



# PROJECTS

---

GETTING HANDS-ON

---



1





2



3









# ART & OZOBOTS



# INFINITE SCOPE





Gabe & Dad  
Gabe & Dad

Globetrotting  
Gabe Trionfi

Fashion Magni  
Annie Lee

Wendy & Family  
Wendy & Family

Recipes to try  
Michele Adenjo

Style for Him  
Alexandra Bond

Delicious Food  
Amy Taylor





"STEM ACTIVITY"  
"ALUMINUM FOIL"

# code.org

C

O

D

E

## Dance Party



Dance Project

By: J Age: 18+



Hey Ya Dogs!

By: B Age: 18+



Down to the Beat

By: D Age: 18+

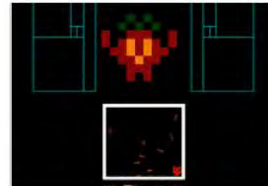


So Fast Clapping

By: G Age: 18+

[View more Dance Party projects >](#)

## Game Lab



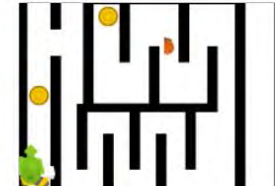
cranberry man fight

By: B Age: 13+



Balloon Collector

By: A Age: 13+



By: J Age: 13+



YouTube All Star Batt...

By: 2 Age: 13+

[View more Game Lab projects >](#)



# machinelearningforkids.co.uk

## Smart classroom

Create a smart assistant in Scratch that lets you control virtual devices.  
Teach a computer to recognise the meaning of your commands



Difficulty: Beginner

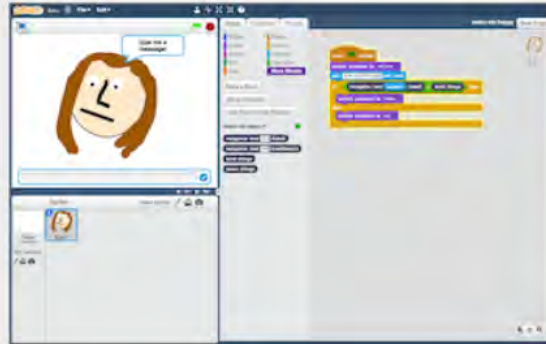
Recognising: **text**

Tags: digital assistants, supervised learning

[Download](#)

## Make me happy

Create a character in Scratch that smiles if you say nice things to it and cries if you say mean things to it.  
Teach a computer to recognise compliments and insults



Difficulty: Beginner

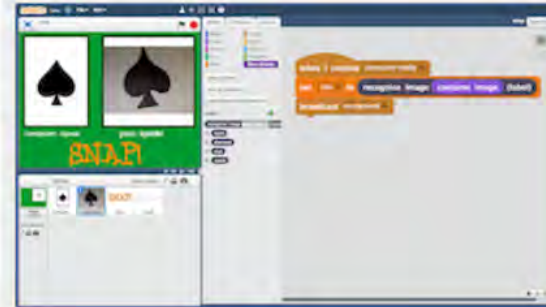
Recognising: **text**

Tags: sentiment analysis, supervised learning

[Download](#)

## Snap!

Make a card game in Scratch that learns to recognise pictures of your card.  
Teach a computer to recognise what icons look like



Difficulty: Beginner

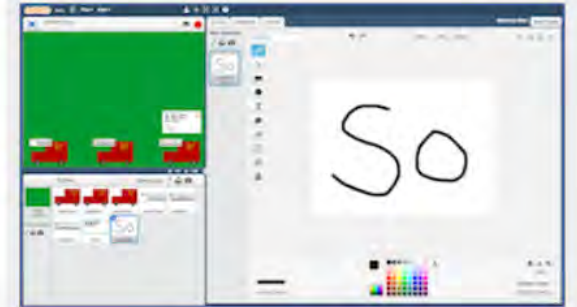
Recognising: **images**

Tags: image classification, supervised learning

[Download](#)

## Mailman Max

Make a postal sorting office in Scratch that can recognise handwritten postcodes on envelopes.  
Teach a computer to recognise handwriting



Difficulty: Beginner


Recognising: **images**

Tags: optical character recognition, handwriting recognition, image classification, supervised learning


[Download](#)


# tryengineering.org

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 **TryEngineering**


[Main Menu v](#)






### Become an Engineer


Find your major and get involved






### Find a University


Over 3100 universities in over 75 countries





### Lesson Plans


135 PDFs  
22 million downloads





#### Ages


[4 - 7](#) | [8 - 12](#) | [12 - 14](#) | [14 - 18](#)

#### Category



 New Lesson Plans

 Most Popular

 All Lesson Plans



# teachengineering.org

### Narrow Results

#### Curriculum Type

☒ Activity

☐ Lesson

☐ Curricular Unit

☐ Sprinkle

☐ Maker Challenge

What's the difference between lessons, activities, units, sprinkles, and maker challenges?

#### Grade Level

Grades K - 12

#### Subject Area

All Subject Areas

#### Engineering Category

☐ Relating science and/or math concepts to engineering


☐ Partial design

☐ Full design




#### Time Required

0 to 1200+ minutes

[clear all filters](#)

 **TeachEngineering**  
STEM curriculum for k-12

Check out **MyTE**

[BROWSE](#) [ABOUT TE](#) [SOCIAL](#) [ABOUT ENGINEERING](#) [GET INVOLVED](#) [EDUCATIONAL STANDARDS](#)

## Browse by Standards

### Narrow Results

Standards Source Organization

Select an organization

Montana

National Council of Teachers of Mathematics

National Science Education Standards

Nebraska

Nevada

New Jersey

New Mexico

New York

North Carolina

North Dakota

To get started, select the standards source organization.

Only organizations for which TeachEngineering has assigned content are listed.

Browse by Educational Standards


Common Core Math

International Technology and Engineering Educators Association

Next Generation Science Standards

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 **Integrated Teaching & Learning Program**  
UNIVERSITY OF COLORADO BOULDER

# www.nsta.org/



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[Home](#) [About NGSS](#) [The Standards](#) [Curriculum Planning](#) [Classroom Resources](#) [Professional Learning](#) [NGSS News](#)

## Curriculum Planning



Introduce a different way of thinking to your classroom

- › [Planning an NGSS Curriculum](#)
- › [Designing Units & Lessons](#)
- › [Selecting Materials](#)
- › [Conducting Assessments](#)



## Know Your **WHY**

Why connect with the maker community?

"Through working with the community maker space, we have been able to bring new ideas and skills to our school.

We've been able to transfer the expertise of the many skilled makers who work and play there into our school. It has also increased our confidence as makers.

As we've become more confident makers, our students and colleagues have become more engaged learners. They've taken more risks and stepped outside their comfort zones with us. We look forward to sharing everything we've learned with the community at large."

-Carrie Speranza & Jennifer Jacobson

**createmakelearn.  
blogspot.com/**



## Primary



### PRIMARY COMPUTING

A guide to the best resources to support primary computing aligned to the English National Curriculum.



### PRIMARY MATHEMATICS

A guide to the best resources to support primary mathematics aligned to the English National Curriculum.



### PRIMARY SCIENCE

A guide to the best resources to support primary science aligned to the English National Curriculum.

### ESERO-UK

Use the context of space to inspire and engage pupils with STEM subjects.

### MEETING THE TEACHERS' STANDARDS

Inspirational ideas, guidance and ready-to-use resources to help you meet the Teachers' Standards.

