Science

Technology

Engineering

STEAM IN THE LIBRARY

Arts

Math

Maker Spaces

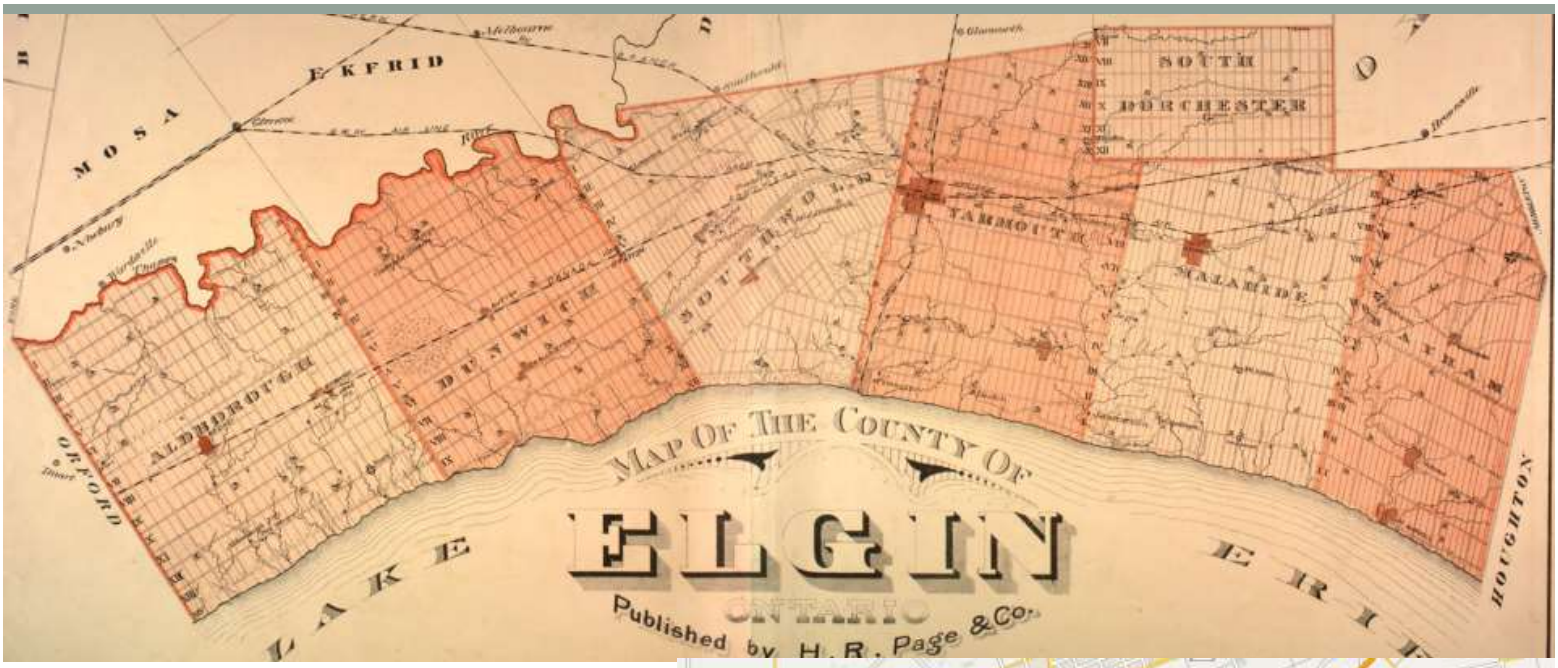
73 % OF ONTARIANS REPORT HAVING A LIBRARY CARD AND 66% REPORT USING THEIR LOCAL LIBRARY BRANCH IN PERSON IN THE LAST YEAR!

