# Welcome to the NGCP National Webinar

## *Finding and Using High-Quality Digital STEM Resources*

August 12, 2020

Please Respond to the Poll Below:

NATIONAL GIRLS COLLABORATIVE PROJECT

National Girls Collaborative Project

ASTC Association of Science and Technology Centers

Afterschool Alliance

AccessSTEM

SciGirls

Google

STUDENT RESEARCH foundation

# Vision

The National Girls Collaborative Project **brings together organizations** committed to informing and encouraging girls to pursue careers in science, technology, engineering, and mathematics (STEM).

NATIONAL GIRLS COLLABORATIVE PROJECT

National Girls Collaborative Project

# NGCP Goals

1. **Maximize access** to shared resources within organizations interested in engaging girls in STEM.
2. **Strengthen the capacity** of programs by sharing exemplary practice research and program models.
3. **Use the leverage of a network** to achieve gender equity in STEM.

NATIONAL GIRLS COLLABORATIVE PROJECT

National Girls Collaborative Project

# NGCP Activities

## Virtually:

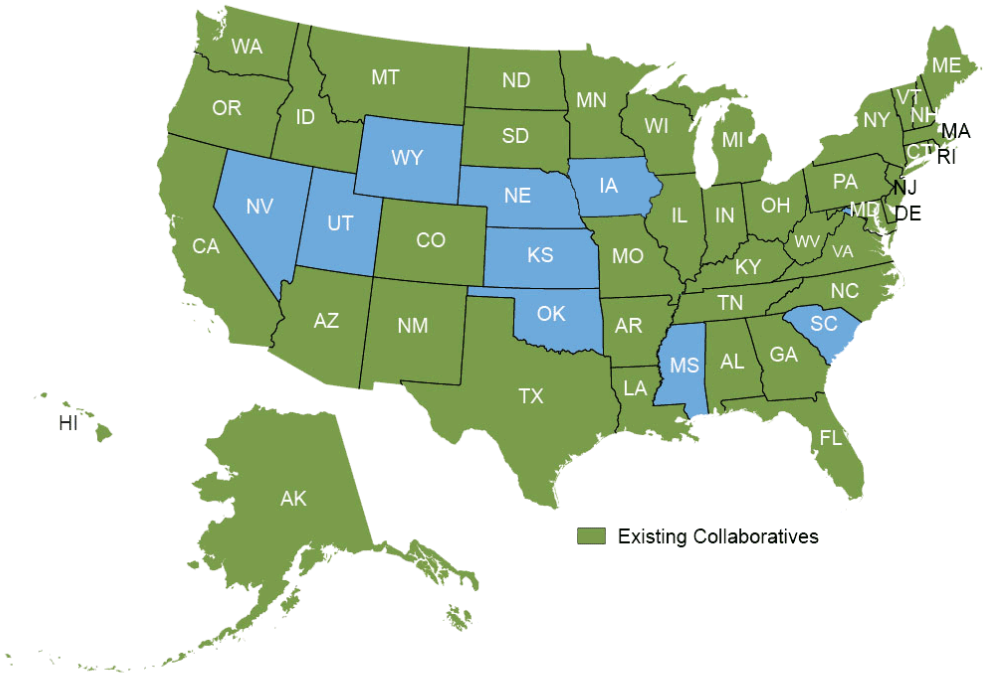
- Distribution and Content Projects
- ***The Connectory – Collaboration Tool***
- **FabFems – *Role Model Tool***
- E-Newsletter and Social Media
- Webinars – *Exemplary Practices*

## Local Collaboratives:

- Professional Development: *Conferences and Forums*
- Incentives to Collaborate: *Mini-Grants*
- Newsletters and Local Resources

