OCLC WebJunction

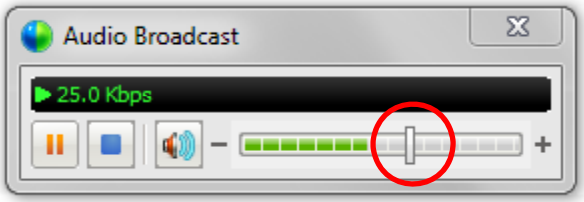
Welcome!

The webinar will begin at 2:00 Eastern/11:00 Pacific

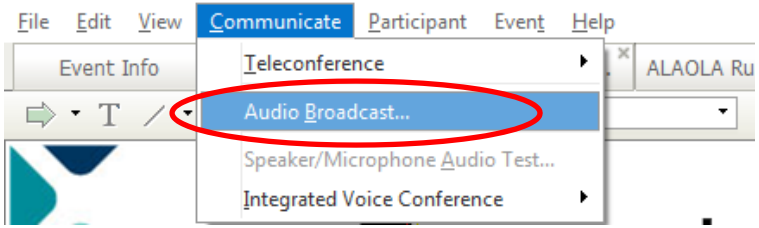
Audio Tips

Today's audio is streaming to your computer's speakers or headphones.

Too loud or soft? Adjust volume level in the Audio broadcast box:

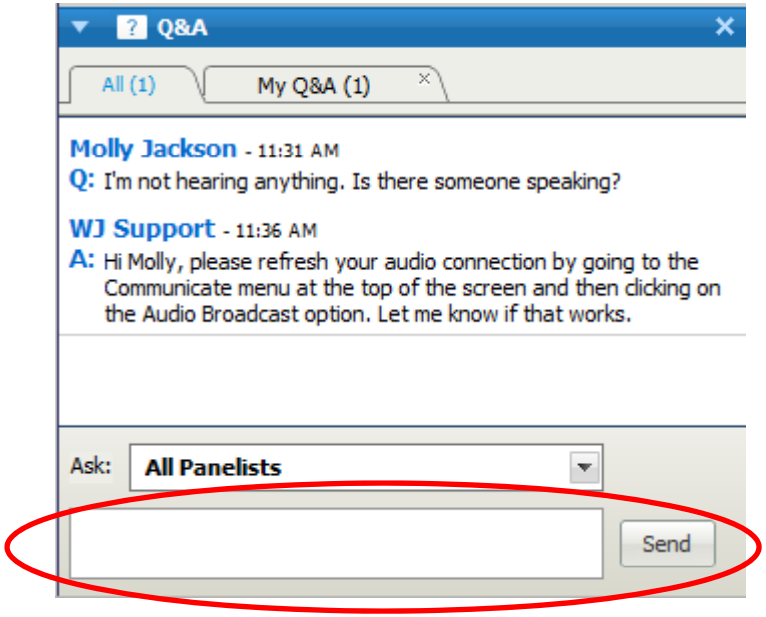


Lost all sound? Hear an echo? Click on the **small radio tower** icon (above chat box) OR go to the **Communicate** menu (at the top of the screen) and select **Audio Broadcast** to refresh your connection.



Need Help?

Please post **technical support questions** into the **Q&A Panel**.



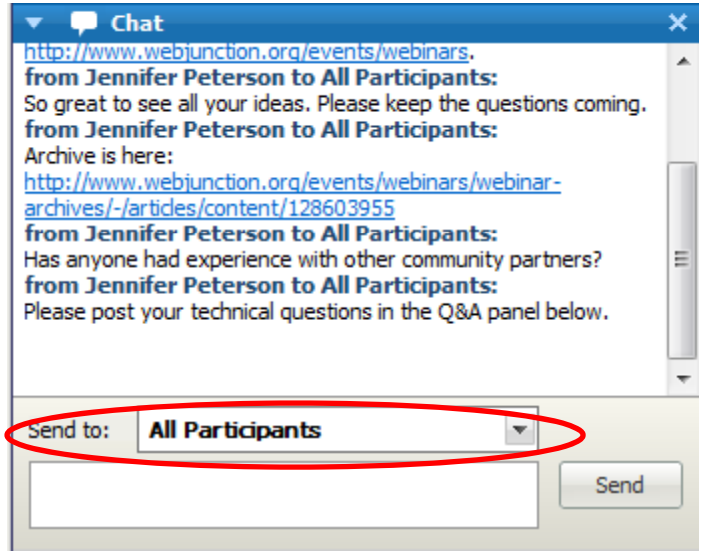
Step 1: Type the problem in the **dialog box.**

Step 2: Click **Send**.

Chat Etiquette

Use **Chat** to talk with attendees and presenters about the topic.

Do not post technical questions to Chat.