ONTARIO LIBRARY FEDERATION

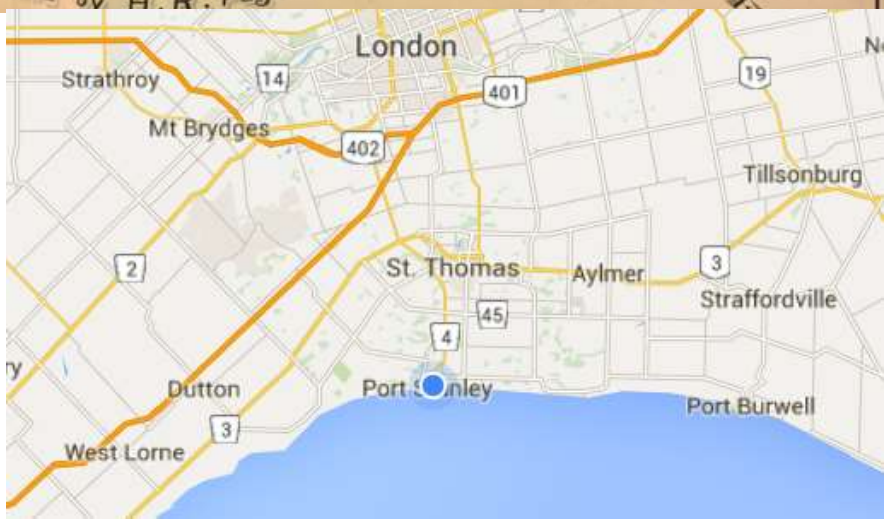
Elgin County Library

- Elgin County Library is a system of 10 rural and semi-rural branches in Southwestern Ontario

- Elgin County is on the north shore of Lake Erie just south of London, Ontario.



ElginCountyLibrary



PORT STANLEY BRANCH

AYLMER BRANCH

Elgin County Library

DUTTON BRANCH

ELGIN COUNTY LIBRARY STAFF

Elgin County Library

- In 2014 received a generous donation from the Dorothy Palmer Estate to be directed towards the Aylmer Branch
- Aylmer has a population of 7,200; the branch is located in the center of town in the Historic Aylmer Old Town Hall
- Our busiest branch, incorporates a Maker Space that enables access to technology & equipment to a large and thriving library community
- Identifying space in the branch posed the largest challenge of the project
- Furniture was moved and a small space near the circulation desk was created, with a small lounge area, a desk for a Mac Computer and 3D Printer, plus storage for additional equipment

Aylmer
Old Town
Hall Library
NEW!
MAKER SPACE
Elgin County Library
3D PRINTING
WITH AUTODESK 123D
TINKERCAD
AND MAKERBOT
3D Modeling
MakerBot Replicator
Grand Opening
Thursday, May 28th - 6pm to 8pm

ELGIN COUNTY
MAKER SPACE
Come in, WE'RE
OPEN

THE
AYLMER
OPEN HOUSE
MAKER SPACE for ALL

MAKER SPACE

ITEMS PURCHASED FOR MAKER SPACE

Makerbot 3D Printer
MAC Computer
Adobe Creative Suite Software
3D Makerbot Scanner
Raspberry Pis - for patron checkout
Wolverine Conversion - slides to JPG
VHS to DVD Conversion
PiBots
I-Pod
Audacity
Microphone

Tips for Maker Spaces in Small Libraries

- Consider the space relative to the size of the equipment being purchased
- If purchasing a 3D printer think of it as a “project” rather than a finished “product”. Be prepared to trouble shoot
- Purchase items that can be added to if more space or funding becomes available
- Use a design thinking model when approaching the space; check in on how items are being used, marketed, shared with the public; and continue to think of new ways of using them based on feedback from staff and patrons
- Think about your current knowledge, and the knowledge of community members when investing in new larger purchases
- Integrate low barrier tech that is fun and easy to learn
- Think about access and who the new equipment would be used by

What do we know about STEAM and how can libraries integrate STEAM into programs?

Science

Technology

Engineering

Arts

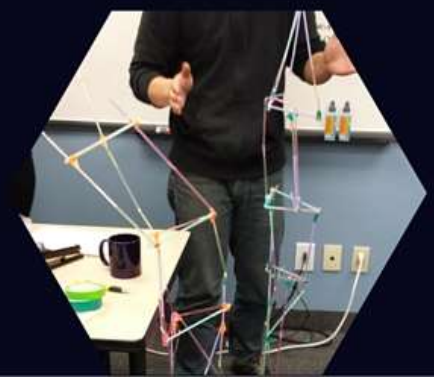
Math

STEAM

As educators begin to integrate STEAM based projects into core curriculum library staff should too consider the potential STEAM has when integrated into existing library programs.

Viewing the idea of Maker Spaces through STEAM begins to turn an impossible idea into one that is affordable, manageable and easily worked into what a library is already providing.