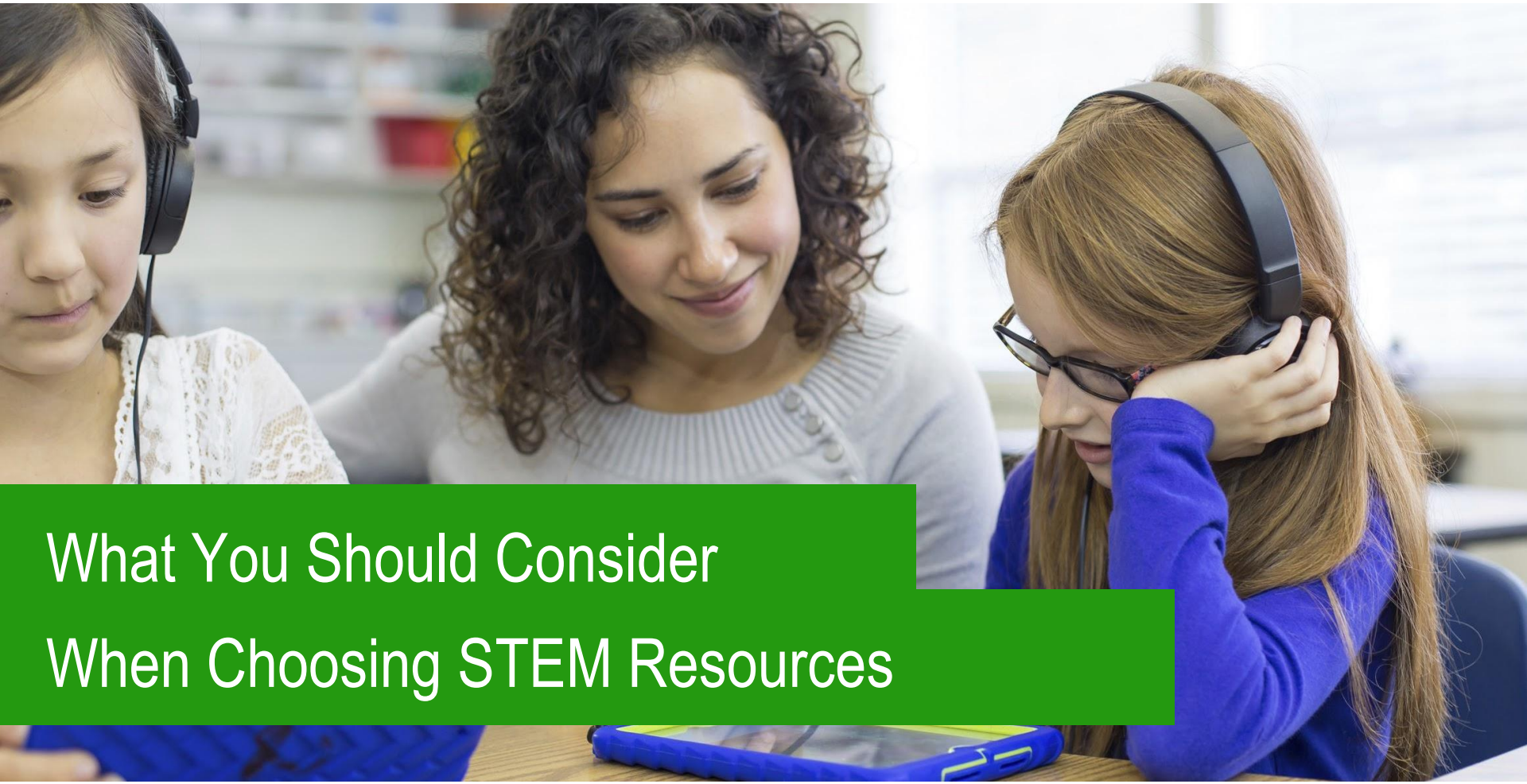

NATIONAL GIRLS COLLABORATIVE PROJECT

# National Network of Collaborative Teams



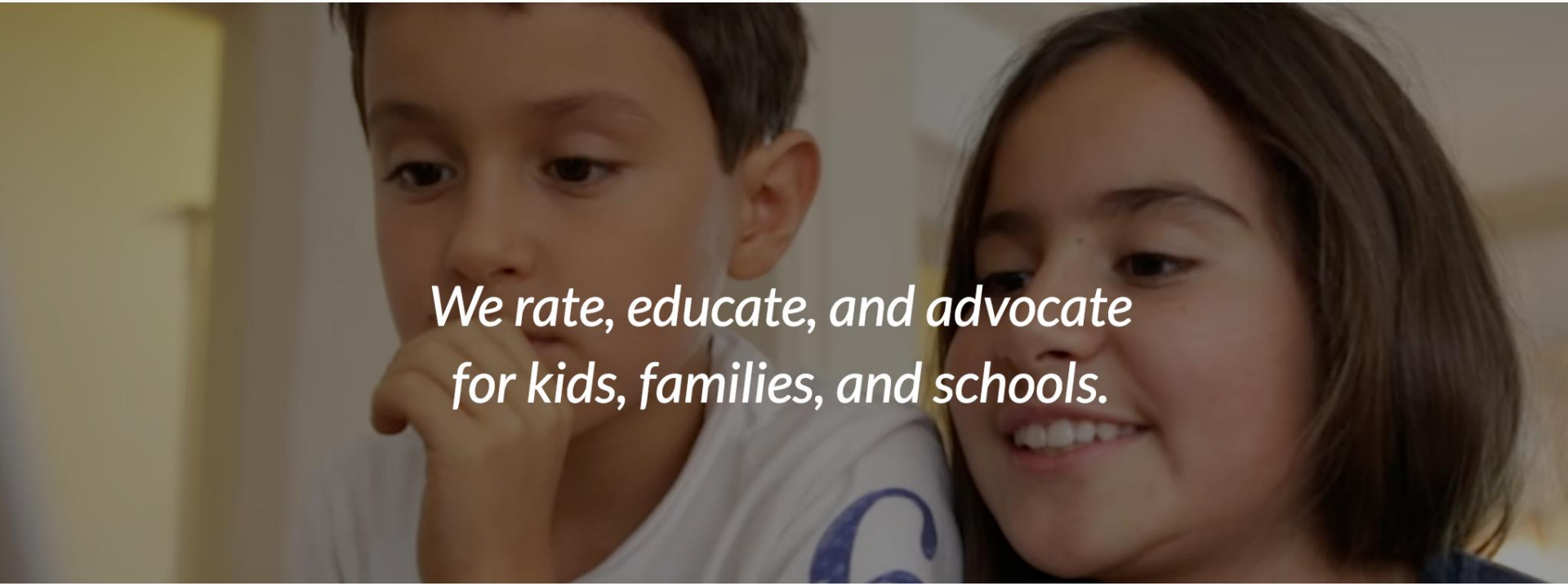

NATIONAL GIRLS COLLABORATIVE PROJECT

National Girls Collaborative Project



# What You Should Consider When Choosing STEM Resources

common sense®

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common sense kids action®

# Session Goals

1. How to choose the best digital tools for learning. What are the key traits to look for in a quality edtech tool?

2. How to evaluate a privacy policy. An Introduction to Common Sense Privacy Evaluations.

3. How to choose digital tools for high quality learning experiences. Top pick lists curated by editors at Common Sense Education

# EdTech Tools Ratings and Reviews

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GO TO SEARCH Donate

Digital Citizenship | EdTech Reviews | Professional Development & Advice | Resources in Spanish | Coronavirus Support

Common Sense Selections for Learning

## Find a Tool

EdTech Reviews

Top Picks Lists

About Our Reviews

## Teaching with Tech

EdTech Videos

Teaching Strategies

Teacher-Created Lessons

## Privacy Program

**Privacy Risks of the Top 5 Distance Learning Apps**

About the Privacy Program

Privacy Evaluations

Privacy Articles

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# Top Picks for Learning

STEAM Games, Apps and Websites

Best Robotics Apps and Websites for Classrooms

After School Enrichment Programs and Clubs

STEM Apps for Higher Order Thinking

10 Great Movies for the STEM Classroom

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# Top Picks Lists

# Resources for After-School Enrichment Programs and Clubs

TOP PICKS | 39 TOOLS

Resources for After-School Enrichment Programs and Clubs

## STEM and Coding Resources

### Root Coding

First-rate versatile robot for all ages

**Bottom line**: By encouraging artistic design and creative problem-solving, Root Coding fits right into your STEAM curriculum.

Grades: Pre-K–12 Price: Free, Paid

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### Scratch

Creative sandbox opens the door to coding in any subject area

**Bottom line**: Scratch draws students of all types into coding and lays a foundation for future learning.

Grades: 1–12 Price: Free

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### Gizmos & Gadgets

Top-notch tool empowers kids to invent, build, and control wirelessly

**Bottom line**: Easy-to-use, versatile electronic invention set that works wirelessly with your hand-held device.

Grades: 2–8 Price: Free, Paid

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### Cozmo

A little robot with big personality brings code to life

**Bottom line**: From Cozmo's engaging personality to endless programming possibilities, this little robot will capture your heart and spark imagination.