### TEACHING SCIENCE THROUGH CROSS-CURRICULAR TOPICS

Explore our series of resources supporting the teaching of science through cross-curricular topics.

### TEACHING SCIENCE THROUGH STORIES

From Charlie and the Chocolate Factory to The Gruffalo, children's stories provide a great context for learning science.

### BRING ENGINEERING INTO YOUR PRIMARY SCHOOL

There are plenty of ways you can inspire your pupils with the world and wonder of engineering.

### THE SCIENCE OF LEARNING

The science of learning draws upon educational neuroscience and psychology to help you gain an insight into how students learn.

### STEM CAREERS SUPPORT

A selection of resources, programmes and guidance to help you provide the best possible support to young people.

[www.stem.org.uk/  
resources](http://www.stem.org.uk/resources)





[www.engineergirl.org](http://www.engineergirl.org)



Ford Partnership for  
Advanced Studies

Teachers' Domain  
Intel's Design and  
Discovery Webpage  
Design Squad Online  
Workshop







Engineering Education  
Service Center  
Teacher Geek  
Family Engineering

Discovery Education  
Link Engineering

# SIEMENS

## Siemens SustainU

### SustainU Programs

Programs for Grades K-12	STEAM Learning	Sustainability Learning	For Grades
<b>Career Exploration</b> Students need to see what real world jobs look and feel like. Allow us to plan these out with your district, according to what your individual goals are. This could mean career days, field trips, job shadowing, and other unique ideas.			<b>K-12</b>
<b>Energy Awareness</b> You can promote sustainability and energy efficient practices in your schools with this collection of posters, light switch covers, stickers, and more!			<b>K-12</b>
<b>Energy Enforcers Audit</b> Siemens engineers take students through a building audit of their school; complexity varies based on grade level.			<b>4-12</b>
<b>FUSE Studio</b> FUSE is made up of interest driven challenges that focus on STEAM topics and the development of 21st century skills. FUSE has 25+ challenges in the areas of robotics, electronics, biotechnology, graphic design, 3D printing, Android app development and more. This exciting program was developed in partnership with Northwestern University OSEP.			<b>5-12</b>





[www.careerinstem.com](http://www.careerinstem.com)



<b>H</b>	<ul style="list-style-type: none"><li>• animal scientist</li><li>• astronaut</li><li>• astronomer</li><li>• automotive engineer</li></ul>	<b>H</b>	<ul style="list-style-type: none"><li>• herpetologist</li><li>• hydrologist</li></ul>	<b>R</b>	<ul style="list-style-type: none"><li>• respiratory therapist</li><li>• robotics technician</li></ul>
<b>B</b>	<ul style="list-style-type: none"><li>• bioacoustic researcher</li><li>• biofuels processing technician</li><li>• biologist</li><li>• biomedical engineer</li></ul>	<b>I</b>	<ul style="list-style-type: none"><li>• illustrator</li><li>• information technology specialist</li></ul>	<b>S</b>	<ul style="list-style-type: none"><li>• seismologist</li><li>• soil scientist</li><li>• submarine sonar technician</li></ul>
		<b>J</b>	<ul style="list-style-type: none"><li>• jeweler</li><li>• job analyst</li></ul>		

**CAREERS BY STEM DISCIPLINE**

ENGINEERING

MATH

SCIENCE

TECHNOLOGY

urban planner

electrical engineer

landscape architect

automotive engineer

chemical engineer

computer hardware engineer

agricultural engineer

biomedical engineer

mechanical engineer

civil engineer

aerospace engineer

[www.cpb.org/americangraduate](http://www.cpb.org/americangraduate)

# **AMERICAN** **GRADUATE**

— *GETTING TO WORK* <sup>SM</sup>



Corporation  
for Public  
Broadcasting



# PAPER AIRPLANES

The background is black with several white paper airplanes in flight. There are also white dotted lines forming loops and small white dots scattered across the scene, suggesting a path or a starry sky.



# THE FUTURE

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THINKING HOLISTICALLY AS WE MOVE FORWARD

---



“Envisioning and making the future must be a massively public endeavor.... everyone needs to be a part of the conversation about the future and become actively engaged in making that future.”

**MARINA GORBIS**  
**"THE FUTURE AS A WAY OF LIFE." (2016)**



# Budget & Resources



A close-up photograph of a weathered, dark metal hammer lying diagonally across a light-colored wooden plank. The hammer's head is on the left, and its handle extends towards the bottom right. Several nails are scattered around the hammer: one is partially driven into the wood to the left of the head, another is bent and lying to the right, and a few others are further away. The lighting is dramatic, with strong highlights on the hammer's metal and deep shadows in the wood grain.

**MAKERSPACES**



A close-up photograph of a weathered, dark metal hammer lying on a light-colored wooden plank. The hammer's head is on the left, and its handle extends towards the bottom right. Several nails are scattered around the hammer; some are bent into loops or hooks, while others are straight. The lighting is dramatic, with strong highlights and deep shadows. A semi-transparent dark horizontal band runs across the middle of the image, containing the word "FAILURE" in large, bold, yellow capital letters.