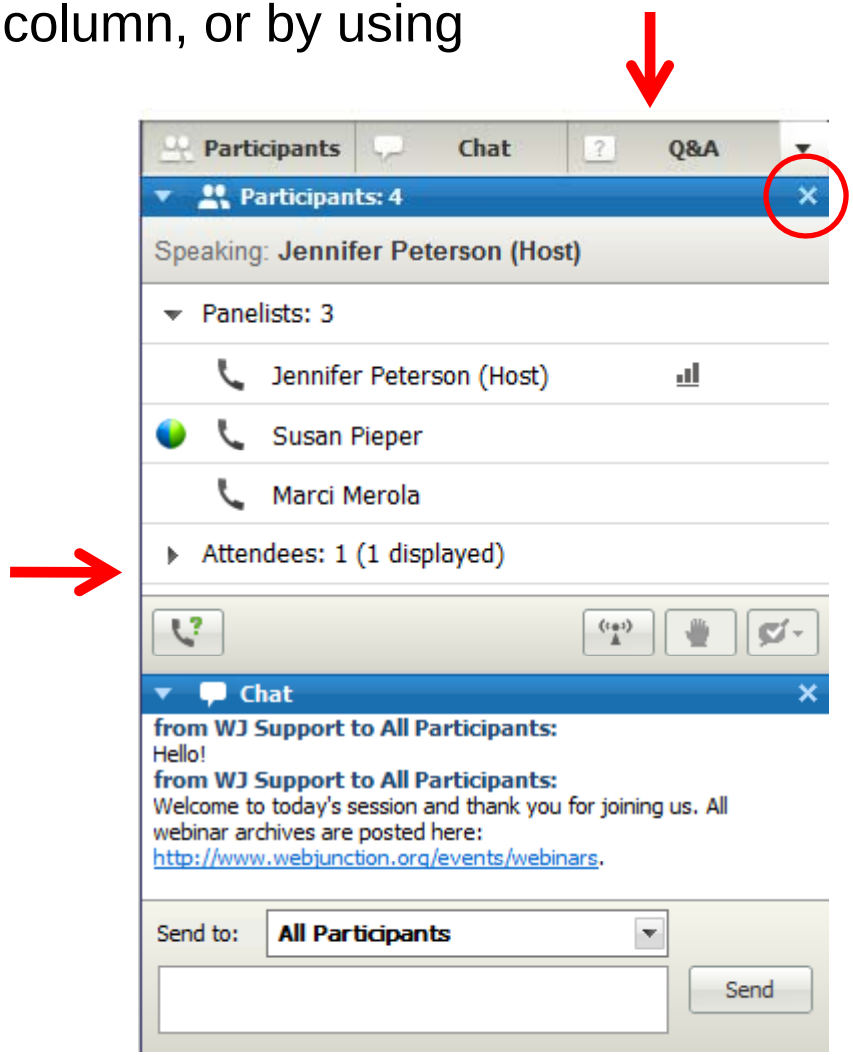


And if you're tweeting, use this hashtag: **#wjwebinar**

Customize your experience

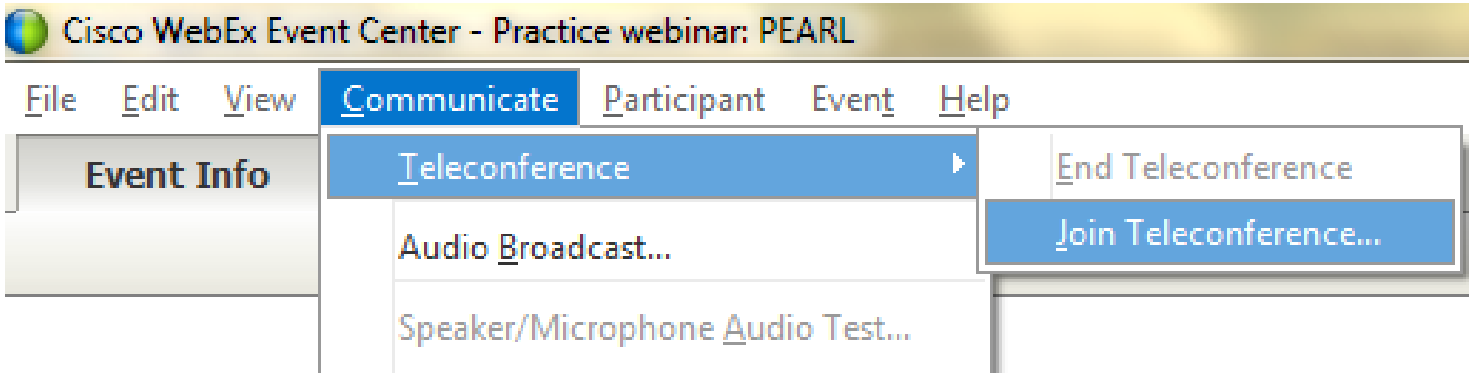
Panels can be opened or closed by clicking on the panel name at the top of the column, or by using the X in the individual panel.

Hover over edge of panels to drag and resize.



Telephone Access

If you not able to listen via your computer, you may join by phone.



Step 1: At top left corner, select

Communicate > Teleconference >Join Teleconference.

Step 2: Call the toll-free number provided.

Step 3: Enter the **Access Code** provided.

Remember to post to **Q&A panel** if you need technical assistance.

Other Technical problems?

Contact WebEx support

Event Number: 710 755 573

Phone: 1-866-229-3239

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Today's Presenters

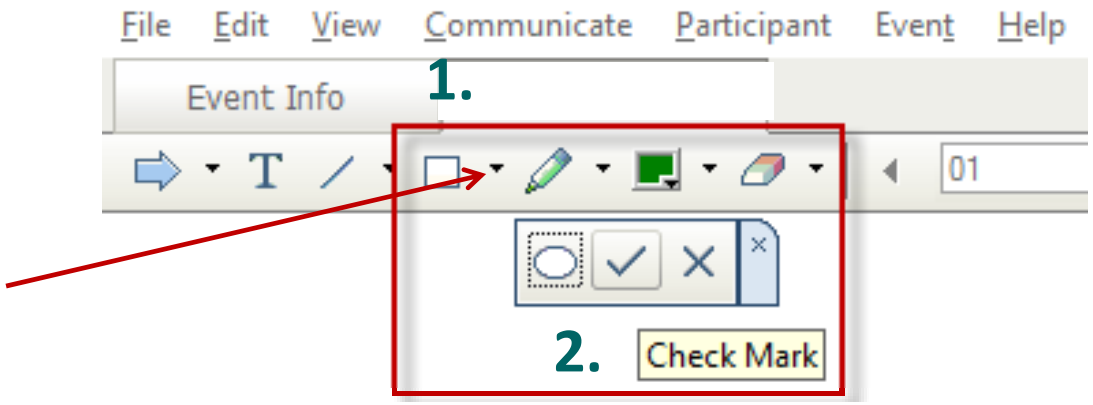
Mara Siegel
Continuing Education Coordinator, Vermont Department of Libraries

Samantha Maskell
Youth Services Librarian, Rockingham Free Public Library, Bellows Falls, VT

Using the check mark

Go to the top left corner of the slide.

1. Find the square and click on small arrow to access check mark.
2. Click on checkmark.
3. Then click on your answer selection.



3.

How does the topic of Makerspaces make you feel?

Image: Alexandre Normand, Flickr
https://www.flickr.com/photos/alexnormand/5992512756/

Image: Dave Buchwald, Wikimedia Commons
http://en.wikipedia.org/wiki/File:Baby_yelling.jpg

Making Your Space: Creators and Makers in the Library

Agenda

- What is a makerspace? Why libraries?
- Arduino? Makey Makey? An overview of the technology.
- Planning
- Getting started
- Jump in and go…

What we'd like you to get when we're done:

- That YOU can do this!
- That YOU don't have to know everything.
- That it's all about play, new ways of learning, and not fearing failure.
- A new program idea that resonated with you that you can't wait to try.

MAKERS

H.Y.P.E. Teen Center

Detroit Public Library

Helping Young People Excel

Bike Tech, Electronics, Sewing/Wearables, Arduino, Robotics, Graphic Design

LibraryFarm

Northern Onondaga Public Library

"Anyone can "check out" a plot!

http://www.nopl.org/library-farm/

Maker Jawn

Free Library of Philadephia

Playing, Learning, and Making things light up in City of Brotherly Love and Sisterly Affection.