Grades: 2–12 Price: Free, Paid

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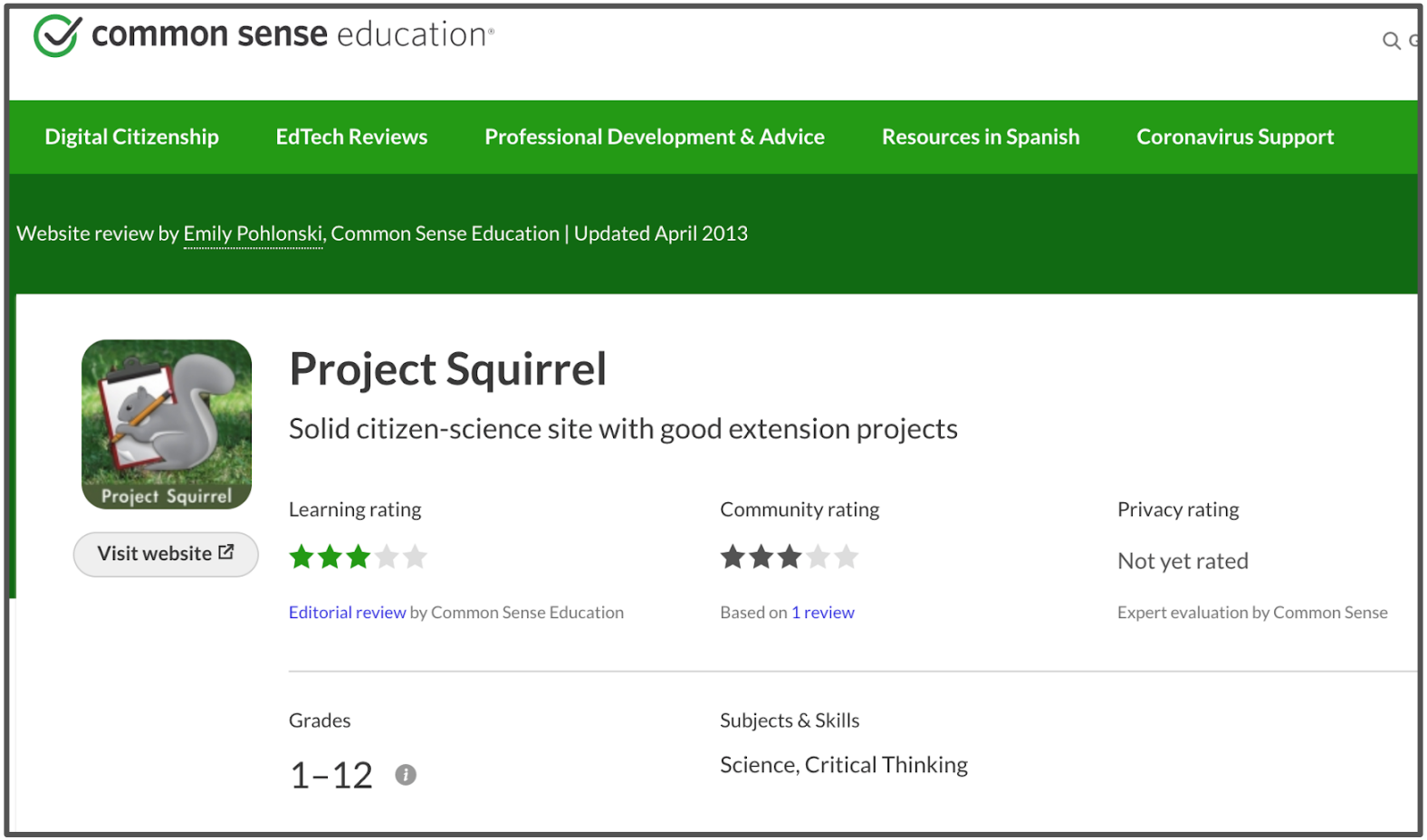
# Project Squirrel



# Project Squirrel

How Can I Teach with This Tool? | What Is It? | Is It Good for Learning?

*Project Squirrel* is one of the missions of the citizen-science site *Project Noah*. Whereas *Project Noah* is more visually appealing and has a teacher dashboard to track students' squirrel "spottings," *Project Squirrel* provides opportunities that move beyond entering data on number and location. Kids can follow detailed instructions on setting up data-gathering stations to observe squirrel behavior in food gathering.

It would be an improvement if kids could see the raw data from all users and how it grows in real time. This would allow students to form their own conclusions from the data.

**Standout Activities**

"Record Squirrel Observations": Observe and record the number and location of gray and fox squirrels.

"Collect Foraging Patch Data": Build foraging patches and observe where squirrels eat the most food.

"Share Squirrel Photos": Take pictures of local squirrels and submit them to the site via email.

# Check Privacy

## *Student Data Privacy Look Fors*

- ✓ Does this website collect student information?
- ✓ Check for encryption or an https:// address, especially when logging into a website.
- ✓ Look for the websites Privacy Policy. It should be located on the page that you would log in.
- ✓ If the website is for kids, check to see if they are asking for kids ages. Kids under 13 will need permission from their parents.
- ✓ Check to see if there is a Privacy Evaluation on Common Sense Education.

Privacy Evaluations by Common Sense

# Privacy Ratings

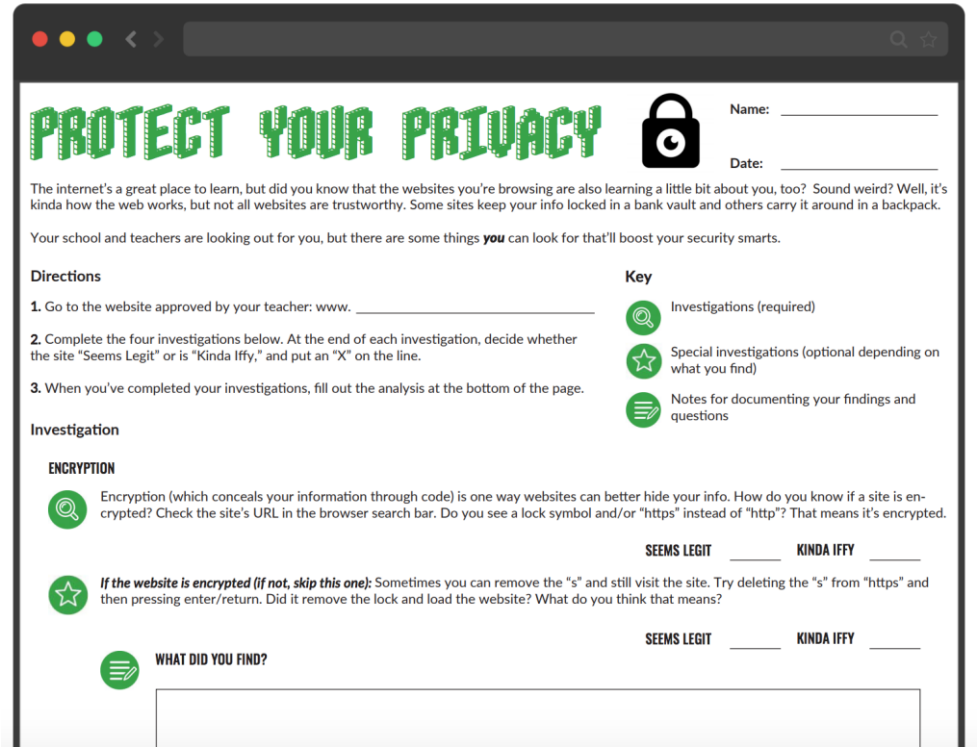
At home and in schools and districts, parents and educators make decisions about privacy based on their specific needs. The privacy evaluation process is designed to support families and educators as they make informed choices about the media and technology they use with kids at home or in the classroom. Our expert reviewers read the privacy policies and terms of use for hundreds of products in order to evaluate those tools across key privacy concerns. Then, each one is assigned one of the following ratings:

**Pass** Meets our minimum requirements for privacy and security practices;

**Warning** Does not meet our recommendations for privacy and security practices; and

**Fail** Does not have a privacy policy and/or does not use encryption and should not be used.

# Privacy Evaluation Worksheet for Students



PROTECT YOUR PRIVACY

Name: _____

Date: _____

The internet's a great place to learn, but did you know that the websites you're browsing are also learning a little bit about you, too? Sound weird? Well, it's kinda how the web works, but not all websites are trustworthy. Some sites keep your info locked in a bank vault and others carry it around in a backpack.

Your school and teachers are looking out for you, but there are some things ***you*** can look for that'll boost your security smarts.

**Directions**

**1.** Go to the website approved by your teacher: www. _____

**2.** Complete the four investigations below. At the end of each investigation, decide whether the site "Seems Legit" or is "Kinda Iffy," and put an "X" on the line.

**3.** When you've completed your investigations, fill out the analysis at the bottom of the page.

**Key**

Investigations (required)

Special investigations (optional depending on what you find)

Notes for documenting your findings and questions

**Investigation**

**ENCRYPTION**

Encryption (which conceals your information through code) is one way websites can better hide your info. How do you know if a site is encrypted? Check the site's URL in the browser search bar. Do you see a lock symbol and/or "https" instead of "http"? That means it's encrypted.