**FAILURE**





# THE AMAZING & WONDERFUL VANISHING CABINET













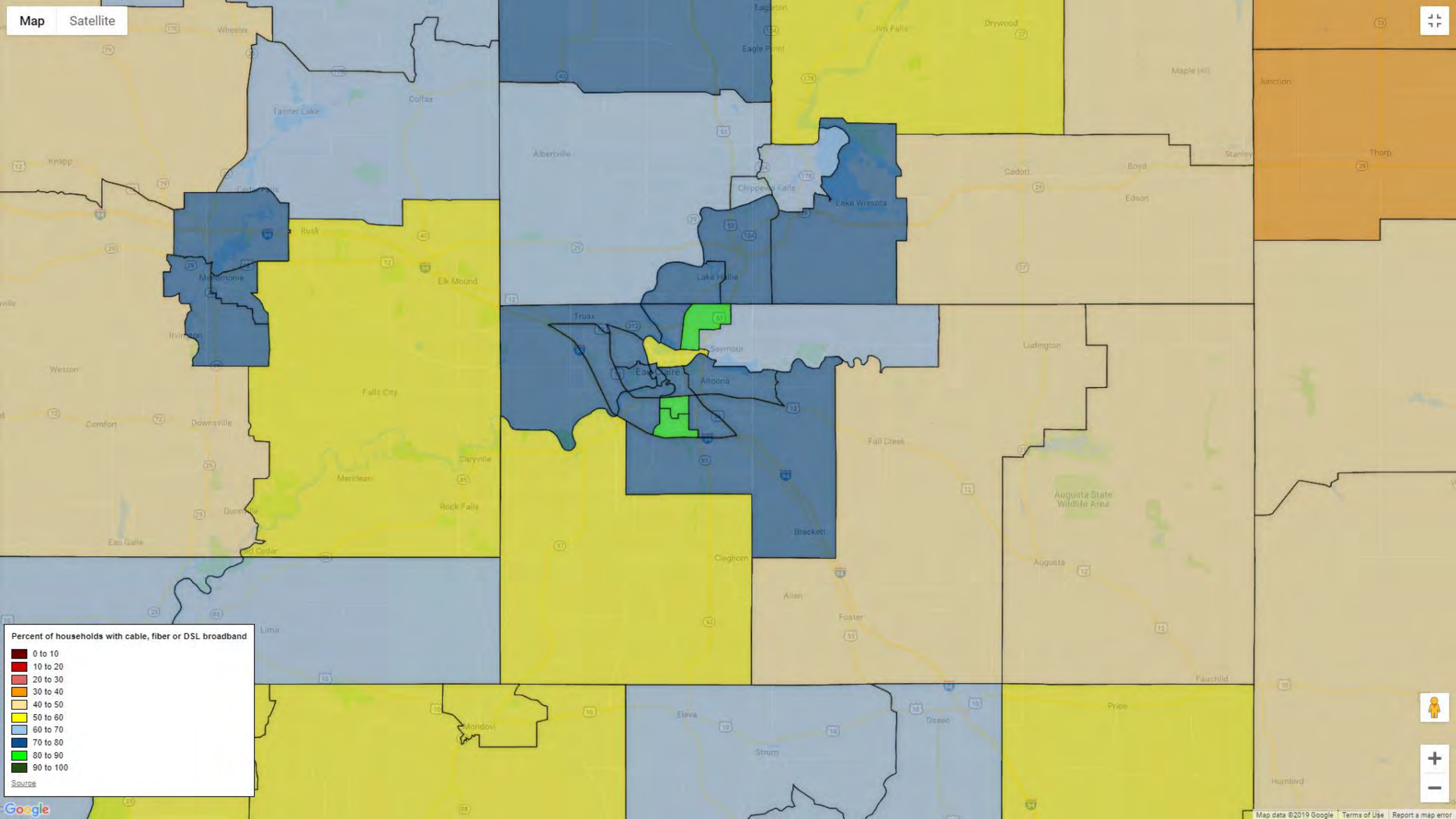


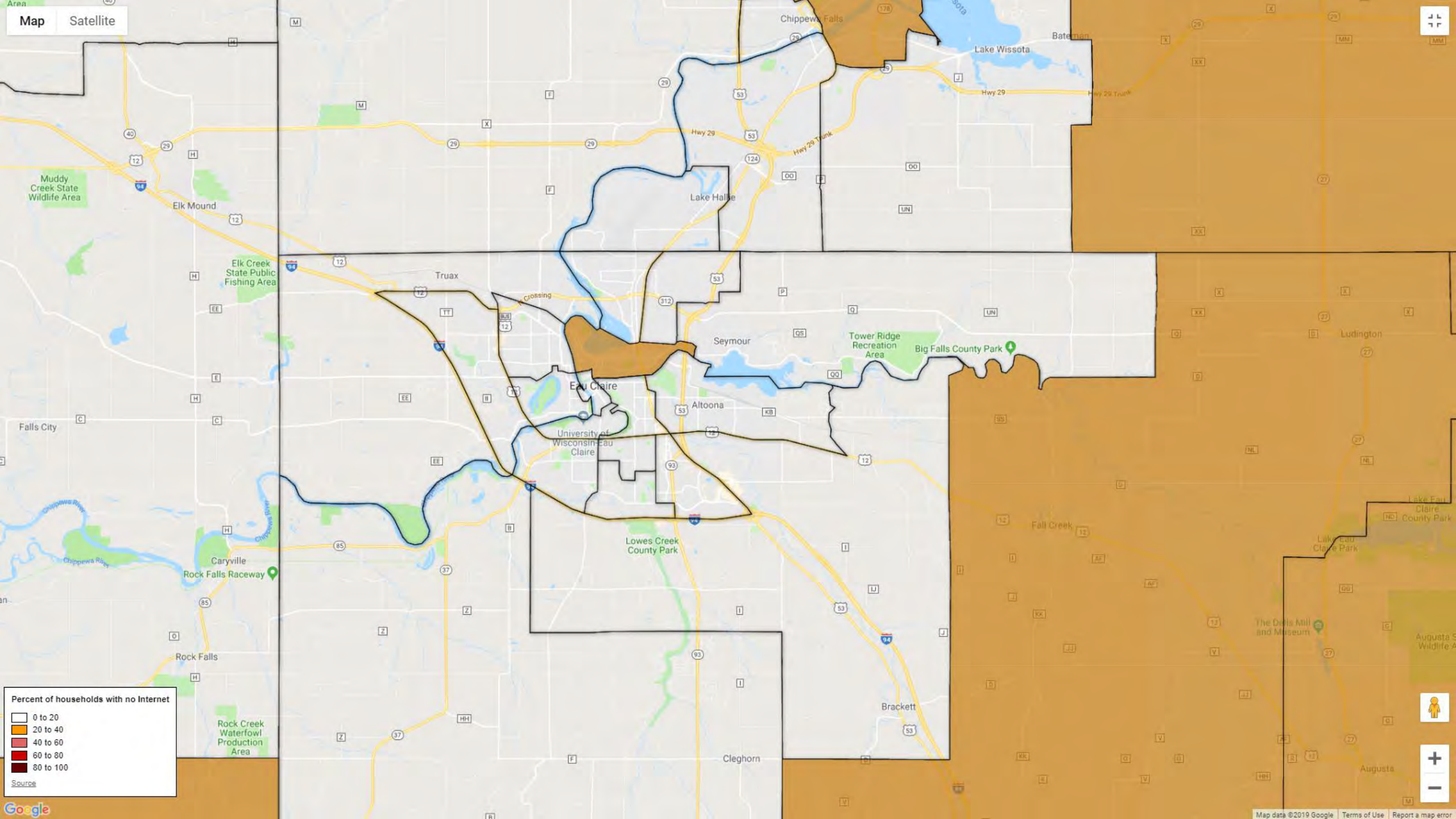
# Robust Infrastructure



Map

Satellite





Map Satellite



**Percent of households with no Internet**

0 to 20
20 to 40
40 to 60
60 to 80
80 to 100

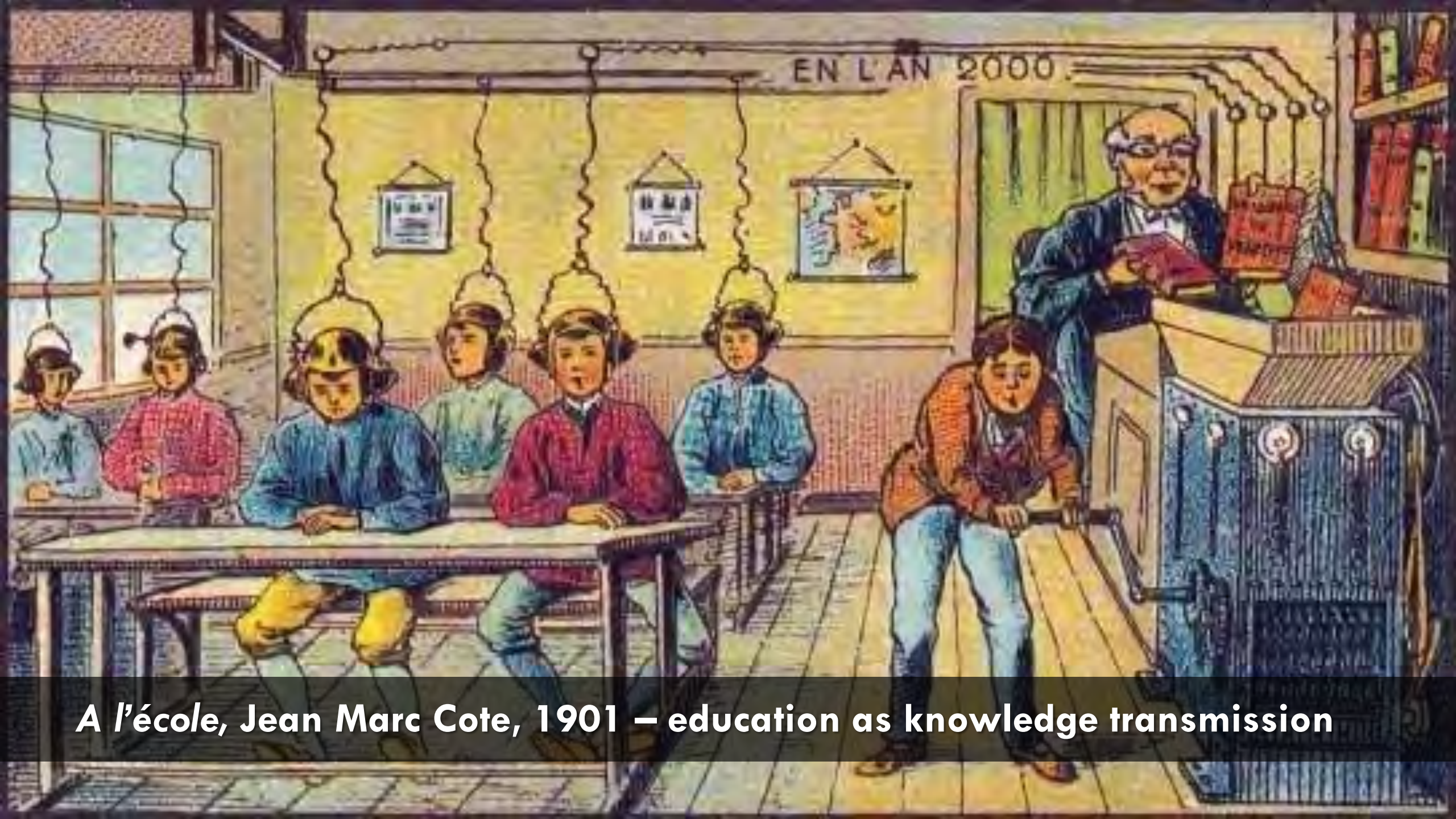
Source





# Use of Space & Time





***A l'école, Jean Marc Cote, 1901 – education as knowledge transmission***







# Collaborative Leadership



# Cultivate Bravery





A photograph of four female students in school uniforms (white short-sleeved shirts and pleated grey skirts) standing at a chalkboard. They are all facing away from the camera, with their arms raised as if drawing or writing on the board. The image has a soft, slightly desaturated teal color palette. Two semi-transparent text boxes are overlaid on the image: a dark grey one at the top and a black one in the middle.

Cultivate Bravery

Find Balance



A photograph of four female students in school uniforms (white short-sleeved shirts and pleated grey skirts) standing at a wooden desk in a classroom. They are facing away from the camera, looking at a green chalkboard. Each student is holding a piece of chalk and appears to be drawing or writing on the board. The student on the far left has a crown drawn on the board behind her head. The student second from the left has bunny ears drawn behind her head. The student third from the left has a crown drawn behind her head. The student on the far right has a crown drawn behind her head. The text 'Cultivate Bravery' is overlaid on the top part of the image in a dark grey font.

Cultivate Bravery

Find Balance

Nurture Curiosity

Think beyond  
the outside of that  
proverbial box.