Madison Public Library

BUBBLER

ARTinside

Chattanooga Public Library

4

4thfloor.chattlibrary.org

Chicago Public Library

YOUmedia Chicago

Youth-powered 21st century learning

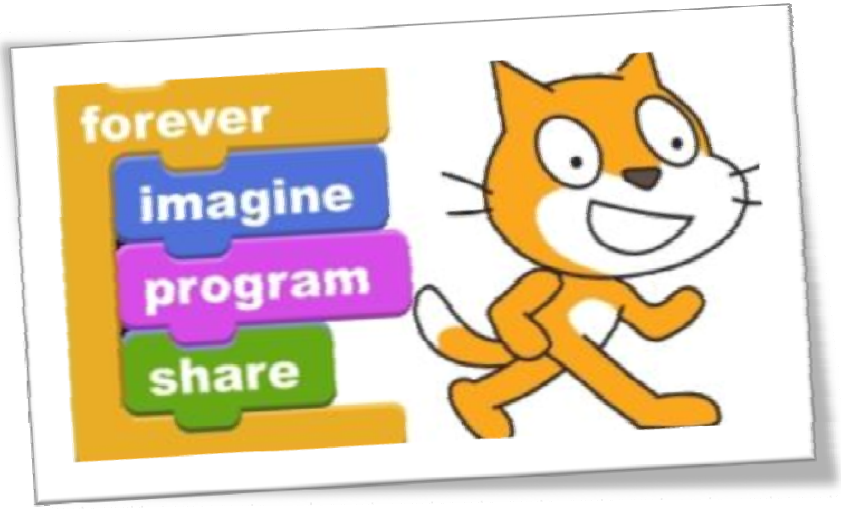
SparkFun Tour Bus

Toy Hacking

Librarians Learn Arduino

Soldering

Coding



Scratch – Ages 6+

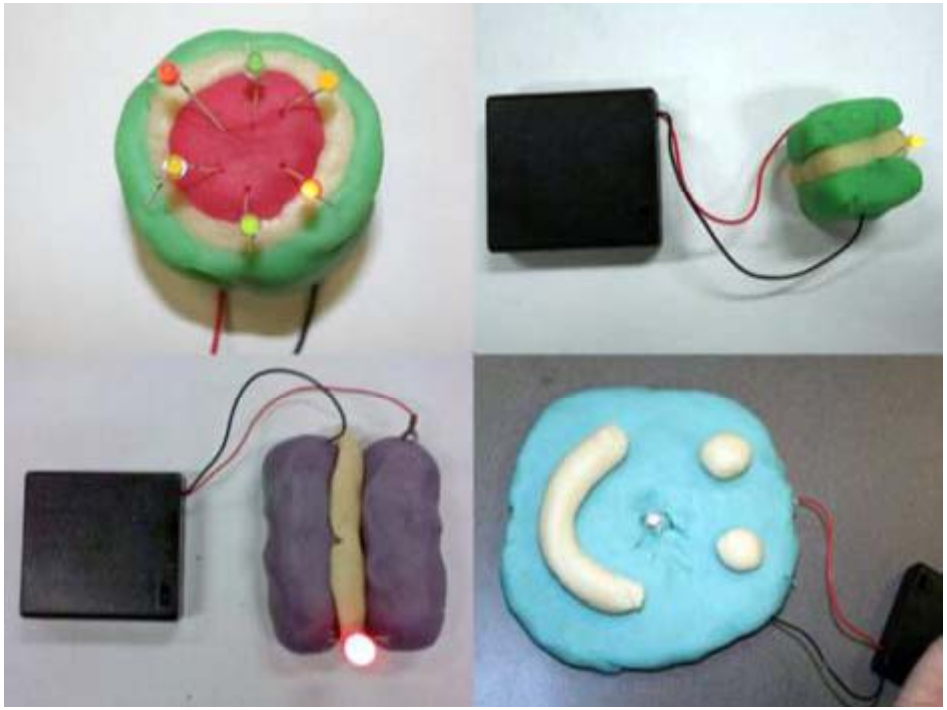
- Visual drag-and-drop programming
- Program interactive stories, games, and animations
- Share creations in the online community.

http://scratch.mit.edu/

Processing

- Open source, data visualization programming language
- Program images, animation, and interactions

https://www.processing.org/



Squishy Circuits

Learn about electricity and electronics by forming circuits out of Play-Doh-like dough — with two varieties, conductive and insulating.

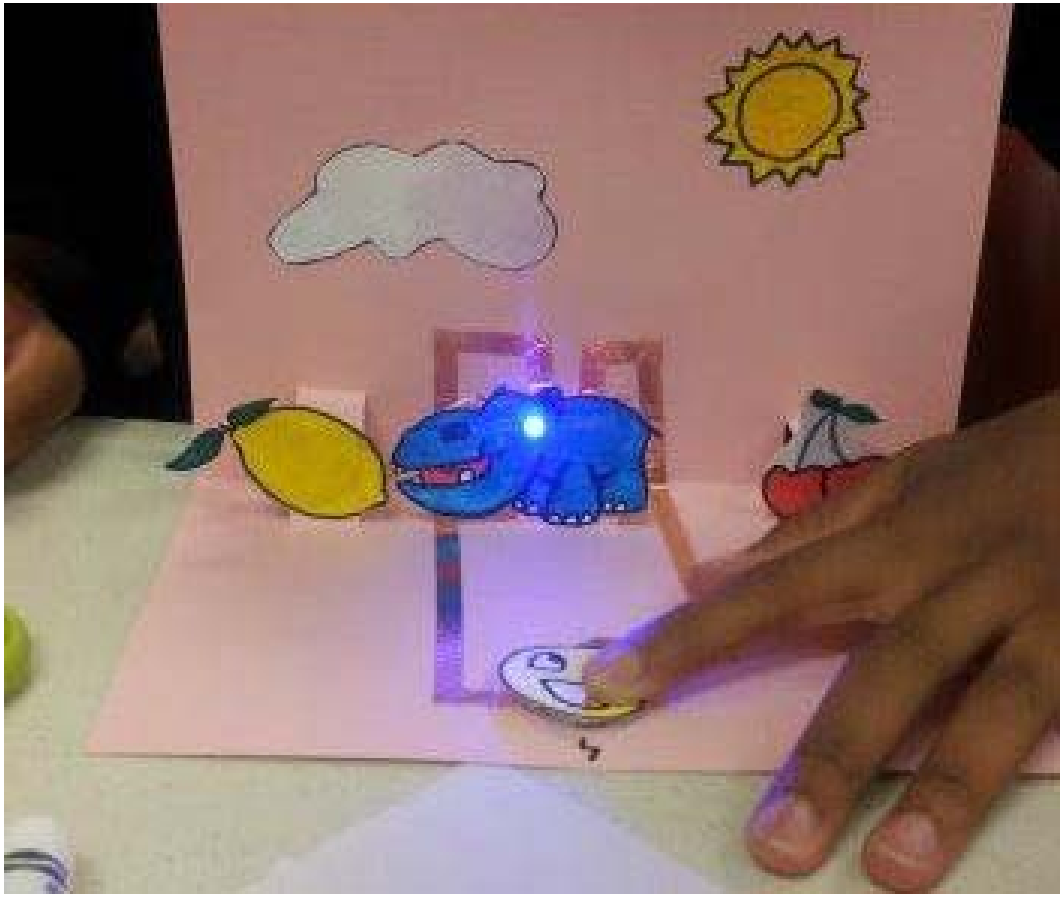
Conductive Dough: Water Flour Salt Lemon juice, Vegetable oil

