

MAKER MACGYVER

CSL in Session 2015

INTRODUCTION

Ashley Kazyaka
Colorado State Library
Library Development Project Manager



INTRO: I MAKE STUFF



VOCAB

Terms to know:

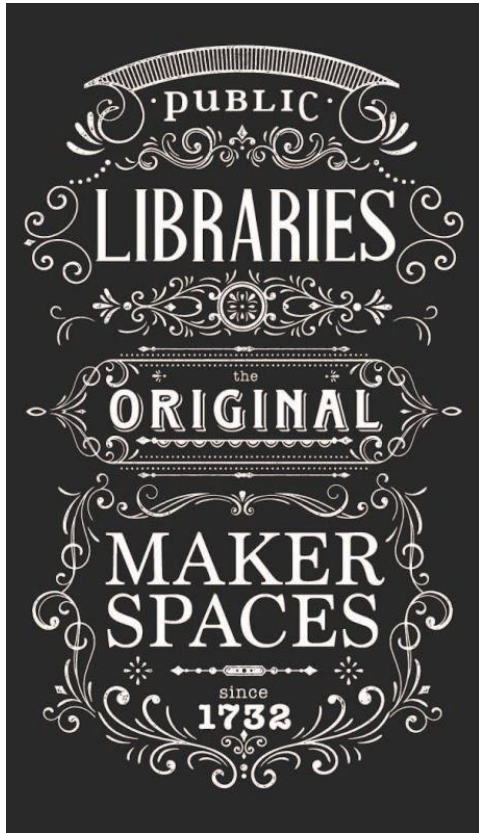
- Maker - outgrowth of DIY
- Makerspaces - creativity hub
- Tinkerspace - think Bob Vila meets 21st century tech
- FabLab - fabrication, usually prototyping
- Hackerspace - coding/programming

BIG TRENDS

- STEM/STEAM/STREAM
- HoMaGo
- Business Incubation
- Rapid Prototyping/experimentation
- Specific service population
 - Teens
 - Adults
 - Families

This is a totally new fad that
has absolutely no real
connection to libraries.

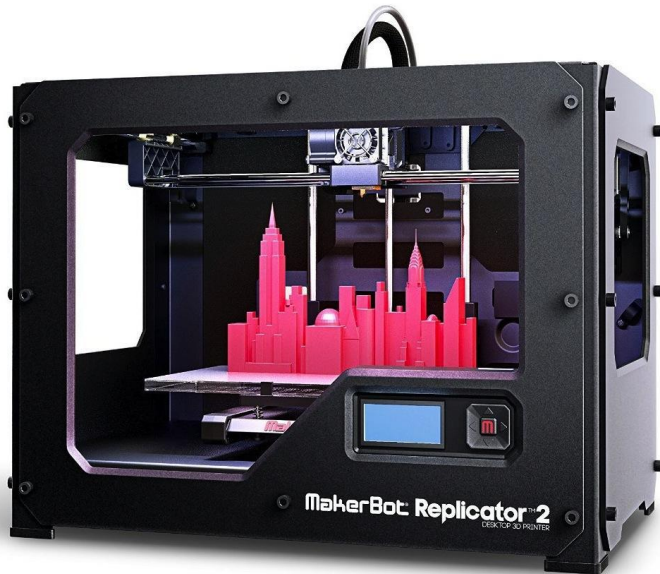
HISTORY



For more on Makerspaces in Library History, see
American Libraries, Jan. 2013

It's all about newfangled tech
and I am so not a tech
person.

SO...3D PRINTING?



DEFINING “MAKER”


Activity	Hands-on	Social	Technology-infused	Innovation-driven	Leisure pursuit	Project-based learning
Making	always	always	always	yes	sometimes	always
DIY	always	sometimes	sometimes	sometimes	sometimes	sometimes
Crafting	always	sometimes	rarely	rarely	always	rarely




From YALSA “[Making in the Library Toolkit](#)”

- MAKE Magazine as mouthpiece
- Tech/Silicon Valley = \$\$\$

Starting a makerspace or
doing maker programs is way
too hard and way too scary.

IMPLEMENTATION





[Home](#) [Online Training](#) [Makerspaces](#) [Technology Resources](#) [About Us](#)


Online Courses for Staff

New to the library? Our [Getting Started with Library Customer Service](#) course will provide a great introduction to customer service in the library setting.