A photograph of four female students in school uniforms (white short-sleeved shirts and pleated blue skirts) standing in a row, facing a chalkboard. They are all reaching up with their right arms to draw on the board. The student on the far left has a crown drawn on the board behind her head. The student second from the left has bunny ears drawn behind her head. The student third from the left has a crown drawn behind her head. The student on the far right has a crown drawn behind her head. The background is a chalkboard with some faint drawings. The image has a teal and blue color palette.

Cultivate Bravery

Find Balance

Nurture Curiosity

**Earn Respect**





A photograph of four students in school uniforms (white shirts and blue pleated skirts) standing in front of a chalkboard. They are all facing away from the camera, with their arms raised as if drawing or writing on the board. The chalkboard has some faint drawings, including a crown and bunny ears. The image is overlaid with a semi-transparent dark grey band containing text.

Cultivate Bravery

Find Balance

Nurture Curiosity

Earn Respect

Discover their Why

A photograph of four students in school uniforms (white short-sleeved shirts and blue pleated skirts) standing in front of a chalkboard. They are all facing away from the camera, with their arms raised as if drawing or writing on the board. The chalkboard has some faint drawings, including a crown and some scribbles. The image has a soft, slightly desaturated blue-green tint.

Cultivate Bravery

Find Balance

Nurture Curiosity

Earn Respect

Discover their Why

**Develop Cultural Competency**





# GLOBAL CHANGE

AGING  
ADVANCES

ANONYMITY

BADGING

BASIC  
INCOME

BLOCKCHAIN

CO-WORKING  
CO-LIVING

COLLECTIVE  
IMPACT

CONNECTED  
LEARNING

CONNECTED  
TOYS

CREATIVE  
PLACEMAKING

# TRENDS

DATA  
EVERYWHERE

DESIGN  
THINKING

DIGITAL  
NATIVES

DRONES

EMERGING  
ADULTHOOD



# AGGREGATE CLUSTER - MANUFACTURING

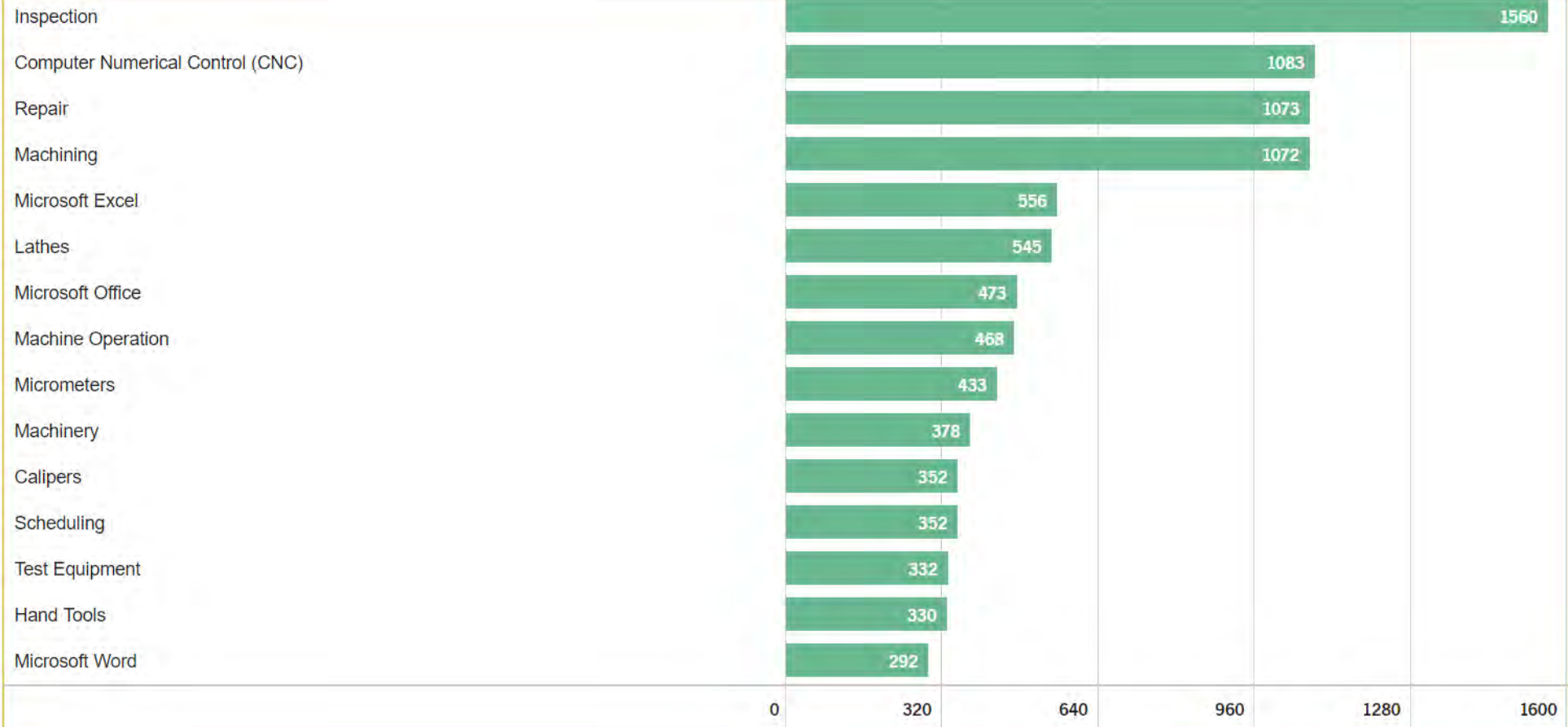
AGGREGATE CLUSTER - MANUFACTURING - FINGER LAK