Insulating Dough: Flour, Sugar, Vegetable Oil, Distilled Water *(regular tap water = lower resistance)*

LEDs

Battery

http://courseweb.stthomas.edu/apthomas/SquishyCircuits/index.htm



Pop-up Card

Copper Tape, 5mm x 50ft $2.95

Light-emitting diodes (LEDs) $.35 each

Coin Cell Battery $1.95

Construction paper, markers, scissors, glue stick, tape

http://www.instructables.com/id/Pop-Up-Circuit-Card/

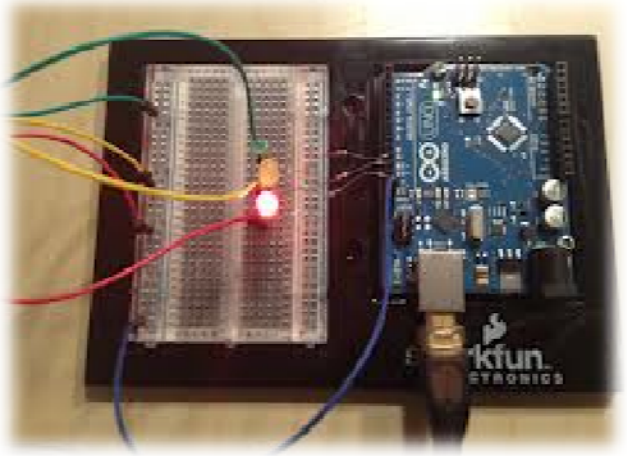
Using a MaKey MaKey, alligator clips, and a USB cable you can turn everyday objects into touchpads and combine them with the internet.

MaKey MaKey sends the computer a keyboard or mouse message.

Use ketchup, finger paint, fruit, plants, coins, anything wet, most food, cats and dogs, aluminum foil…

http://www.makeymakey.com/

Arduino



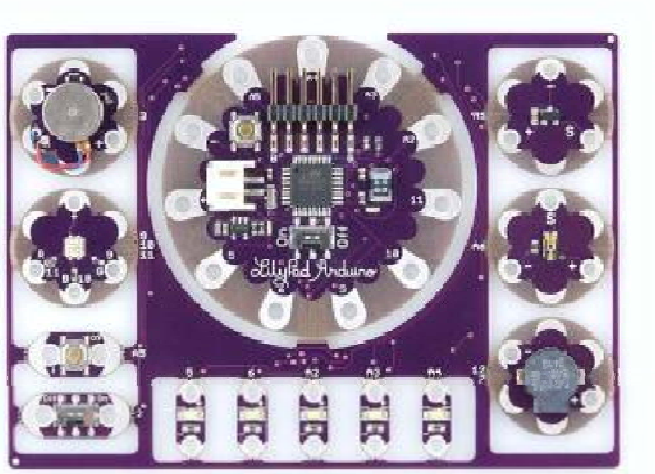
"…an open-source *physical computing platform* based on a microcontroller board, and a development environment for writing software for the board."

Used to *develop interactive objects*, taking inputs from a variety of switches or sensors, and controlling a variety of lights, motors, and other physical outputs.

Arduino projects can be stand-alone, or they can communicate with software running on your computer."

From: Library as Makerspace,
http://librarymakerspace.blogspot.com/

LilyPad



Sewable electronic modules designed to help build soft interactive textiles.

The modules - including a small programmable computer - can be stitched together with conductive thread.

Use ***inputs*** like light and temperature sensors

Create ***outputs*** like LED lights, vibrator motors, and speakers.

http://lilypadarduino.org/#sthash.HNAVvLmW.dpuf

What's Exciting

Democratization of knowledge and information Democratizing innovation	Confidence building Community building
Knowledge creation not just consumption Participatory learning Multigenerational programming	Physical Computing - connecting the physical world to the digital world Citizen science
Supporting STEM/STEAM education Integrating art and science	Amateur engineers Inventors & Innovators
Critical thinking skills Problem solving skills	Preparing citizens for a changing workforce Fueling economic development and entrepreneurship

Libraries are safe places where there are no consequences for failing.

It’s not about the equipment,
it’s about the experience.

Planning considerations

- Your Library's Mission, Vision, and Strategic Plan
- Community Needs
- Partners, collaborators, and conspirators
- Programming
  - Equipment
- Staff

Staff Buy-In

Spaces

- Static – fixed space
- Mobile / Pop-up Space
- Embedded in the community

Getting Started

Lo-Tech

Hi-Tech (sort of)

Volunteers

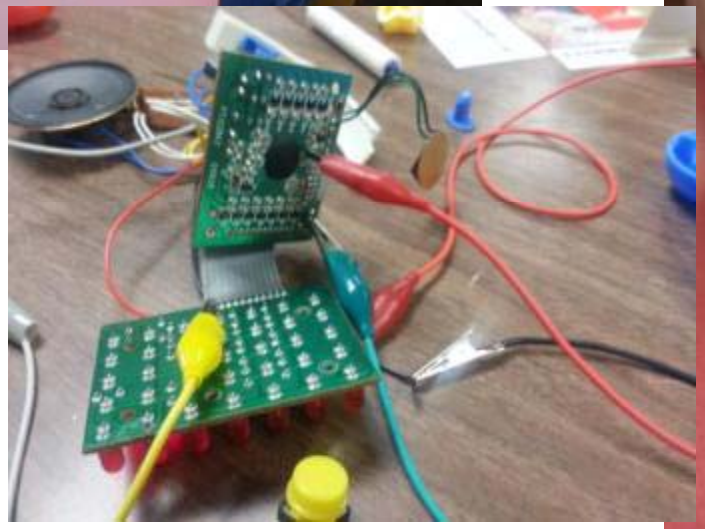
- MakerSpace regulars become great volunteers.
- Schedule trainings and don’t skip safety.
- Reach out for help.
- Collaborators can be found in local businesses, organizations, and institutions.