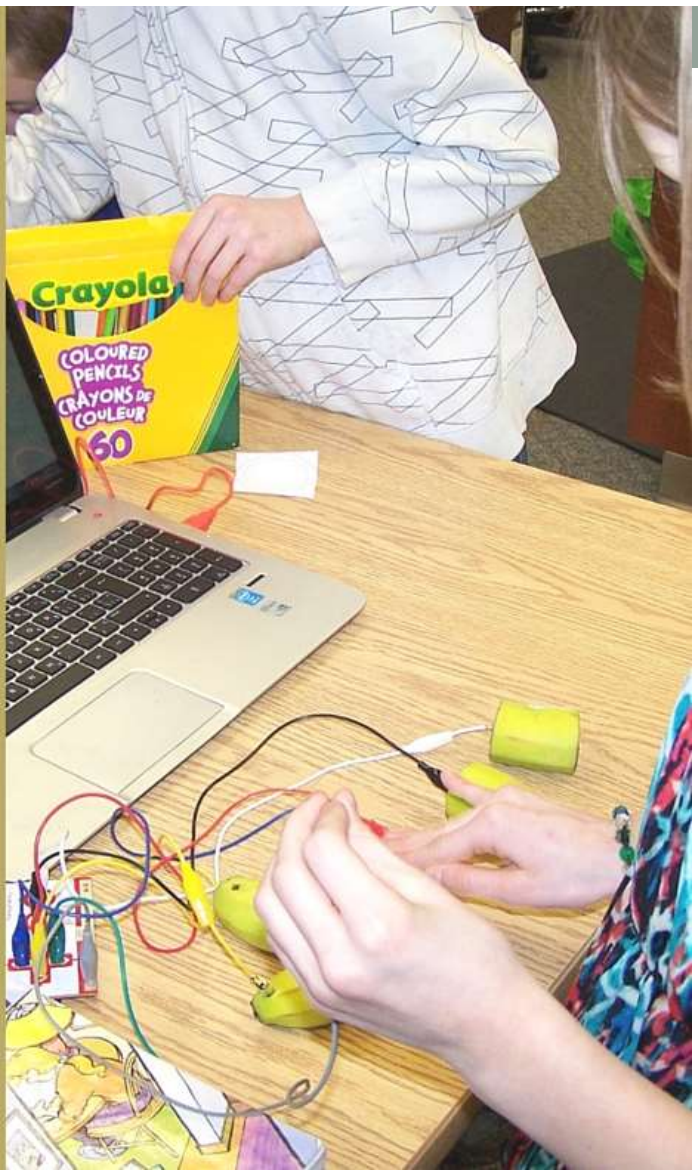
STEAM allows for exploration, self discovery and tinkering to inform and structure programs for children, youth and adults.



Tinkering

In the Library

Embrace "tinkering" as a mindset in Library Programming, even when it comes to tried tested and true programs like Story Time. The concept of tinkering enables learners to retain information more readily, and create with confidence. Tinkering, if you think about it, is just another word for problem solving.



- Before Maker Spaces, educational scholars such a John Dewy, advocated for *“students to be actively engaged in authentic interdisciplinary projects connected to the real world”*

- In the 1970s, MIT professor Seymour Papert suggested the potential computers have for engaging student learning through technology-based projects. Papert is often seen as an early advocate of Maker Spaces

- MIT Media Lab professor, Mitch Resnick, focuses on examining new models of learning using “Design Thinking” and creative learning as pillars for project based learning

- MIT’s Media Lab has developed learning models, SCRATCH software, Google Unhangouts, and two graduates designed the popular Makey Makey.

Creative Learning Spiral

- Using this model can help library staff to create stand alone or multi-week programs

IMAGINE – allows participants to discuss and plan the project or idea

CREATE – is the hands on doing and making

PLAY – having fun with the creation/using it

SHARE – displaying, recording, discussing, showcasing

REFLECT – what worked? What could be improved?

more details here: http://web.media.mit.edu/~mres/papers/CC2007-handout.pdf

by Mitch Resnick

(cc) BY-SA

SCRATCH

MIT MEDIA LAB developed the popular coding software for children called SCRATCH that can be easily integrated into Library Programs