1. OCCUPATIONAL GROUP  
DEFINITION

2.

6. REAL-TIME LABOR MARKET  
DATA

## ABOUT



Construction Laborers	\$20.51	14,353	16,638	2,285
Landscaping and Groundskeeping Workers	\$14.19	17,624	19,767	2,143
Retail Salespersons	\$12.51	79,466	81,553	2,087
Cashiers	\$9.88	63,086	65,141	2,045
Waiters and Waitresses	\$10.53	43,214	45,086	1,872
Cooks, Restaurant	\$11.96	23,593	25,202	1,609
Farmworkers & Laborers, Crop, Nursery & Greenhouse	\$12.55	14,530	16,094	1,564

# FUTURE WISCONSIN PROJECT

<b>Jobs Requiring High School Credential</b>	<b>Avg. Hourly Earnings 2018</b>	<b>2018 Jobs</b>	<b>2028 Jobs</b>	<b>Net New Jobs by 2028</b>
Personal Care Aides	\$11.15	63,688	84,129	20,441
Home Health Aides	\$12.16	5,131	8,893	3,762
Sales Reps Except Technical and Scientific Products	\$33.91	39,48		
Maintenance and Repair Workers, General	\$19.60	35,64		
Stock Clerks and Order Fillers	\$12.27	39,10		
Receptionists and Information Clerks	\$13.64	21,80		
Electricians	\$28.16	11,63		
Social and Human Service Assistants	\$16.97	12,93		
Sales Representatives, Services, All Other	\$26.91	17,05		
Medical Secretaries	\$17.42	5,03		

<b>Jobs Requiring Post-Secondary, Non-BA</b>	<b>Avg. Hourly Earnings 2018</b>	<b>2018 Jobs</b>	<b>2028 Jobs</b>	<b>Net New Jobs by 2028</b>
Medical Assistants	\$17.40	12,29		
Heavy and Tractor-Trailer Truck Drivers	\$21.31	49,24		
Teacher Assistants	\$13.81	26,540	28,233	1,693
Nursing Assistants	\$13.86	33,449	34,824	1,375
Computer User Support Specialists	\$24.51	12,906	14,265	1,359
Automotive Service Technicians and Mechanics	\$19.56	12,983	13,288	1,315

- **Personal Skills:** Honesty, integrity, responsibility, self-motivation, reliability, and a positive attitude
- **People Skills:** Communication, teamwork, empathy, sales, and emotional intelligence
- **Thinking Skills:** Problem solving, critical thinking, information management, applied learning, adaptability, creativity
- **Technical Skills:** Integration with technology, occupation-specific knowledge





**ARE YOU READY?**

# AUGMENTED REALITY T-SHIRT





Curiscope Virtuali-Tee

**MERGE  
CUBE**





**SMALL LIBRARY**

**BIG PARTNERSHIPS**



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# **PARTNERSHIP**

**An arrangement where two or more parties cooperate to advance their mutual interests.**

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- 
- A close-up photograph of mechanical gears and a bolt. The gears are dark and metallic, with sharp teeth. A hexagonal bolt is visible in the upper left. The background is dark and out of focus.
- 
- 1. Assessment**
  - 2. Development**
  - 3. Community Partners**
-

# PARTNERSHIPS

## NURTURED BY THE PHELPS LIBRARY IN 2018

Innumerable members of all ages from our community  
**Administrators and Educators from Belarus** – partnership as leaders in STEAM Education  
**American Legion** – Missing Man Table  
**Assemblyman Brian Kolb** – Workforce and Economic Development  
**Assemblyman Harry Bronson** – Workforce and Economic Development  
**Association of Rural and Small Libraries** – Libraries as Education  
**Business Ventures** – volunteers  
**Canandaigua Chamber of Commerce** – partnerships in general, following a mixer at PLS  
**Chili Public Library** – makerspace development  
**Chord Teacher** – FLX Maker Fest  
**Clifton Springs Library** – sharing a school district; FLX Maker Fest  
**Clifton Springs Rotary Club** – elevating librarianship  
**Clifton Springs YMCA** – Healthy Kids Day; FLX Maker Fest  
**Clinton Essex Franklin Library System** – Makerspace Development and incorporation of STEAM into library programming  
**Clyde-Savannah Central School District** – Summer STEAM Camps through PLS  
**Clyde-Savannah Library** – Summer STEAM Camps through PLS  
**Coalition on Alcoholism & Addictions of the Finger Lakes** – development of a traveling exhibit on the recognition of drug paraphernalia and grant collaboration  
**Comfort Keepers** – presentation at library  
**Dan Schneiderman** – Maker Faire Rochester, FLX Makerfest, NYLA, FL STEM Hub, numerous maker events and activities  
**Dan Wheeler, High School Tech Teacher** – FLX Maker Fest, sharing of time, tools and technology, advocacy; nominated for FL STEM Hub Award  
**Doug Latch** – volunteer instructor  
**Ellie Metzger, Midlakes Biology Teacher** – sharing of time, tools and technology for the betterment of education  
**Empire Resource Recycling** – FLX Maker Fest  
**Feathertree Felt** – FLX Maker Fest  
**Finger Lakes Advanced Manufacturers' Enterprise** – partners in bridging the technical skills gap and elevating the level of librarianship and role of libraries