Rethink Learning

Jump in and go….

Take it apart! Try Toy Hacking and Circuit Bending

- Inexpensive components
- Recycle old toys
- Explore – everyone is learning, even you!



Jump in and go….

Basic Electronics

Squishy Circuits

eSewing

Soldering

Cardboard circuits

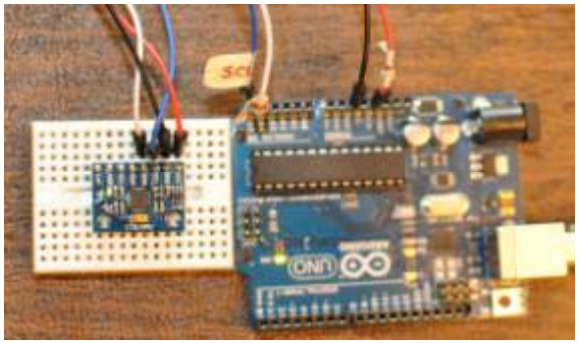
Paper Circuits

Jump in and go….

Coding

Scratch

Arduino



And more!

- Consider components and consumable costs
- Free, open source software available
- Find time to play!

Jump in and go….

Media Creation

Digital Storytelling

Video

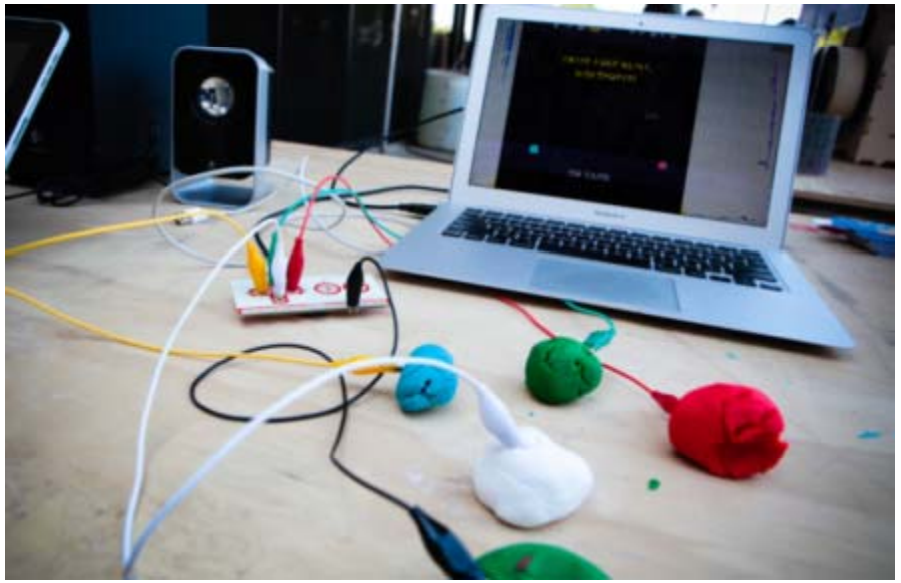
Audio

Audacity®

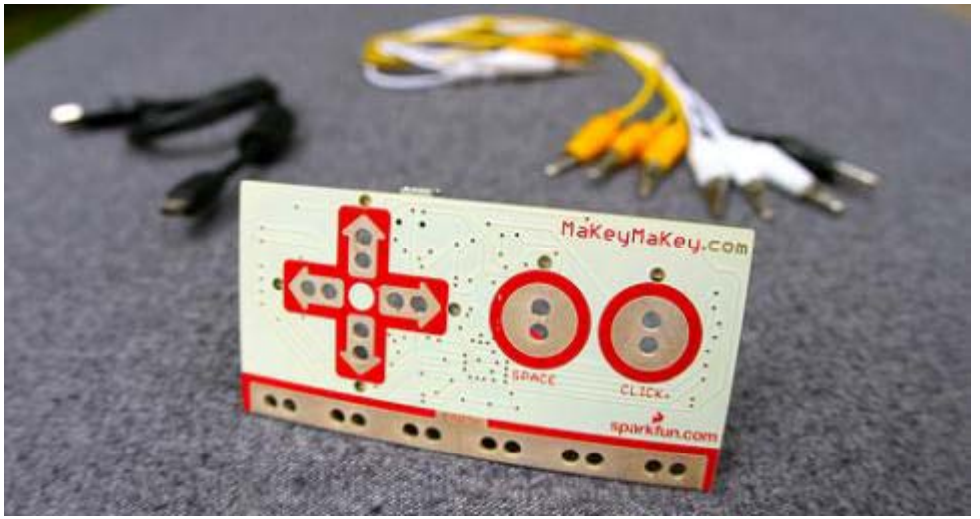
WOOL100.1fm
BLACK SHEEP RADIO

- What tech do you already have available?
- Look for partnerships – local radio stations and public access television are excellent media partners!

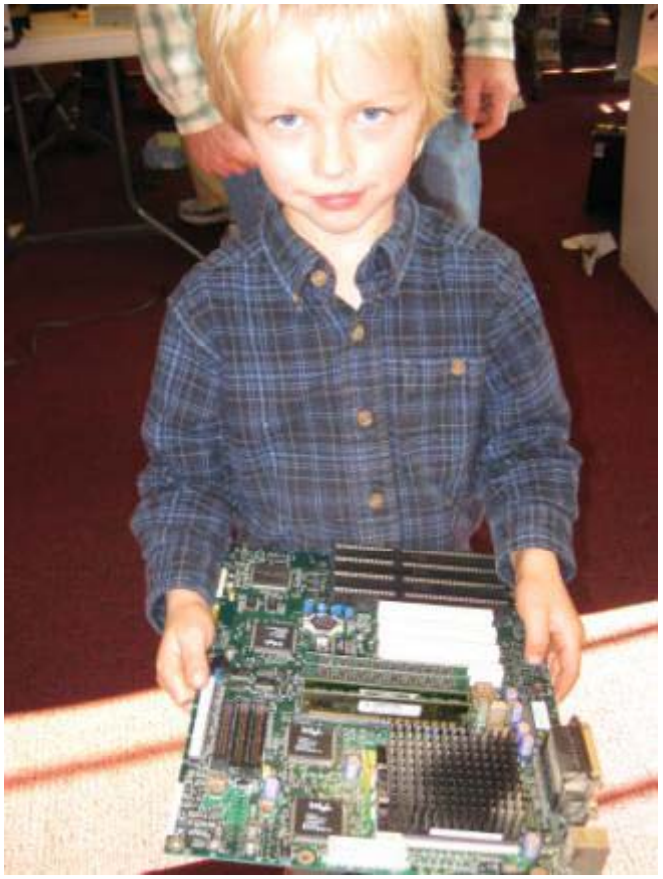
Hack the world!