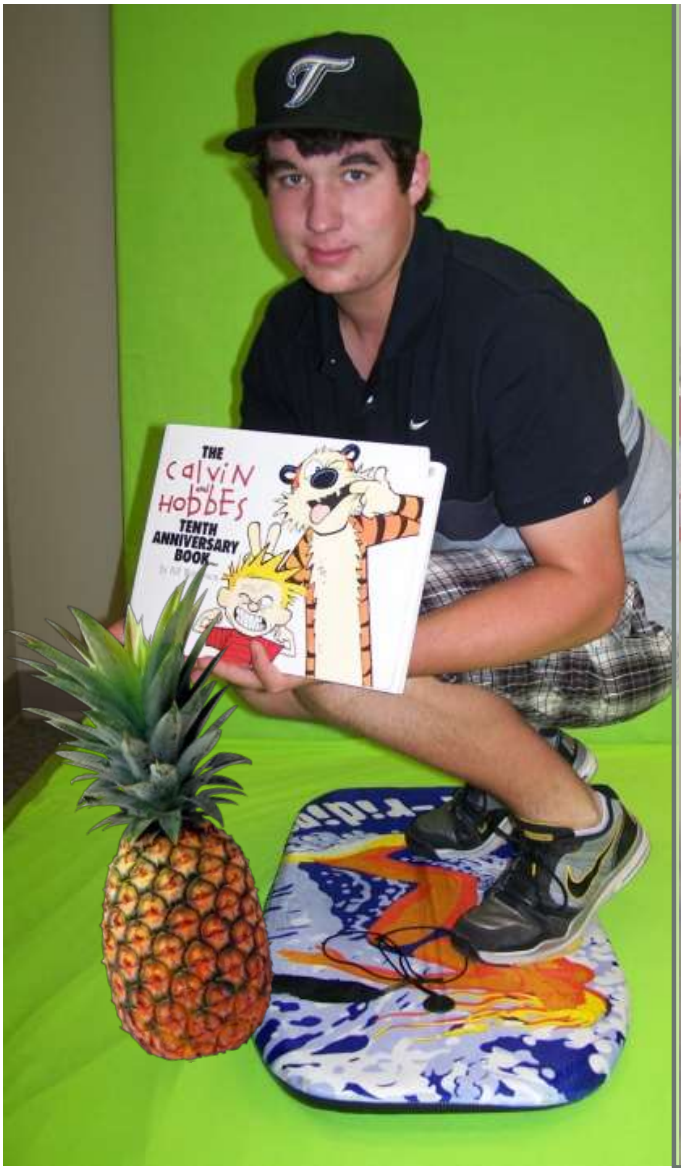
MIT Media Lab offers a free online course that looks at project based programs and focuses on creative learning and technology

TINKERING
MAKING
STEAM
MUSIC
Poetry

SEE YOU LATER
UNLEASH THE POWER

International YARN BOMBING Day

Annual Community Library Project



SUMMER READING CLUB

- A simple DIY Green Screen was made of fabric stretched over cardboard.
- A few simple props were brought in and set up
- Patrons posed with their favourite summer read and a photo was taken with a simple camera
- The photos were later uploaded to Adobe Photoshop and the background was removed and replaced with a beach scene

