

37TH NATIONAL

FetC FUTURE of
EDUCATION
TECHNOLOGY
Conference

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ORANGE COUNTY CONVENTION CENTER

ORLANDO, FLA

3D Laser Cutting/Printing for STEM Lab and Classroom MakerSpaces

*Christopher & Deirdre
Sugiuchi*

So, dude, where's the GLOWFORGE?



Why are you here?

YES, PROBABLY FOR YOU

- May or may not have experience with fabrication tools (like 3D printers)
- Learn something about laser cutting and engraving and how it might be useful in a STEM Lab or MakerSpace
- Find out what a Glowforge is and why we all want one!
- Discover free resources for 3D modeling and fabrication

NOT FOR YOU

- Want to have advanced discussion of toolpaths, G-Code, file conversions
AI/JPEG/SGV/STL
- You already know how to use/own a laser cutter (unless you want to share stories or info!)
- Thought this was part of the Surf Expo

A quick overview...

- Audience poll
- Who are we?
- Why use fabrication tools in the classroom?
- What is laser cutting/ engraving?
- Why is Glowforge a game changer?
- The risks of staying on the bleeding edge of technology (including crowdfunding!)
- FREE-Tools for classroom use (even if you don't have a laser cutter yet)
- Q & A

Tell us a little about YOU

- Are you a: classroom teacher, administrator, STEM teacher, Ed. Tech/Integration Specialist, Other
- Level: K-5, Middle, High, Collegiate
- Does your school have a STEM Lab or MakerSpace?
- Does your school have a 3D printer, Laser Cutter, CNC mill?
- If your school has any of these, how familiar are you? Never used them, One or Two times, Occasionally, Use them all the time

Chris Sugiuchi

Deirdre Sugiuchi

Why use fabrication tools in the classroom?

- If you are here, we probably don't need to cover this!
- This will be a quick overview of the CD Hovercraft Project

What is laser cutting and engraving?



But we already have a 3D printer!

- How much free time do you have?
- Feedstock is not free
- Students usually visualize in 2D more quickly than 3D
- Think about that IKEA furniture- you can make almost anything out of flat pieces!

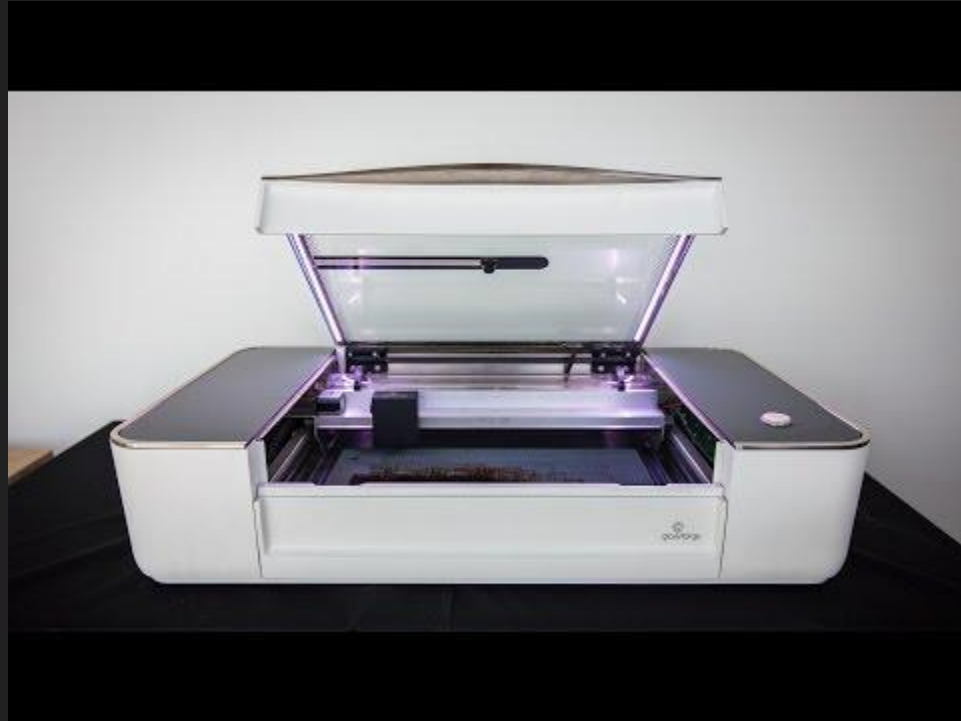
Currently available laser cutters vs Glowforge

- Sketchy eBay Laser Cutter
- Homebrew Laser
- Full Spectrum H Series
- Epilog

Why is Glowforge a game changer?



Why is Glowforge a game changer?



Glowforge Specifications

Why is it not here? (our best guesses)

- Lasers can be dangerous
- Shipping is a nightmare
- People do dumb things, despite warning labels
- They can't make it for the price advertised
- The FBI/SEC is investigating them for wire fraud and Dan Shapiro is already in South America

Staying on the bleeding edge, without dying...

- Early adopters vs the waiting game
- Crowdfunding pros and cons

FREE tools for educators

- You have to come to the presentation to get this!
- We will update at FETC

Q & A

Thanks for attending

**Please don't forget to give us
a review on the FETC app!**