SEEMS LEGIT _____ KINDA IFFY _____

***If the website is encrypted (if not, skip this one):*** Sometimes you can remove the "s" and still visit the site. Try deleting the "s" from "https" and then pressing enter/return. Did it remove the lock and load the website? What do you think that means?

SEEMS LEGIT _____ KINDA IFFY _____

**WHAT DID YOU FIND?**

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## Other Traits to Consider

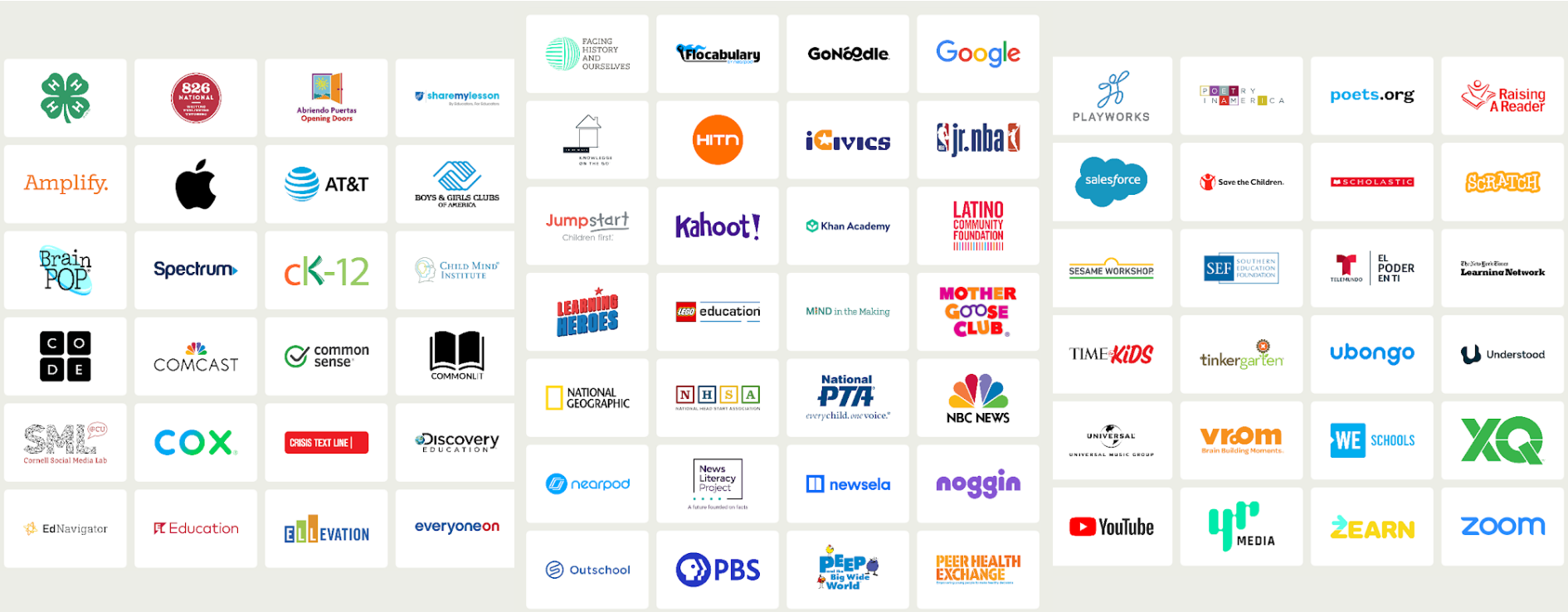
- ✓ Does the product support a diverse range of learners?
- ✓ Does the product encourage kids' collaborative and collective learning?
- ✓ Can students get constructive feedback and advice?
- ✓ Is diversity (gender, race, and culture) presented without bias or stereotype?
- ✓ Does it offer assessment data while also balancing the need for kids' privacy and safety?

# WIDEOPENSCHOOL

POWERED BY common sense®

WIDEOPENSCHOOL
POWERED BY common sense®

# Over 75 Partners Strong




**Content + Community + Equity**

WIDEOPENSCHOOL
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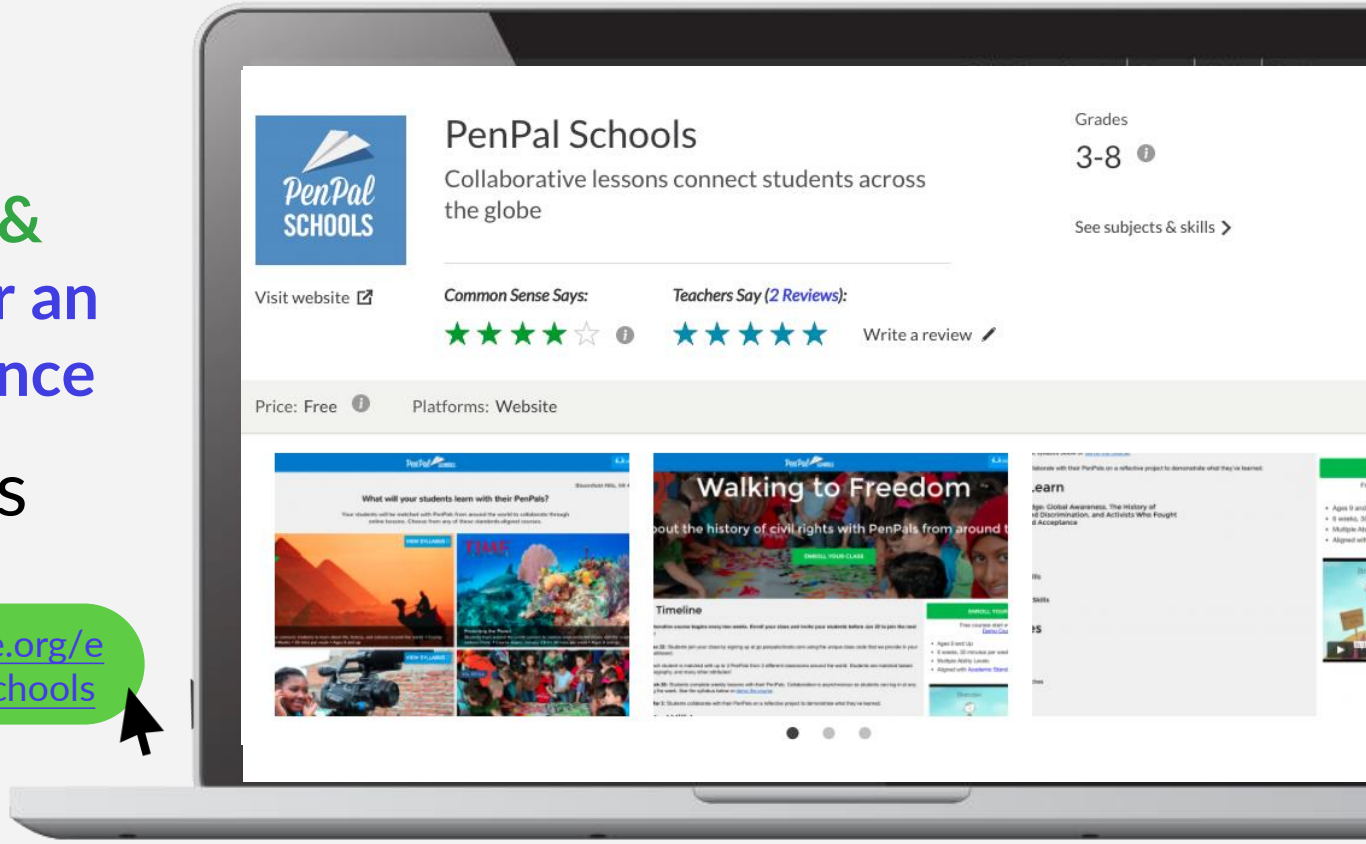
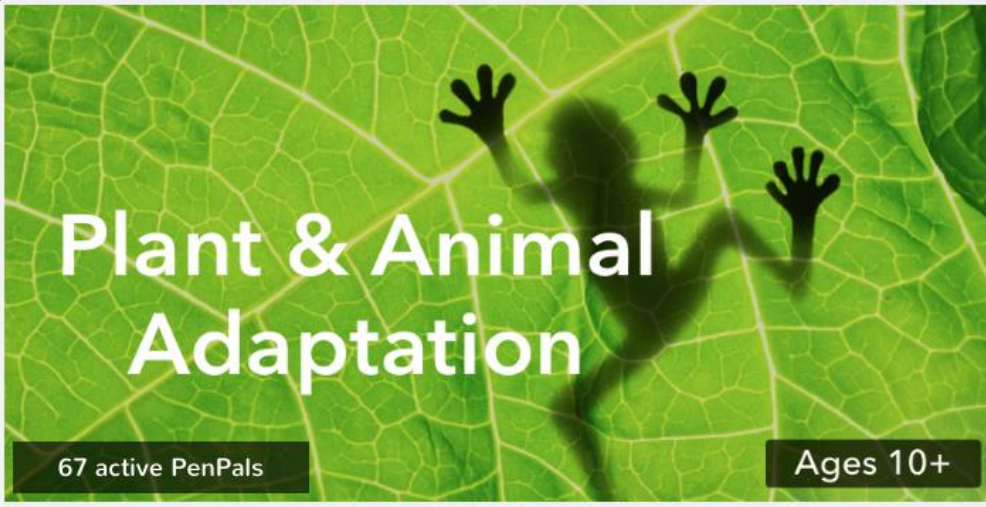
# Communication & Collaboration for an Authentic Audience