**Finger Lakes Community College** – partners in bridging the technical skills gap  
**Finger Lakes Digital Inclusion Coalition** – collaborator for summit preparation, advocacy  
**Finger Lakes Institute** – partner in stream monitoring of Flint Creek  
**Finger Lakes STEM Hub** – partner in STEM Education  
**Finger Lakes Workforce Investment Board** – grant collaborator  
**FIRST Robotics Team Tan[x] 3003** – FLX Maker Fest  
**Gail Loveland** – volunteer instructor, FLX Maker Fest  
**Geneva City School District Librarians and students grades 9-12** – “CTE Expert” for staff and students  
**Geneva City School District Teachers** – presenter for staff development day  
**Gleason Industries** – partner in bridging the technical skills gap  
**GW Lisk Co.** – FLX Maker Fest, grant collaborator, partner in bridging the technical skills gap  
**Harbec, Inc.** – FLX Maker Fest  
**Hobart William Smith Colleges** – FLX Maker Fest  
**IFLS Library System (Inspiring and Facilitating Library Success), Wisconsin** – presenter  
**Infinite Scope** – FLX Maker Fest  
**Interlock Rochester** – FLX Maker Fest  
**Jon Kriegel, retired teacher and engineer** – makerspace consult, Rochester Engineering Society, partner in education  
**Koch Industries** – grant recipient  
**Law Office of Michael Robinson** – Class at the Phelps Library  
**Lyons Central School District** – Summer STEAM Camps through PLS  
**Lyons Public Library** – Summer STEAM Camps through PLS  
**Maker Faire Rochester** – FLX Maker Fest, volunteer at MFR  
**Making and STEAM Round Table** – leading, as President, the Statewide initiative to promote Making and STEAM in libraries through the New York Library Association  
**Mary Tatem** – volunteer instructor  
**Matt Sickles** – community partner in education  
**Mid York Library System** – consult in STEAM, training libraries in maker education

**Midlakes 3rd Graders** – field trip destination  
**Midlakes Elementary** – Personalized Learning STEAM Camp  
**Midlakes Elementary School Library** – sharing of time, tools and technology, advocacy; makerspace consultation; teacher training; nominated for FL STEM Hub Award  
**Midlakes Literacy Teachers** – providing resources for students  
**Monroe Community College Workforce & Economic Development** – presenter  
**Nation of Makers** – partner in Rosie the Riveter 3D Community Print  
**Nation of Makers** – partner in Rosie the Riveter 3D Community Print  
**Nazareth College** – makerspace consult  
**New York Library Association** – Conference Curator, Making and STEAM Round Table President, Advocacy  
**New York State STEM Education Collaborative** – conference presenter  
**Newark Central School District** – Summer STEAM Camps through PLS  
**Newark Public Library** – Summer STEAM Camps through PLS  
**Nick Hargather** – STEM Explorers, FLX Maker Fest  
**North Rose-Wolcott Central School District** – Summer STEAM Camps through PLS  
**Northern Onondaga Public Library** – makerspace consult  
**Ontario County Workforce Development** – partner in education and outreach  
**OptiPro** – STEM Explorers  
**Patriot Energy - Ambit** – FLX Maker Fest  
**Phelps Community Center** – ongoing partnership, STEAM Camps for School Age Program, summer program for kids, grant collaboration  
**Pioneer Library System** – Leading the Libraries are Education Task Force; Digital Inclusion Coalition  
Preston Foundation  
**Red Creek Central School District** – Summer STEAM Camps through PLS  
**Red Creek Library** – Summer STEAM Camps through PLS  
**Roc City Laser** – FLX Maker Fest  
**Rochester Global Connections** – international partnership with Belarusian educators in STEAM

**Rochester Museum and Science Center** – grant collaborator  
**Romulus Central School District** – participant in the Makerspace night  
**Rose Free Library** – Summer STEAM Camps through PLS  
**Seamist Designs** – FLX Maker Fest  
**Second Seasons Consignment Shop** – grant collaborator  
**Senator Helming** – STEM Explorers, advocacy  
**Seneca Waterways Council** – various STEAM events and activities, FLX Maker Fest  
**Siemens Industries** – FL STEM Hub and STEM Explorers  
**Sodus Central School District** – Summer STEAM Camps through PLS  
**Sodus Central School District** – Summer STEAM Camps through PLS  
**Sodus Library** – Summer STEAM Camps through PLS; consultant on book repair  
**South Tier Library System** – presenter for their LEAD program  
**Susan Vose** – Volunteer instructor  
**Terra Science** – grant collaborator  
**The Britting Family** – support of STEAM activities  
**The Scouts** – library lock-ins, volunteers  
**The Strong National Museum of Play** – makerspace consult  
**Upstate Research Rocketry Group** – FLX Maker Fest  
**Victor Farmington Library** – FLX Maker Fest  
**Village of Phelps** – community partner, grant collaborator  
**Waterloo Central School District** – makerspace consult  
**Wayne Finger Lakes BOCES** – volunteer students  
**Wayne Finger Lakes BOCES School Libraries Division** – presenter  
**Wayne Finger Lakes P-TECH Program** – partner in education  
**Wayne Finger Lakes Regional Principals** – consult re: innovative libraries of the future  
**Western New York Library Resources Council** – conference presenter  
**Wolcott Free Library** – Summer STEAM Camps through PLS  
**Wood Library** – makerspace visit  
**Yarnthusiast** – FLX Maker Fest



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It's mostly about

**THEM**

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# UX

How a user interacts with &  
**RESPONDS TO**  
an interface, service  
or product.



The driving force  
behind all our  
decisions is  
**EMOTION.**

**It's human nature.**







**How do  
I want  
them to  
react?**





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**VISCERAL**

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# BEHAVIORAL

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---

**REFLECTIVE**

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# A GUIDE TO DEVELOPING AND NURTURING **PARTNERSHIPS**







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1.

Who are YOU?

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2.

Who is your  
**AUDIENCE?**

---





---

3.

Who is the  
**DECISION  
MAKER?**

---



---

4.

Who are the  
**OTHER**  
**STAKEHOLDERS?**

---







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5.

What is the  
**NEW**  
**INFORMATION?**

---





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6.

**What is your  
GOAL?**

---





---

7.

**Maintain  
communication.**

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8.

**Know when  
to move on.**

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# COMMUNITY PARTNERS

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TOGETHER WE ARE STRONGER

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**The Community**  
**Libraries & Schools**  
**Higher Ed Institutions**  
**Organizations**  
**Manufacturers**  
**Municipalities**  
**Students**

