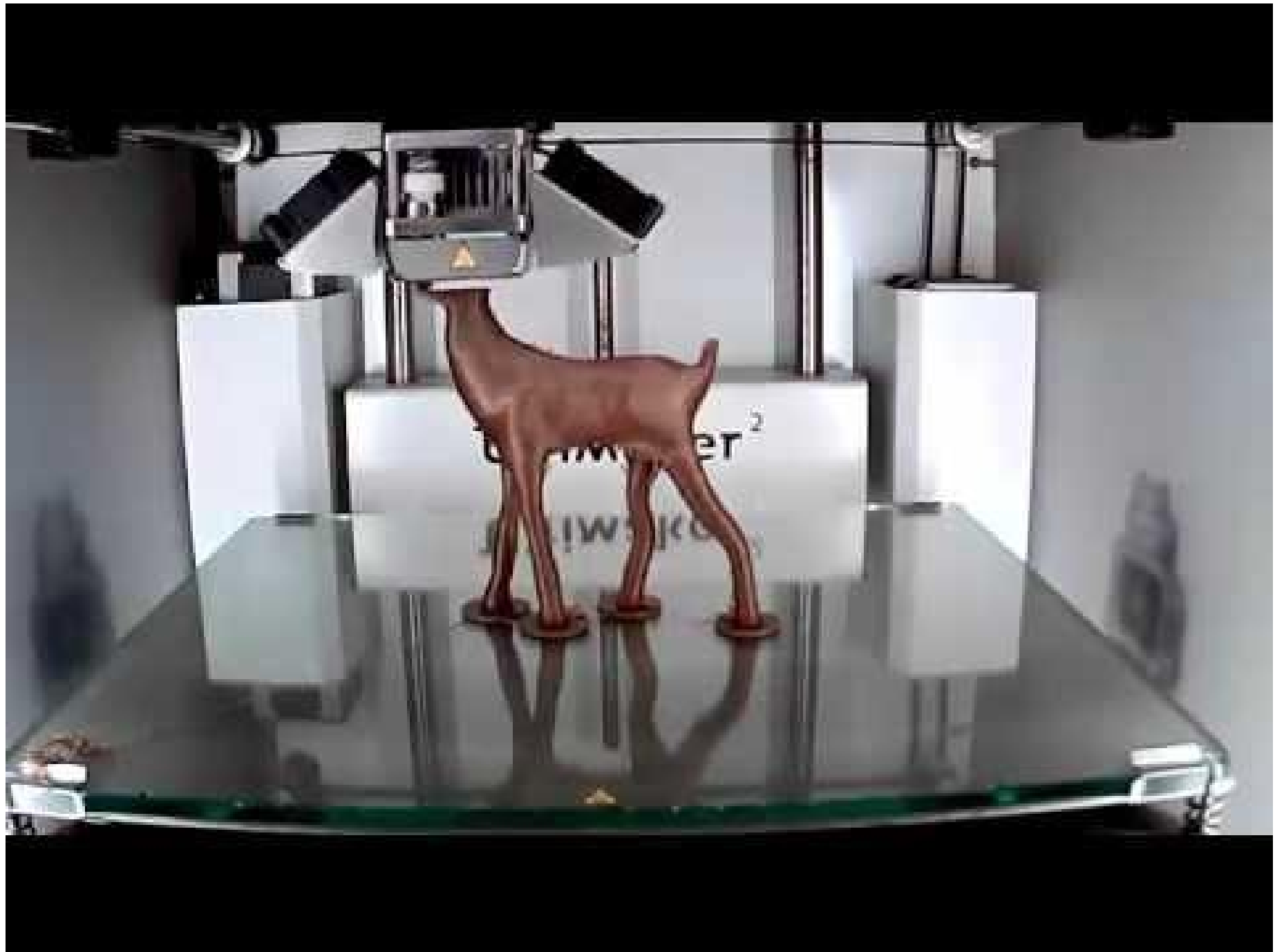
# How do you make or find designs?

- 3D scanners
- 3D modeling software like TinkerCad
- Websites like Thingiverse.com

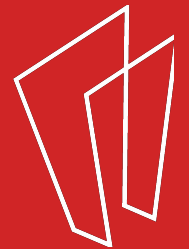


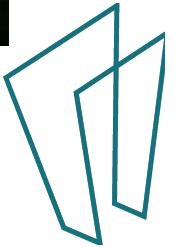


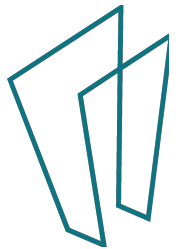


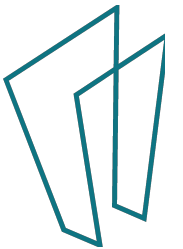


# Failed Print Jobs

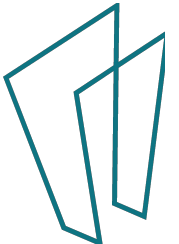












Questions?



# Thank You

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