Elgin County Library

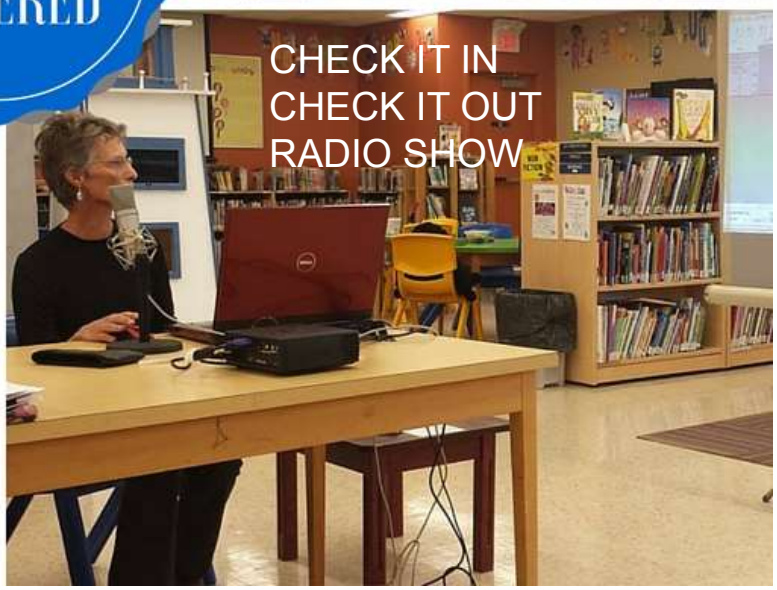
MAKER MONDAYS

Since 2015

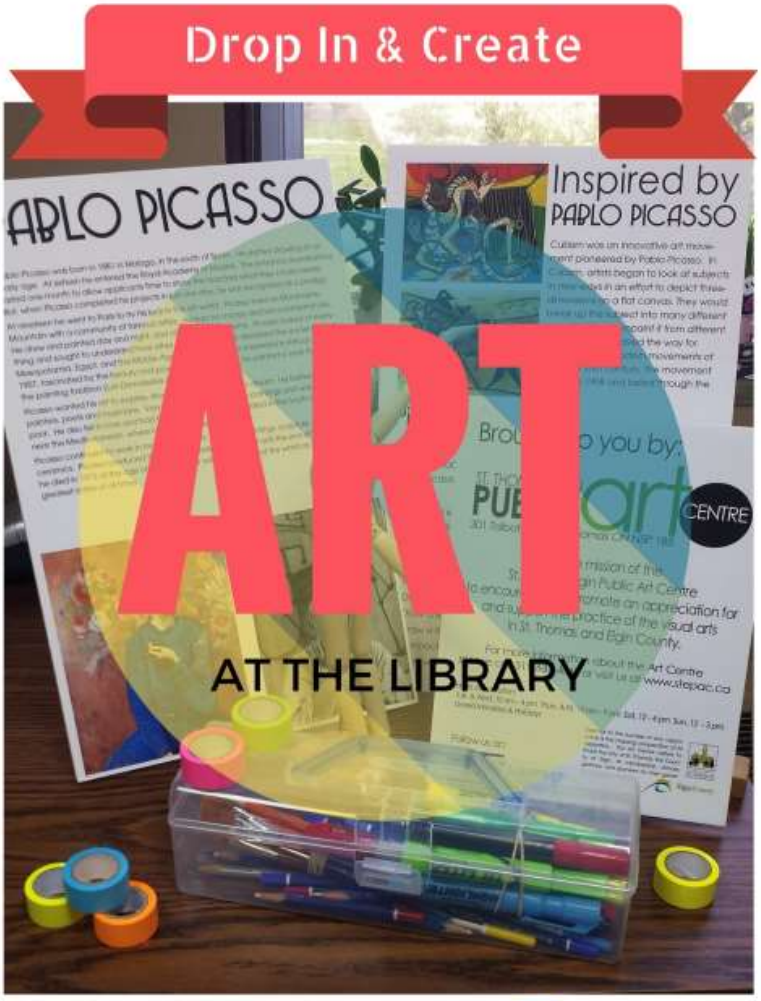
MARCH BREAK
PROGRAM

STEAM POWERED

STORY BOOK PUMPKIN CONTEST



CHECK IT IN
CHECK IT OUT
RADIO SHOW

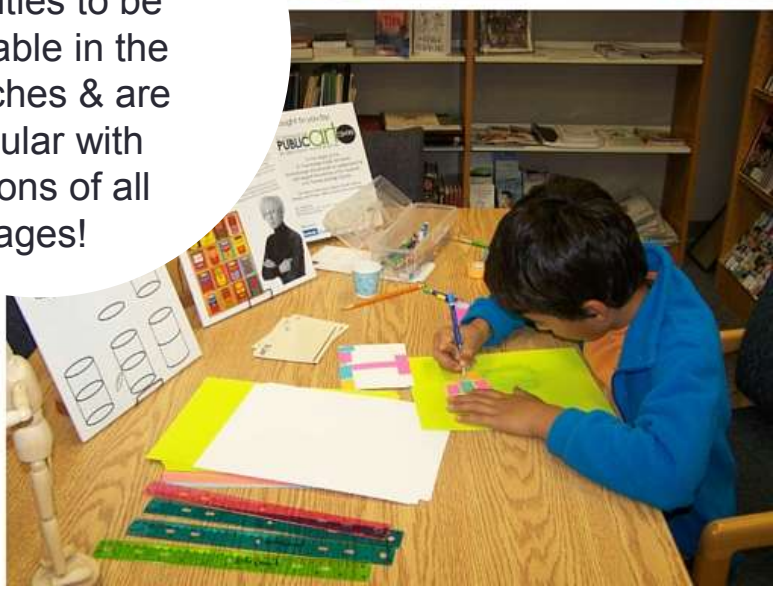


ST. THOMAS-ELGIN PUBLIC art CENTRE + Elgin County Library

INCORPORATING STEAM

- Passive Programs and Partnership can help facilitate integrating STEAM when resources are needed
- Worked collaboratively to build portable art kits
- Each kit contains informational panels, an art activity and all materials necessary to complete the activity
- Everything fits into a plastic bin and kits are rotated between branches monthly
- Patrons can engage in the activity at any point in their visit to library

STEPAC Art Kits allow for self guided art activities to be available in the branches & are popular with patrons of all ages!