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# COMMUNITY ISSUES

Pressure of College Culture

Lack of Workers with Skills

Workers Failing Drug Tests

Lack of Awareness of Opportunities

Workforce & Economic Development

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# VOLUNTEERS

## & THE LIBRARY

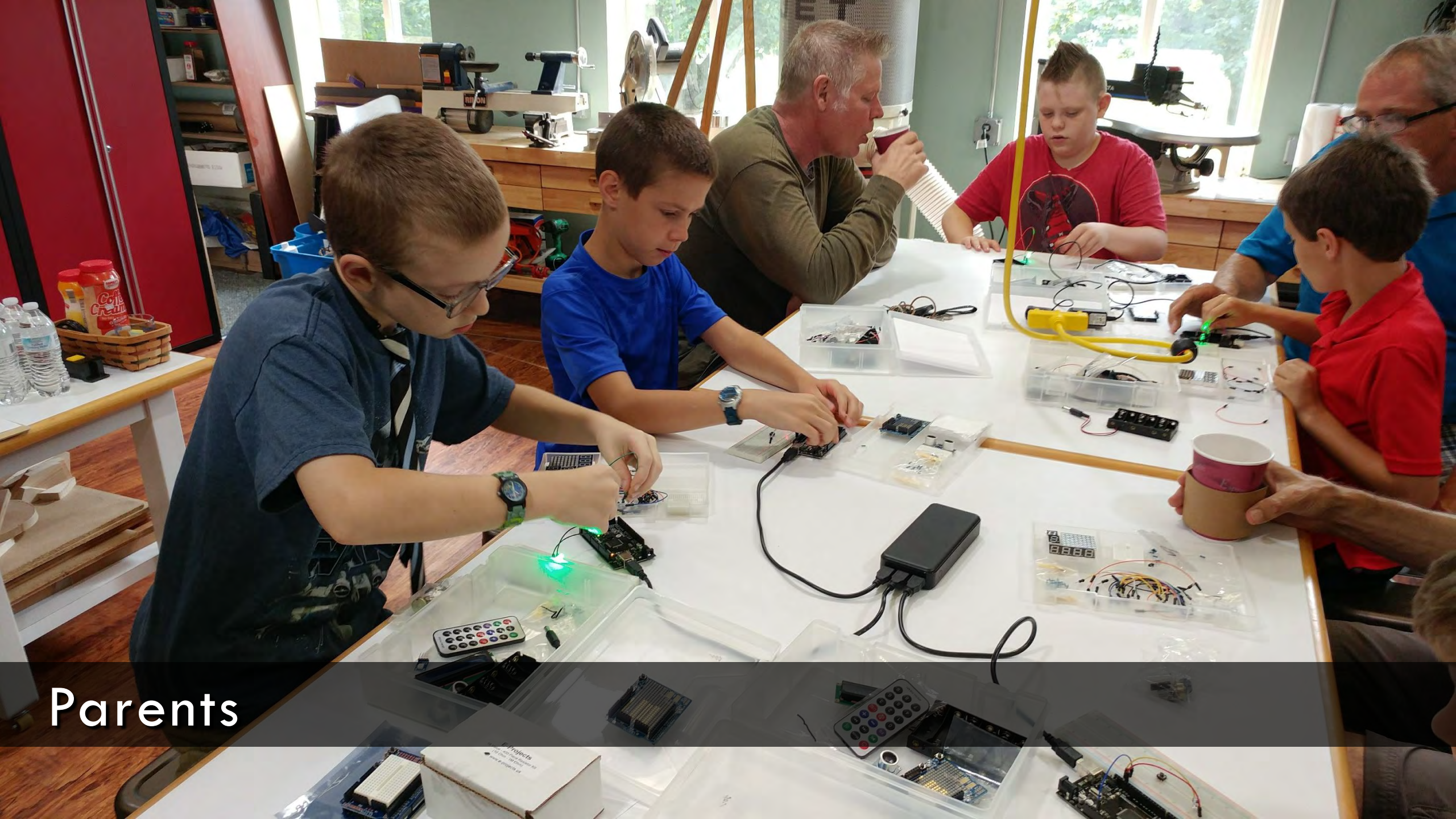






Students and Teachers





Parents





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# STEAM SCHOLARSHIP

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# MANUFACTURERS & THE LIBRARY







Finger Lakes **Advanced Manufacturers' Enterprise**  
Building Minds that Make It





# Field Trips and Job Shadowing





Local Businesses



# EDUCATORS

& THE LIBRARY







Career Day





STEAM Camps





**W FL PTECH** @WFLPTECH · Jan 9

#WFLPTECH students (Ss) at Phelps Library STEM lab today. Each week we visit 2-3 times bringing new groups of Ss to experience this unique and awesome place. Check out more on their website.



**W FL PTECH** @WFLPTECH · 21 Dec 2018

#WFLPTECH Ss got to use the really cool VR game-wear at the Phelps Library  
#STEM Lab.



1



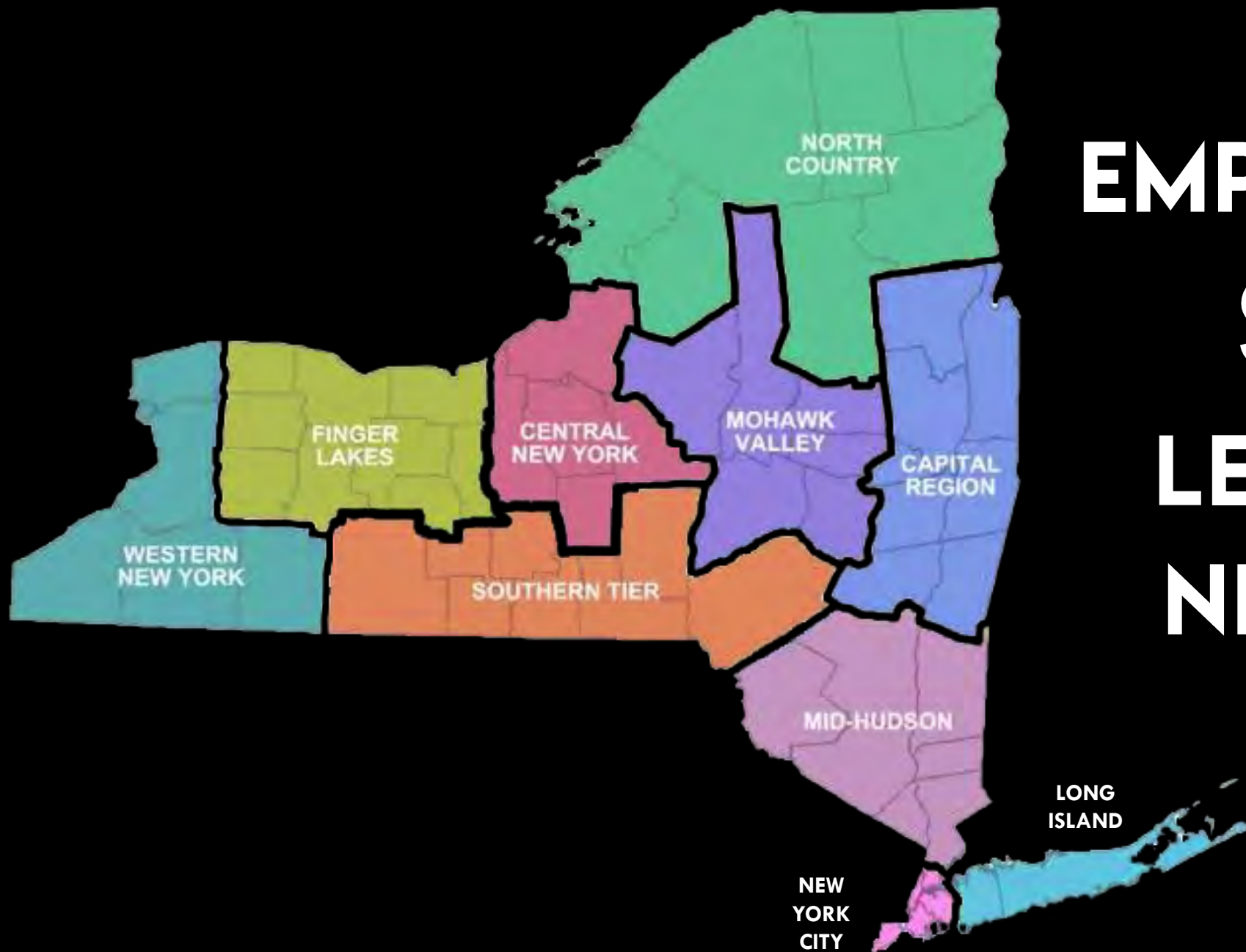


Augmented Reality Sandbox



# ORGANIZATIONS & THE LIBRARY





# EMPIRE STATE STEM LEARNING NETWORK



**STEM**

Effective STEM

Grants

Resources

STEM Goals

Leadership Team

Partnership Resources

STEM / EFFECTIVE STEM EDUCATION PROGRAMS

# Effective STEM Education Programs

STEM Education programs vary considerably across the state of Wisconsin, which makes sense based on local needs and capacity. Nevertheless, there are important characteristics of STEM programs that should be considered across the board as discussed in the 2014 Wisconsin STEM Education Wisconsin Summit. Below, we also provide examples of areas where STEM programs could often be improved.