## PenPal Schools

https://www.commonsense.org/education/website/penpal-schools



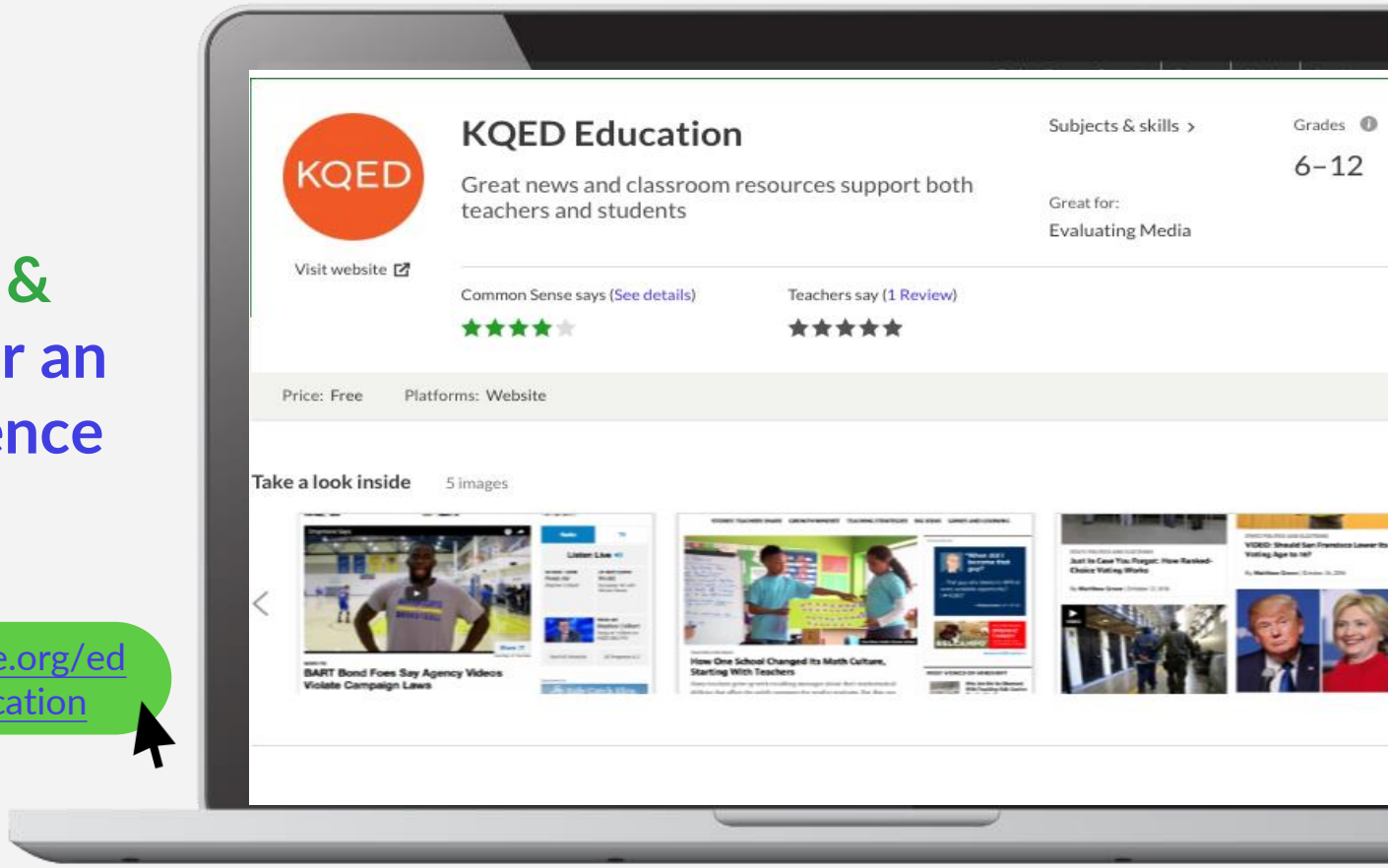


# Communication & Collaboration for an Authentic Audience

KQED Education

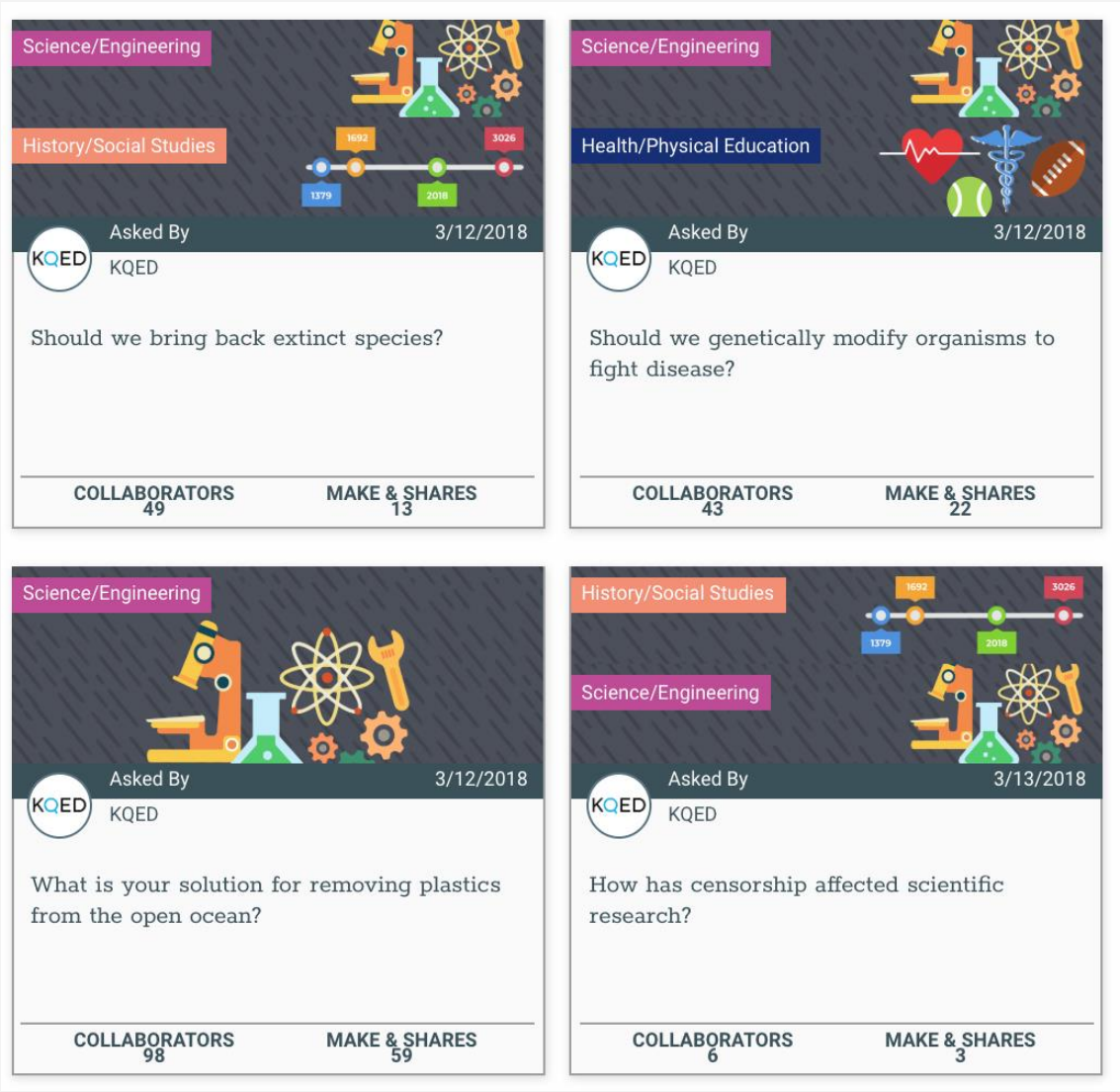
https://www.commonsense.org/education/website/kqed-education



# KQED LEARN

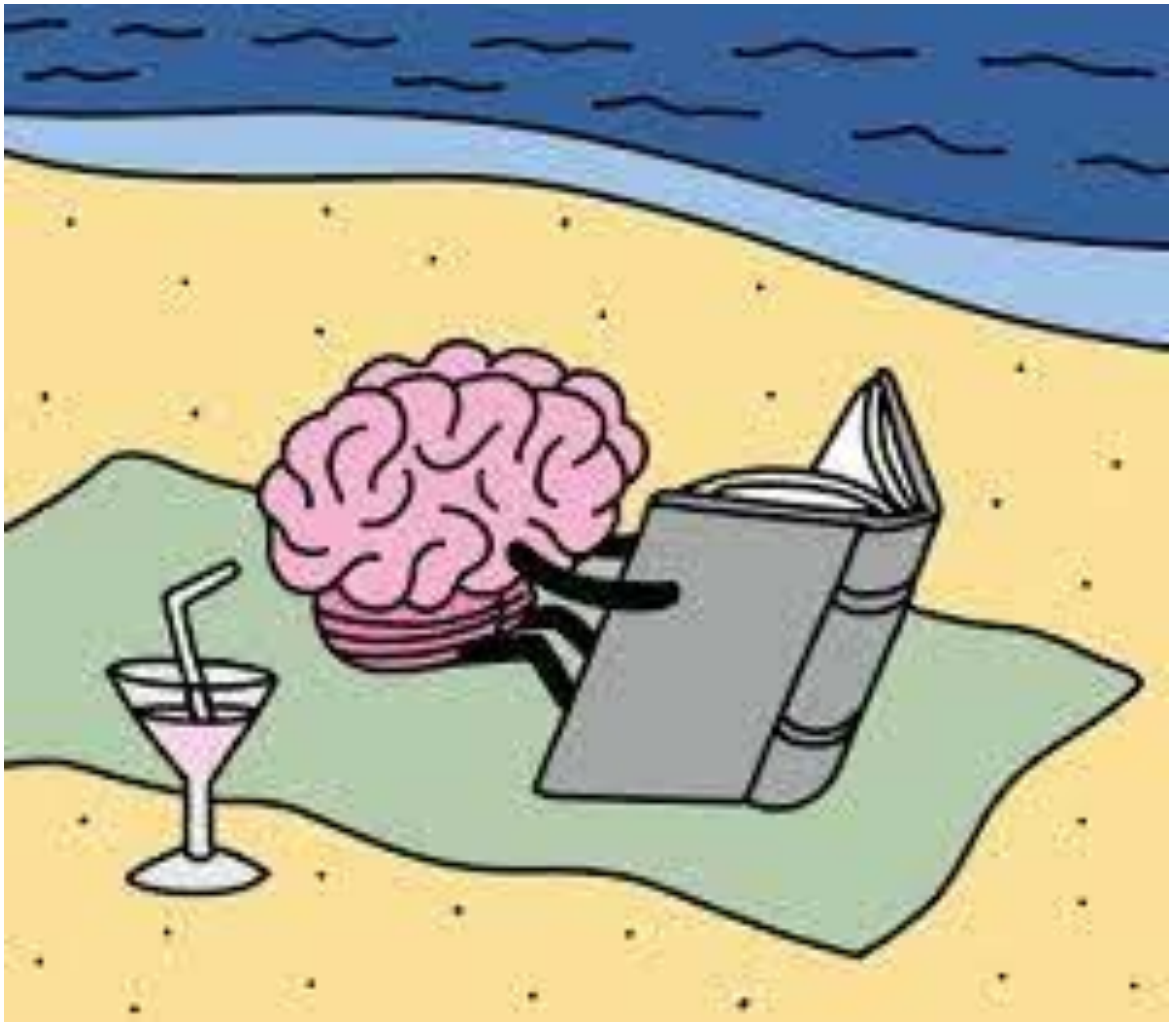
**In Investigations students will:**

1. Ask
2. Investigate
3. Create
4. Reflect
5. View



# Resources

- ✓ Edtech ratings and reviews by Common Sense
- ✓ STEAM Games, Apps and Websites
- ✓ Best Robotics Apps and Websites for Classrooms
- ✓ STEM Apps for Higher Order Thinking
- ✓ 10 Great Movies for the STEM Classroom
- ✓ Common Sense privacy evaluations
- ✓ Common Sense Privacy Course
- ✓ After School Enrichment Programs and Clubs
- ✓ STEAM Games, Apps and Websites
- ✓ Best Robotics Apps and Websites for Classrooms
- ✓ Classroom Tips: Articles and Advice
- ✓ Distance Learning with Common Sense on YouTube channel ( 20 minute PD sessions)
- ✓ Wideopenschool.org
  - What is it? (short video)
- ✓ Sign up for our newsletter
- ✓ Commonsense.org
- ✓ Twitter @jehehalt