I culture days CULTURE!

CREATE, PARTICIPATE & SHARE

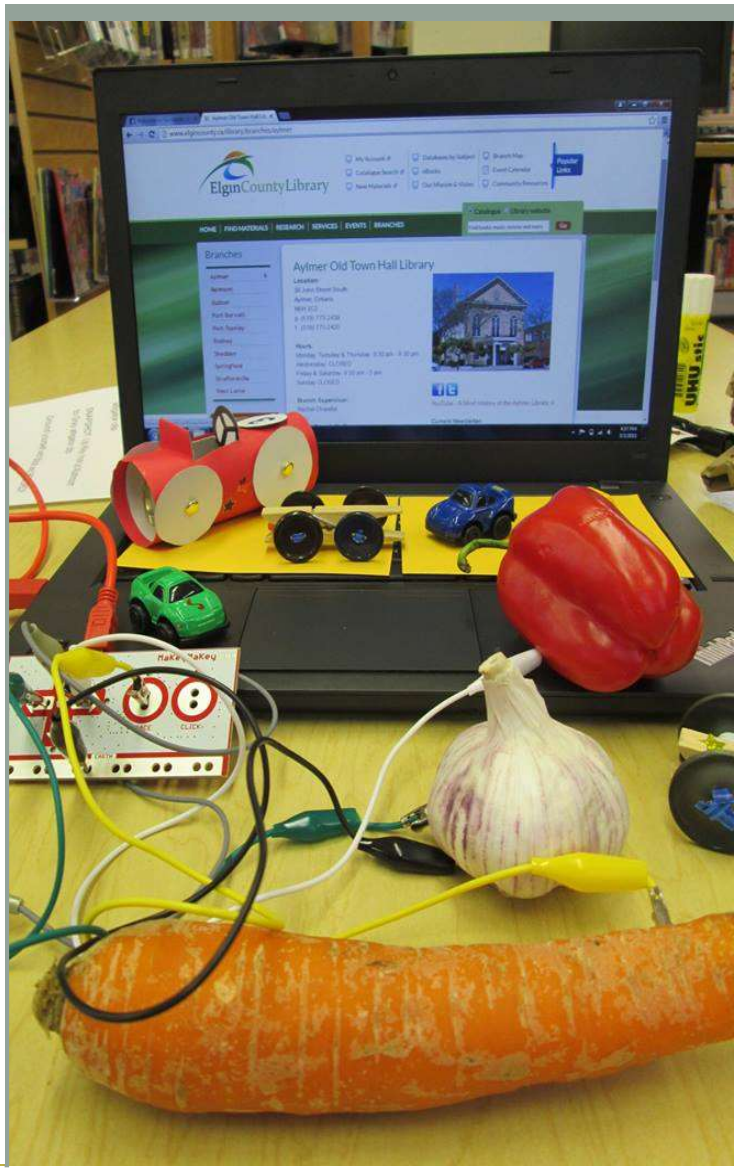
MAKER CULTURE DAYS AT ELGIN COUNTY LIBRARY