Makey Makey



WHAT
WE
PLAY
IS
LIFE.
— Louis Armstrong



Deconstructing Electronics

Craftsbury Public Library

Town Population: 1,180

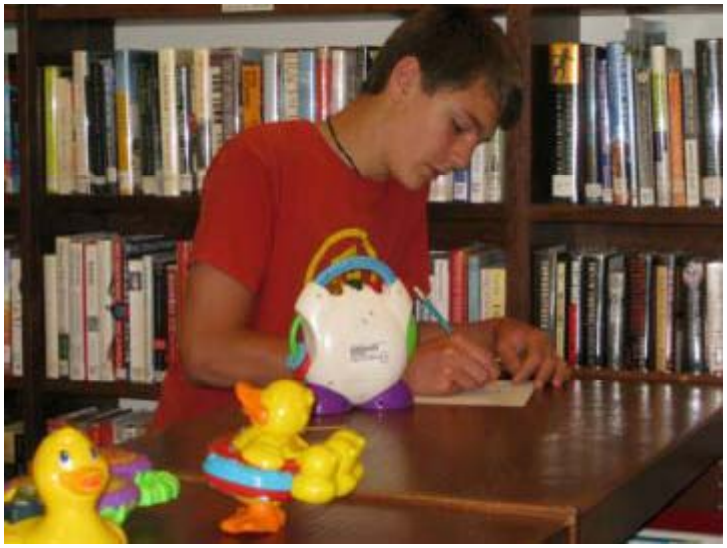
Library Size: 3,000 Sq. Ft.

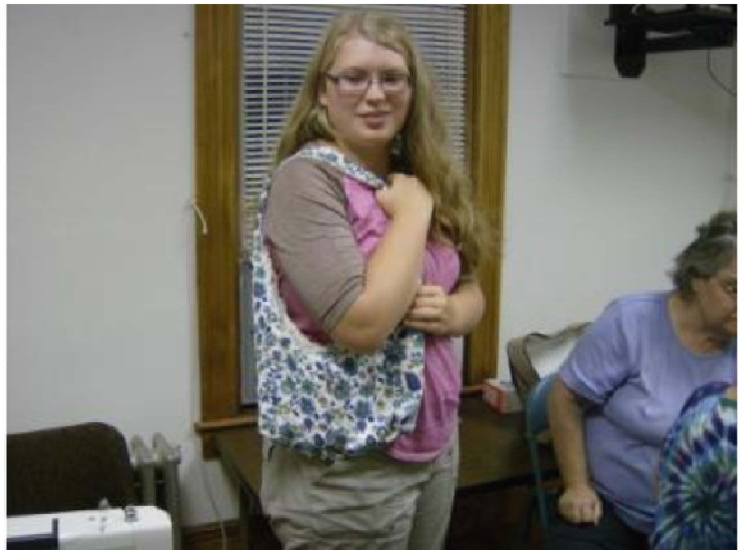
Arduino

Craftsbury Public Library

Toy Hacking

Craftsbury Public Library





Make it and Take it Bag-a-Rama

The library received a donation of a sewing machines for patrons to use at the library. They celebrated with a "make it and take it" bag-a-rama. Mandy Mayotte, who makes and sells bags on etsy, came and helped everyone construct a bag made from donated material or recycled clothing.

Arvin A. Brown Library, Richford

Town Population: 2,505

Library Size: 2,750 sq. ft.

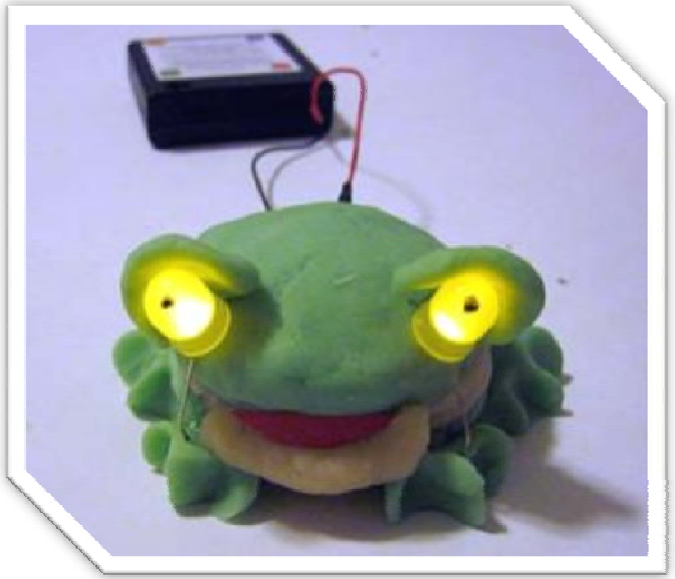
Marble Run

Charlotte Library

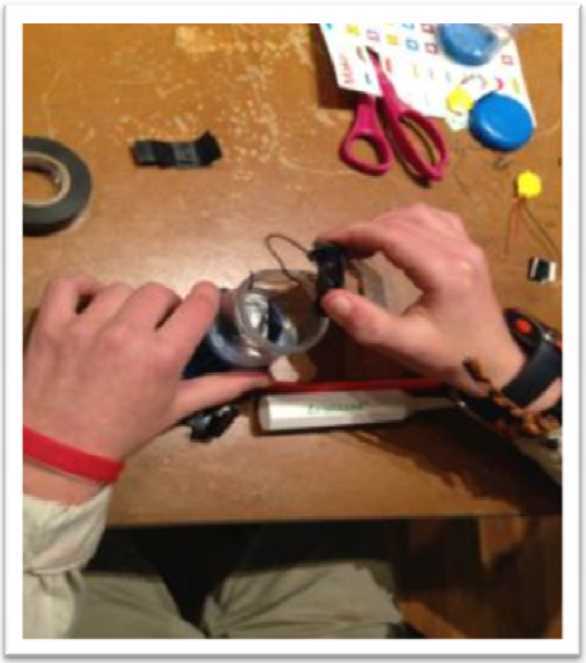
Town Population: 3,739

Library Size: 2,400 sq. ft.