# Brain Break!


# Curiosity • Wonder • Play

Lesley STEAM Learning Lab • Lesley University

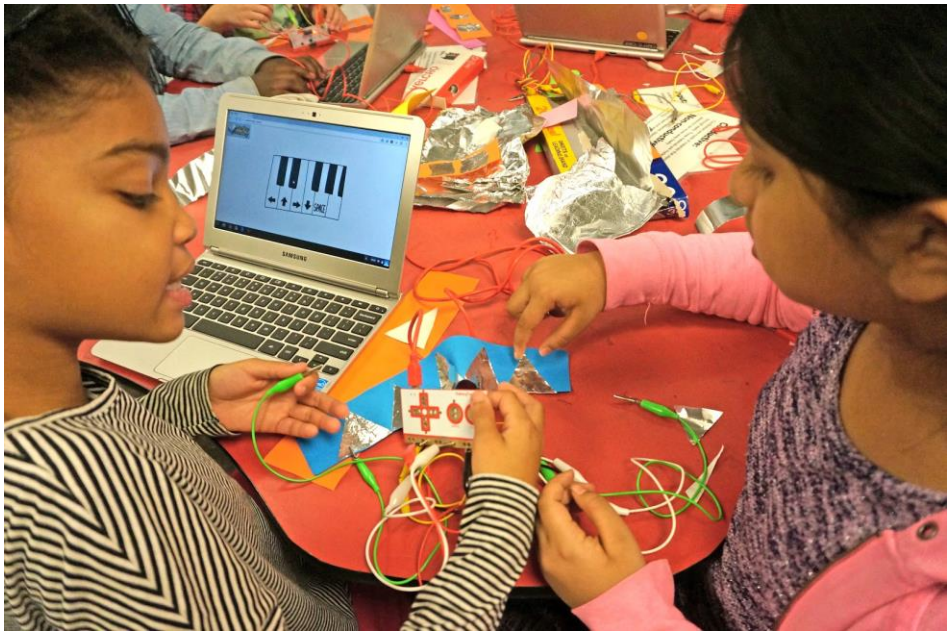

# What Do We Do?

- Design “maker” experiences for undergraduate & graduate  preservice teachers
- Partner with schools to support their adoption and integration of “making” in education
- Community outreach STEAM events

# Making in an Education Context

**Here is what we notice:**

- Increase in students' ability to describe their thinking (metacognition)
- Increase in student engagement with a corresponding decrease in unwanted behavior
- Increase in student interpersonal & collaboration skills