SEPTEMBER 25& 26, 2015

Join us for

Maker Fair ACTIVITIES

Workshops, Demos, DIY Stations, Family Fun



PRACTICE
MAKES
PERFECT

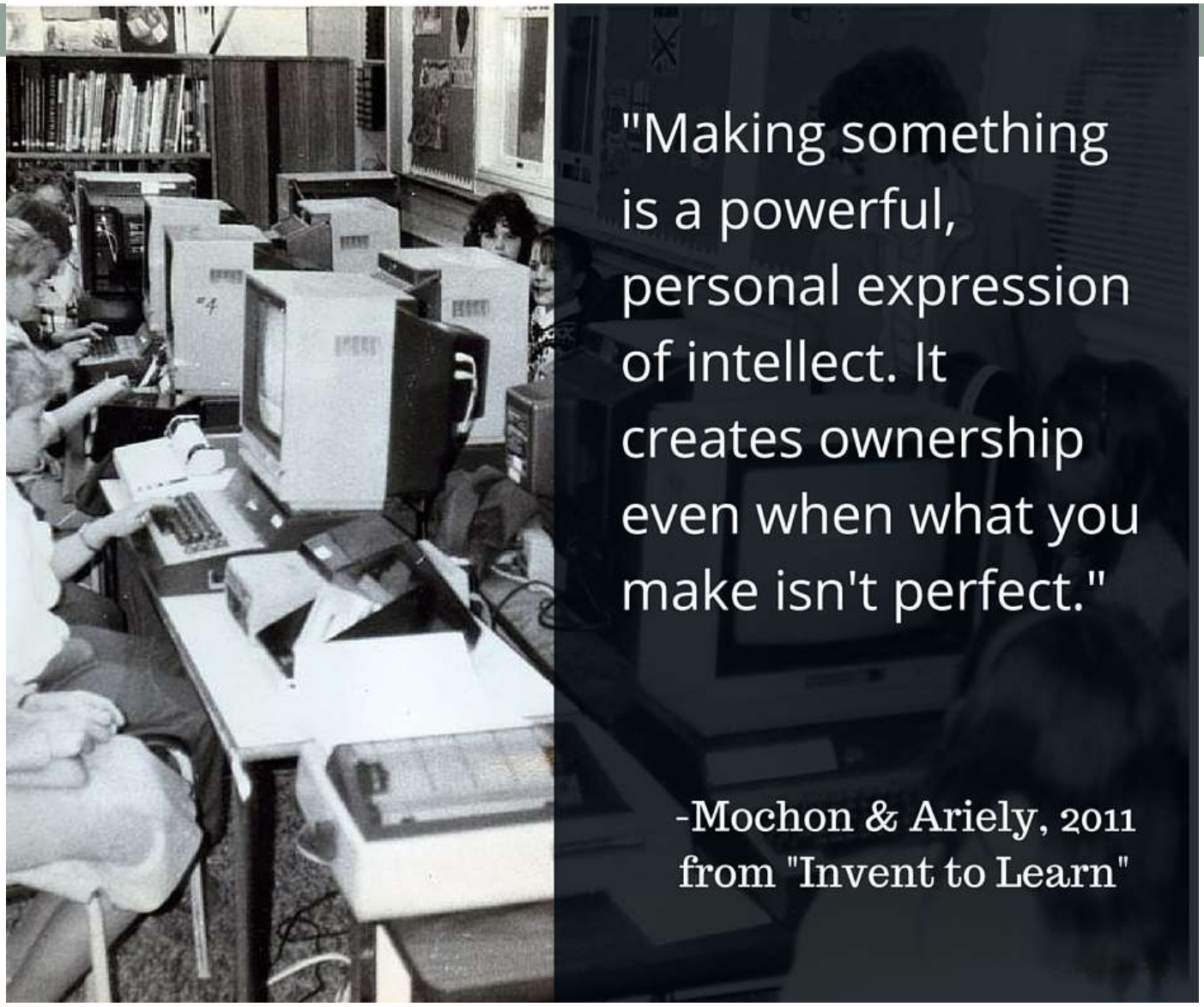
STEAM MAKER PROGRAMS

- Building STEAM program kits available to all branches from a centralized location can be an effective way when space and budget are of concern
- Many STEAM projects can be created with recycled or donated materials from the community
- Investing in shared STEAM resources across the system offers the opportunity to share ideas and projects across branches, and showcases the unique ways each community approaches using the kits
- Building partnerships with community organizations, school groups and community experts can provide valuable opportunities for learning
- Invest in a variety of small and low tech items that are easily transportable and can be used in a variety of ways

TRENDS IN AREA A

Elgin County Library

A few recommended items for STEAM Kits: • Google Cardboard – FOAM Version – more durable and sturdier – a bit more but more cost effective • Makey-Makey Kits • LEDs, Coin Batteries, Copper tape • Button Maker and Button Shells • Makeo Do, Zip Ties • Small Motors • Art Activity/Colouring Kits • Raspberry Pis/Arduinos • Lego Minestorms • Building/Construction Kits • Solar Cells


"Making something is a powerful, personal expression of intellect. It creates ownership even when what you make isn't perfect."
-Mochon & Ariely, 2011 from "Invent to Learn"

FOLLOW

US ON TWITTER

@LIBRELGINCOUNTY

Elgin County Library

FOLLOW

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WWW.FACEBOOK.COM/ELGINCOUNTYLIBRARY