During the 2014 Wisconsin STEM Education Wisconsin Summit, over 100 leaders from business, higher education, K-12 education systems, and state government came together to discuss STEM education in Wisconsin. An executive report of the day can be accessed [here](#). Groups specifically shared ideas on the key characteristics of effective STEM programs. Three broad themes emerged:

**1) Integrated and Thematic** – Includes true collaboration across disciplines.

**STEM**

Effective STEM

Grants

Resources

STEM Goals

Leadership Team

Partnership Resources

During the 2014 Wisconsin STEM Education Wisconsin Summit, over 100 leaders from business, higher education, K-12 education systems, and state government came together to discuss STEM education in Wisconsin.

and capacity. Nevertheless, there are important characteristics of STEM programs that should be shared across the board as discussed in the Executive Report of the 2014 Wisconsin Education Wisconsin Summit. Below, we provide examples of areas where STEM programs can be improved.



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**1) Integrated and Thematic** – Includes true collaboration across disciplines.





# Rochester Global Connections and Educators from Belarus

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# Rochester Museum & Science Center and Terra Science





# MUNICIPALITIES

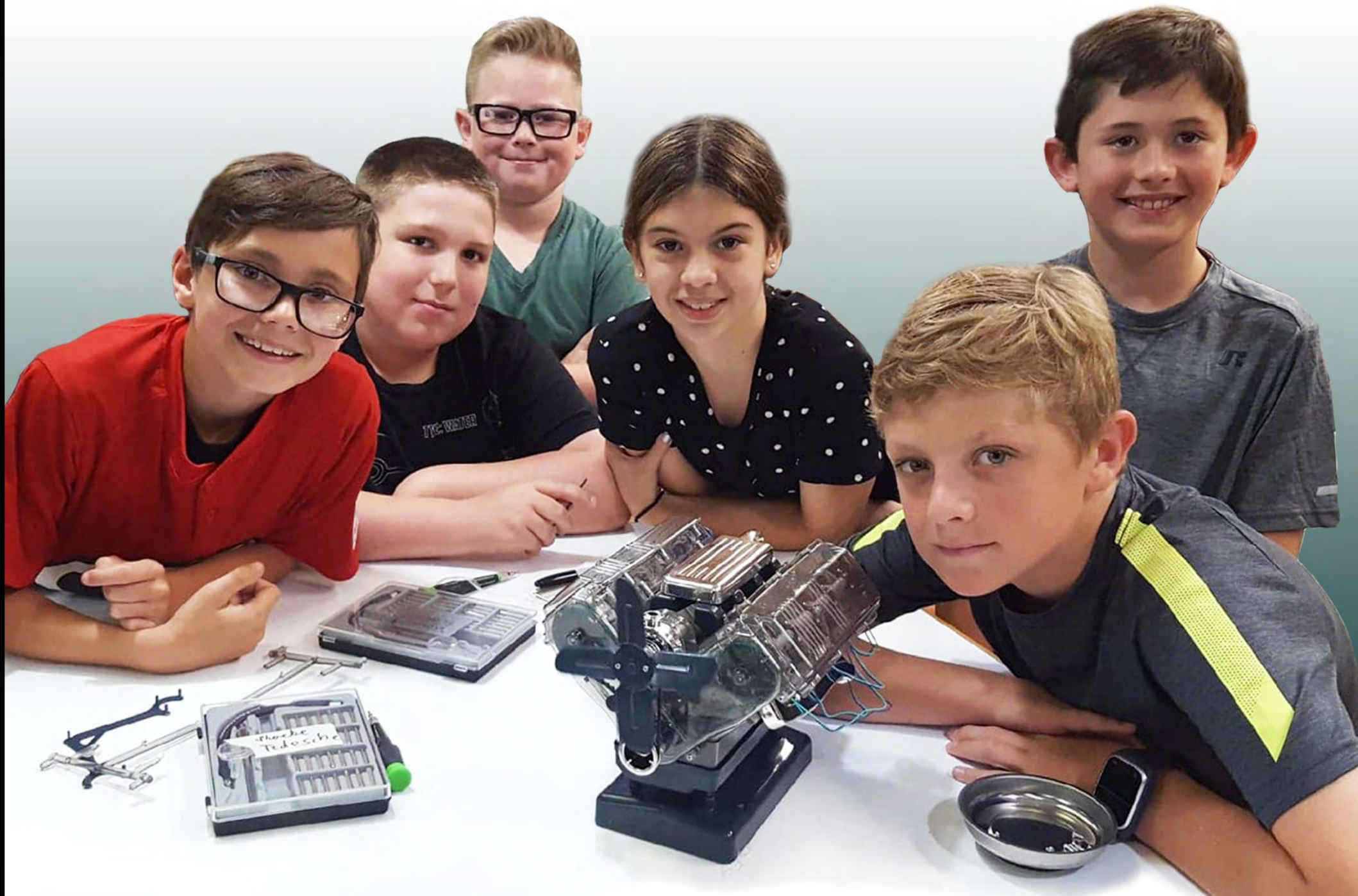
## & THE LIBRARY





# STUDENTS

& THE LIBRARY





# CROSS-SECTOR

## PARTNERSHIPS & THE LIBRARY





# THANK YOU TO OUR 2018 FLX MAKERS!

Doppler-on-Wheels (DOW)

Mobile Weather Radar  
with Hobart William Smith

GW Lisk & The SpaceX Program

Rocket Construction  
How-Tos with  
Upstate Research Rocketry Group

FIRST Robotics Team Tan[x] 3003

Empire Resource Recycling  
Initiatives

Painting with Light with  
Rochester Mini Maker Faire's  
Dan Schneiderman

Learn to Solder  
Electronic Components  
with Dan Wheeler

3-D Printing in Manufacturing  
with Harbec, Inc.

Create with Thermoplastic  
with Interlock Rochester

Magnetic Slime

Build a Cigar Box Guitar

Sour Science with  
the Clifton Springs Library.

3D Printing and Scanning  
with the Phelps Library  
& STEAM Lab Makerspace

Design and Manufacturing  
with Nick Hargarther

Crocheting Classes  
with Yarnthusiast

Roc City Laser's  
Glowforge Laser Cutting

Healthy Science with  
Clifton Springs YMCA

Felted Bookmarks  
with Feathertree Felt

Exploring the Microscopic World  
with Infinite Scope

STEM Challenges with  
Pioneer Library System

Blockprinting

Music and Math with  
CHORDTEACHER

Patriot Energy – Ambit  
on starting a successful,  
profitable small business

Engineering Paper  
Windows Stars with  
Victor Farmington Library.

Jewelry Making  
with Seamist Designs





**WHY?**







I HOPE YOU HAD A  
**STEAM-TASTIC**  
TIME!!





# **LEAH HAMILTON**

## **EXECUTIVE DIRECTOR**

Phelps Library & STEAM Lab Makerspace  
8 Banta St, Ste 200, Phelps NY 14532  
315.548.3120

**PCMLdirector@gmail.com**

**PRESENTATION:**  
**WWW.PHELPSLIBRARY.ORG/IFLS**