More and more, library staff are assisting customers with technology questions, and are providing classroom-based technology instruction. The [Online Tech Training for Staff](#) course can help you get up to speed with technology training.

Access the courses:


- [Getting Started with Library Customer Service](#)
- [Online Tech Training for Staff](#)



Digital Creation

Looking to add a digital creation station in your library? Check out our [list of digital creation software](#). Most software in the list is free!


- [Digital Creation Software](#)



Library Makerspaces

Wondering what all the hype is about with library makerspaces? Learn all about it with our [library makerspace resources](#).

- [Library Makerspaces](#)
- [Programming Ideas for Makerspaces](#)
- [Creation and Makerspace in Libraries Listserv](#)



create.coloradovirtuallibrary.org

ONLINE RESOURCES

- create@cvi-lists.org
- <https://www.facebook.com/groups/librarymaker>
- <http://makerspace.com/playbook>
- <http://makezine.com/>
- [Thingiverse](#) (3D Printing in Libraries Group)
- <https://learn.sparkfun.com/>

It's going to require tons of
space.

SMALL SPACE IDEAS



ARAPAHOE LIBRARY DISTRICT: STUDIO



IDEA FACTORY: PUEBLO



It's going to cost way more
than I can afford.

IMLS PRIORITY



Talking Points: Museums, Libraries, and Makerspaces

June 2014

By the Numbers

- STEM workers in all demographic groups, including those who are foreign-born, **earn more than non-STEM workers.**
- Women hold **only 25% of STEM jobs.**
- For 65% of scientists with advanced degrees, their interest in science **started before middle school.**

What Are Makerspaces?

Makerspaces are part of a growing movement of hands-on, mentor-led learning environments to make and remake the physical and digital worlds. They foster experimentation, invention, creation, and exploration through design thinking and project-based learning. The movement aligns with President Obama's Educate to Innovate initiative and his call to "think about how and




MAKESHOP at the Children's Museum of Pittsburgh.

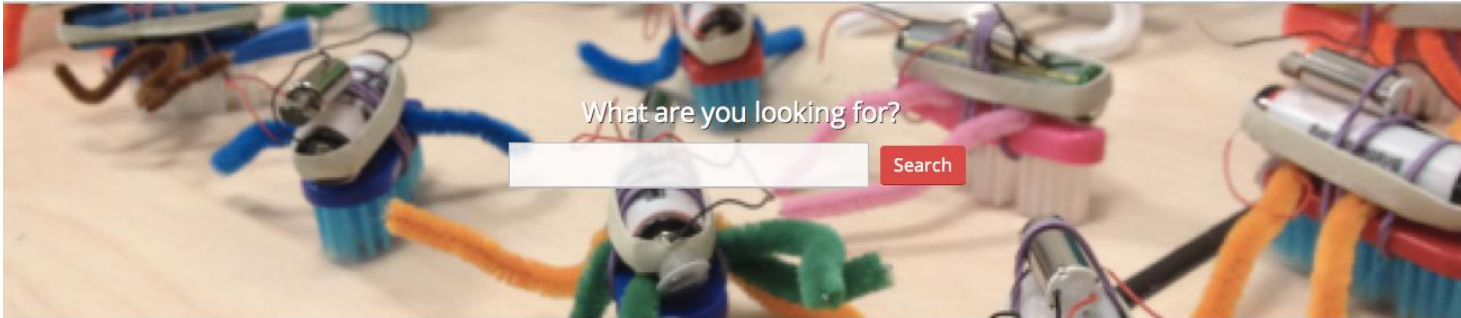
people of all ages. Five IMLS-MacArthur Learning Labs grants have supported makerspaces.

In addition, IMLS funds work to advance best practices for makerspaces and maker programming nationwide:

- In 2012, IMLS awarded a National Leadership Grant of

ALA - MAKE IT @ YOUR LIBRARY

[About](#) [Blog](#) [Resources](#) [Contribute](#)



What are you looking for?

[Search](#)

Tools and Space


- ☒ Activity Ready
- ☐ Project Group Ready
- ☐ Temporary Tool Ready
- ☐ Clean Tool Ready
- ☐ Dirty Tool Ready

See this [blog post](#) for more info


Age Level

- ☐ 0-10
- ☐ 11-18
- ☐ Adults


Recent



Crayon Lathe LittleBits



Nailed it!



Homemade Fizzy Pop

PHILOSOPHY OF MACGYVER



WHAT WILL YOU MAKE?



WHAT WILL YOU MAKE?