ARDUINO



Squishy Circuits in a School Library

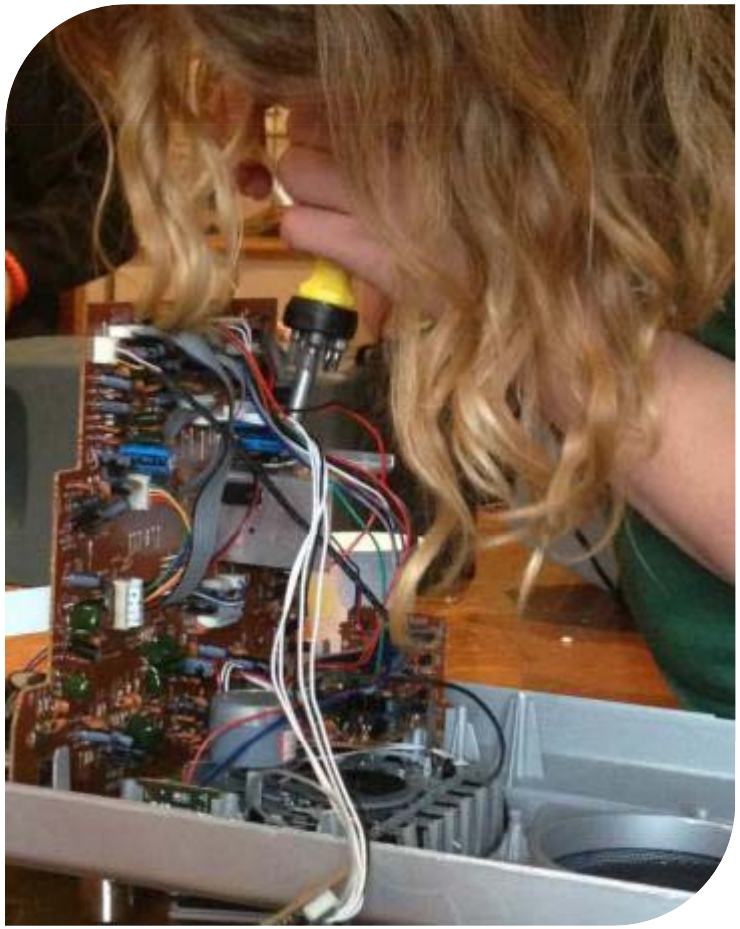


Windsor Public Library

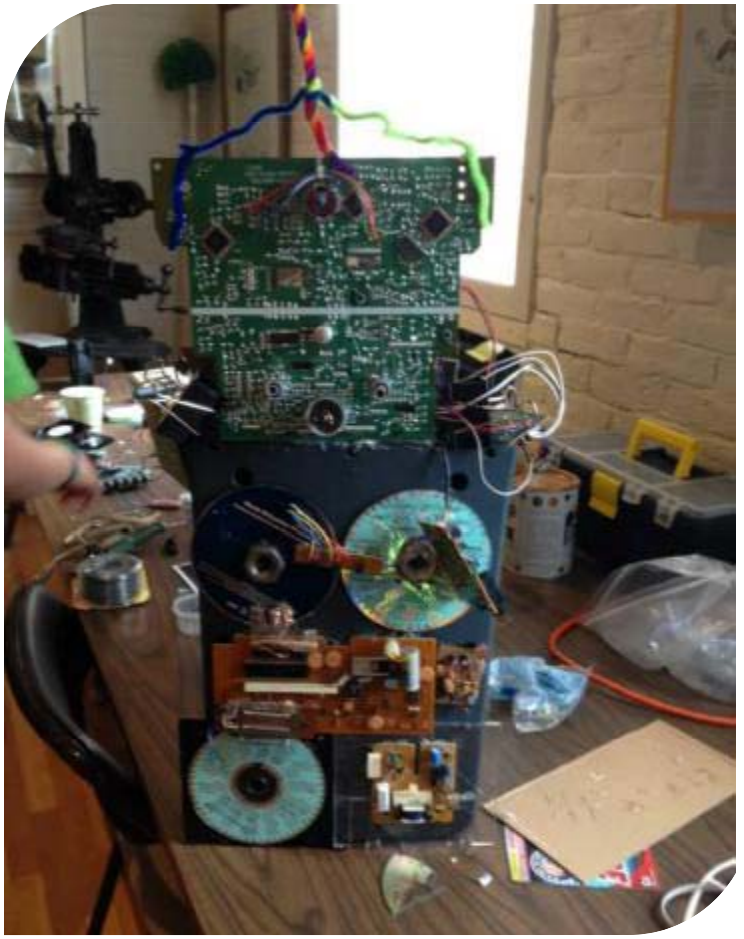
Collaborated with nearby museum for a program building robots using toothbrush motor, battery, wire, scrub brush, and electrical tape.

Town Population: 3,575
Library Size: 3,600 sq. ft.

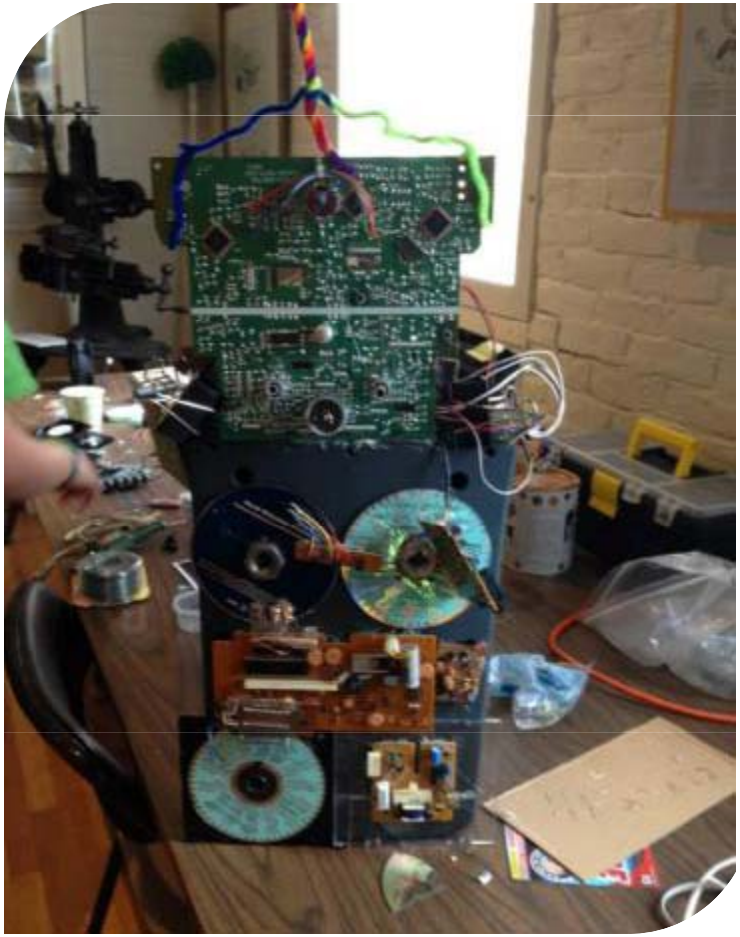
Windsor Public Library



Breaking It



Making It

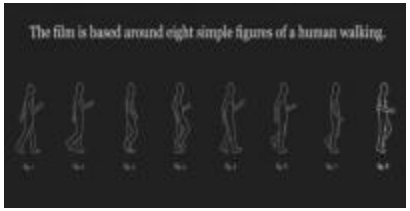


Making It

Windsor Public Library

Ideas from the Barrington Public Library, NH

Week 1: Learn how to make QR Codes – create messages using QR Codes and participate in a library-wide QR CODE SCAVENGER HUNT! Teens will need to use their smart phones (or borrow a staff member's) to read the codes and follow the clues!



Week 2: Learn how to make a STOP-MOTION ANIMATED SHORT FILM and STICK-FIGURE ANIMATION. Pairs will make their own short film.

Week 3: MAKE A BOOK TRAILER for a favorite book. Learn how to use Animoto (free version) and make a book trailer (with music, pictures and text) to be posted on our FB page.

Week 4: Recycle old CDs by making a SCRATCH-ART masterpiece and TURNING IT INTO A CD CLOCK.

How does the topic of Makerspaces make you feel?

Image: Alexandre Normand, Flickr
https://www.flickr.com/photos/alexnormand/5992512756/

Image: Dave Buchwald, Wikimedia Commons
http://en.wikipedia.org/wiki/File:Baby_yelling.jpg

Contact Us!

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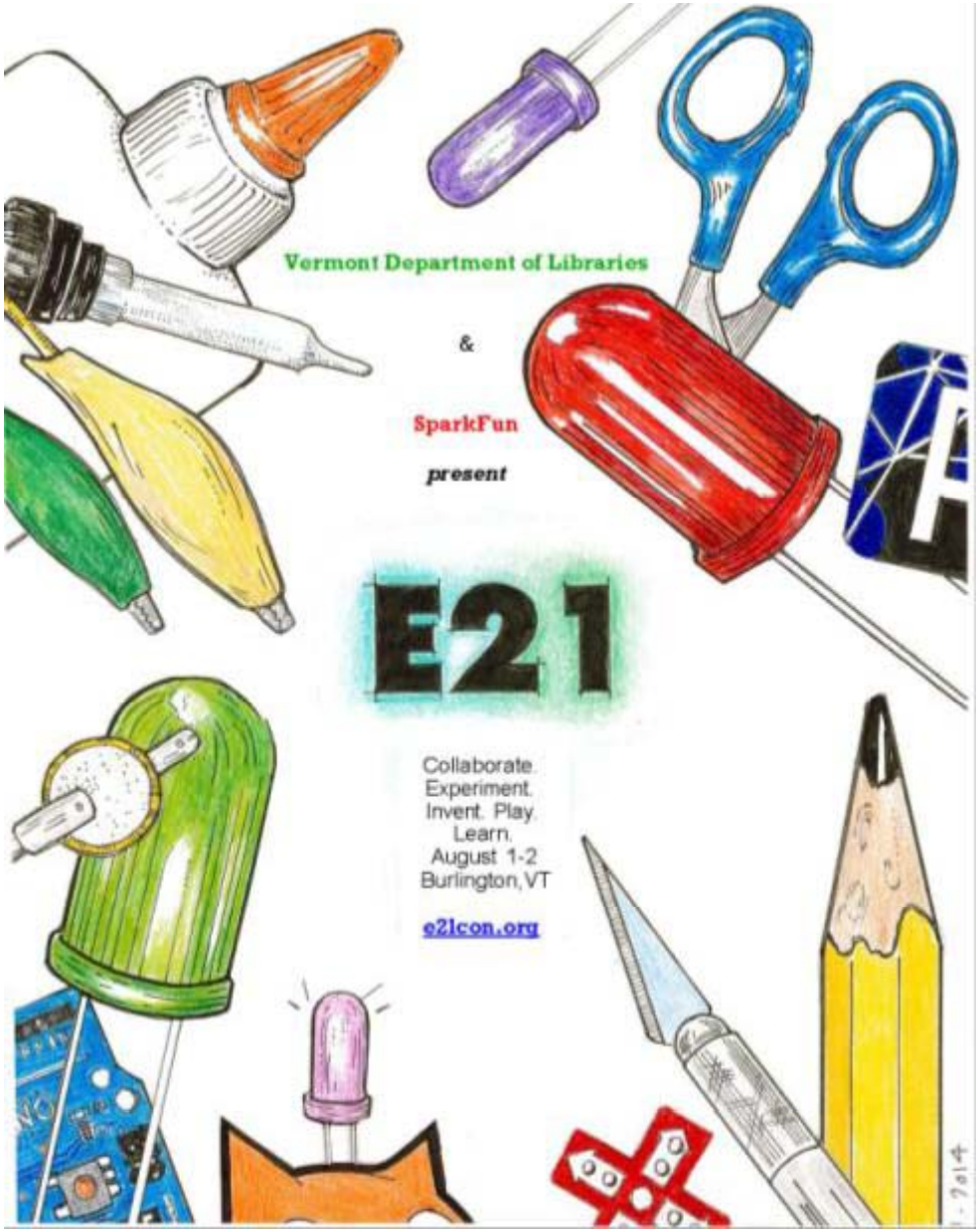
Youth Services Librarian, Rockingham Free Public Library, Bellows Falls, VT

sam@rockinghamlibrary.org

Come to Vermont. Join other librarians, educators, workforce development professionals, makers, and artists for **E21**, an immersive two-day conference. You'll learn skills, make stuff, have fun, and inspire each other.



$250 registration fee includes lodging, breakfast, and lunch for two days.