WHAT WILL YOU MAKE?



WHAT WILL YOU MAKE?



WHAT WILL YOU MAKE?



GUESS WHAT?

Programming, yeah!

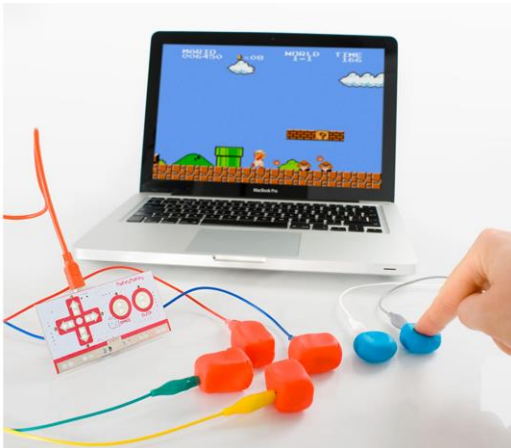
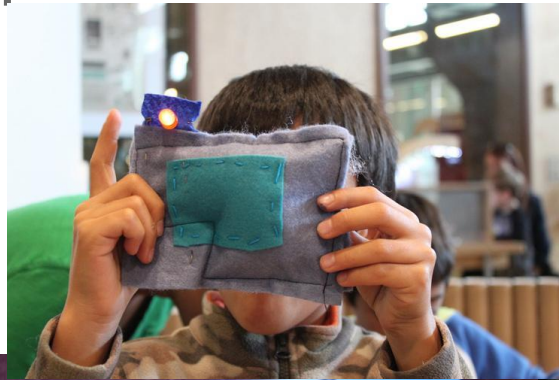


MENTAL TOOLS

- Creativity
- Flexibility
- Willingness to take risks
- Ability to laugh at mistakes
- Knowing your community/stakeholders
- Ability to ask for help
- Resiliency

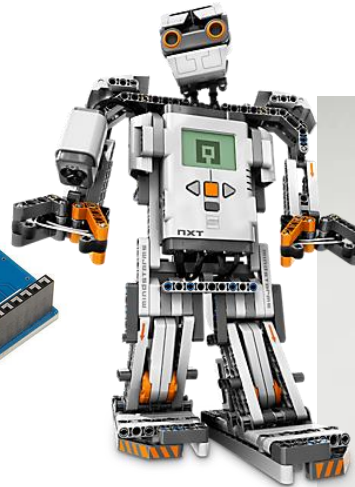
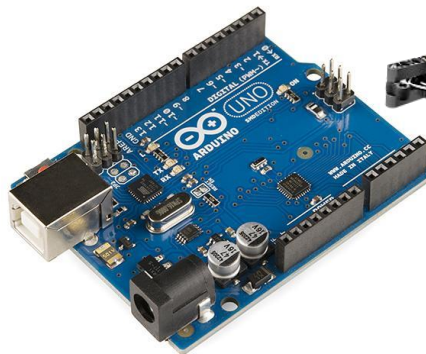
ACTUAL TOOLS

- MaKey MaKey (\$35 via SparkFun and educator discount)
- LED Cards/Paper Circuits
- Sewn Circuits
- Book crafts
- LittleBits



ACTUAL TOOLS

- Movie Mount/Green Screen
- Arduino
- LittleBits
- LEGO WeDo/Mindstorms
- Finch Robot
- 3Doodler



SOFTWARE TOOLS

- Scratch (drag and drop programming)
- GIMP (photo editing)
- Inkscape (vector editing)
- Blender (3D modeling & video editing)
- Kdenlive or OpenShot (video editing)
- Audacity (audio recording)

GETTING STARTED

How can you sell this to your board?

- Address fears/concerns
- Have a solid plan in place (with a budget!)
- Use mission statements/strategic plans/local values to your advantage
- Identify local/regional/national partners

MARKETING?

How can you sell this to your community

- Have a solid plan in place
- Have a clear brand in place BEFORE you start
- Clearly market and keep to a schedule
- Utilize local outlets
 - Social media is your friend
 - MeetUp.Com
- Leverage partners

POTENTIAL PARTNERS

- Girl/Boy Scouts
- Coder Dojo
- Local start-ups/co-working spaces
- Local/regional STEM organizations
- Commercial makerspaces
- School district (for public libraries) or Public libraries (for schools)

Questions, comments, support?

Contact Ashley:

akazyaka@coloradostatelibrary.org

(303) 866-6894