**Let's Play:**
Learning as "Hard Fun"[1]

**Let's Think Out Loud:**
Learning as Social

**Let's Ask the Room:**
Learning as a Network of Thinkers

[1]Papert, 1980

# Lesley STEAM Guidelines

# From Simple to Complex

Finding Ways to Inspire and Ignite Curiosity

# Setting the Stage for Inquiry

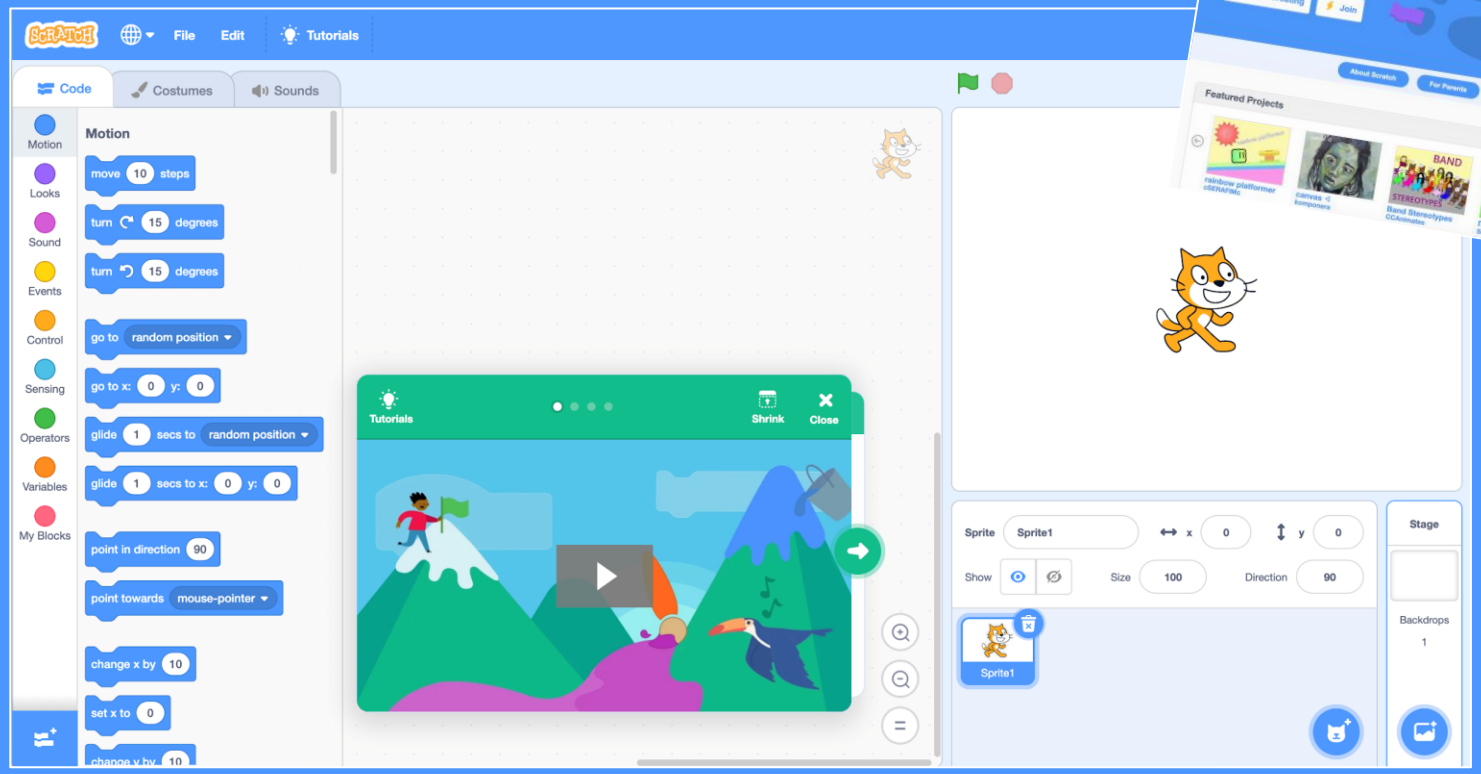

Hands-on Learning and Collaboration

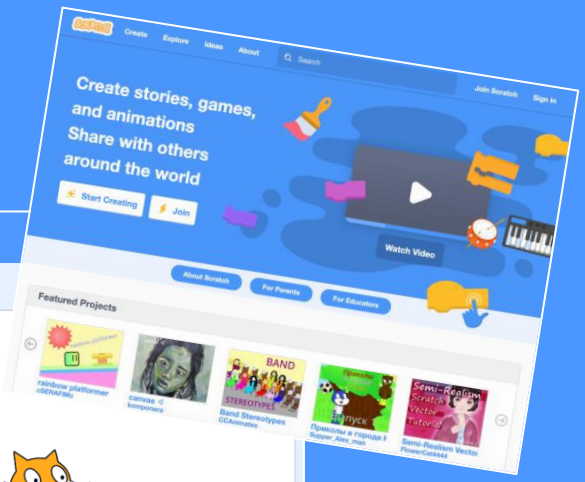
# Connecting with the Community


Creating Authentic Opportunities for Engagement


SCRATCH

# What is Scratch?



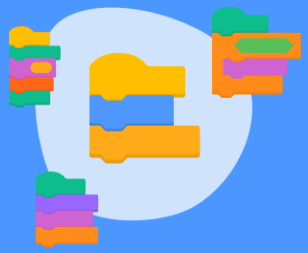
# Scratch Learning Resources

## Low Floors

Make it easy for anyone to get started

## Wide Walls

Appeal to a wide range of interests and passions

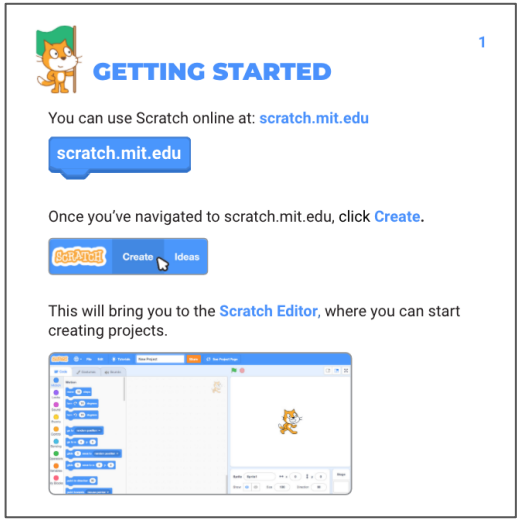


## High Ceiling

Provide scaffolding for an extensible experience

# Scratch Educator Resources

## Getting Started Guide

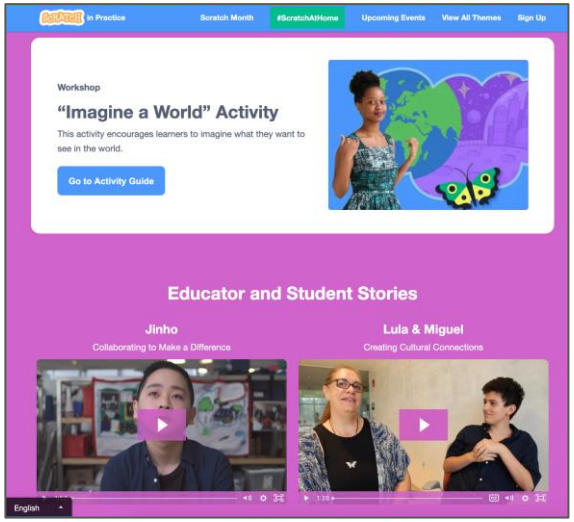



Comprehensive overview of Scratch editor, tutorials, and educational resources.

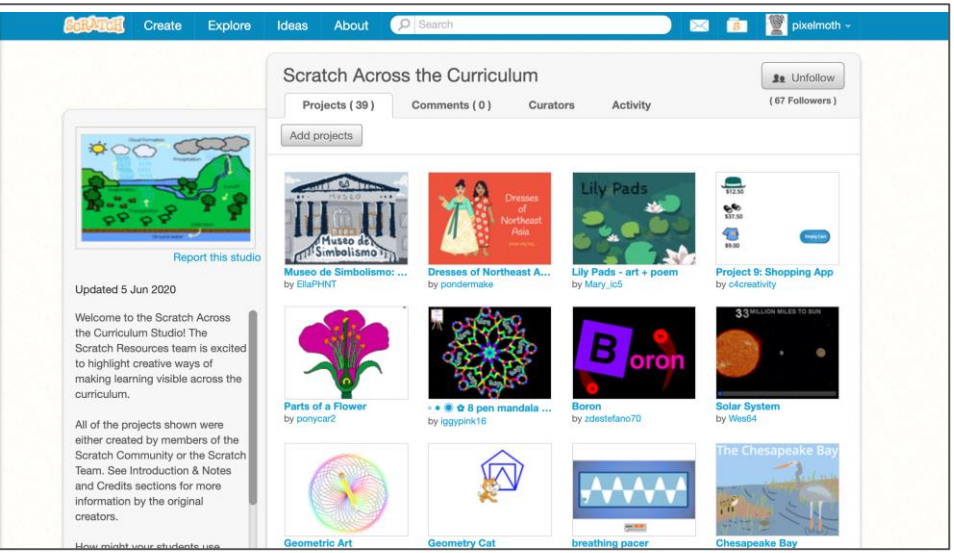
## Scratch for Educators Page

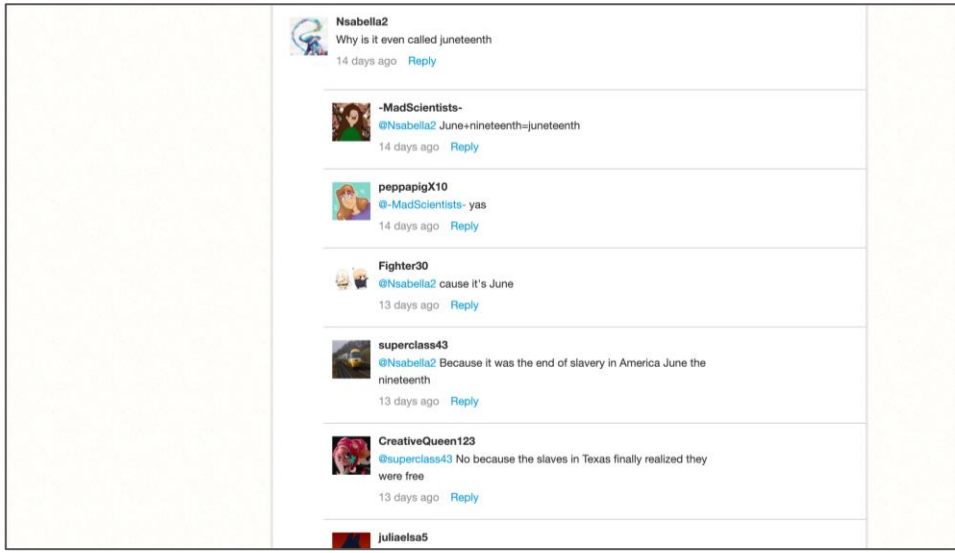

Includes educator guides, a lot of downloadable resources such as Scratch Cards, and details on Teacher Accounts.

## Scratch in Practice (SiP)




SiP is the pedagogical offering to educators: includes curriculum connections, educators interviews, and workshop ideas.



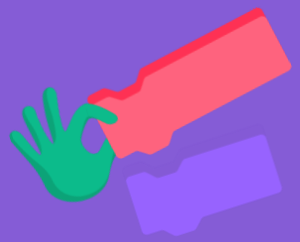




# Studios for Remote Learning

- A studio is like an online gallery: it's a collection of projects based on a certain theme.
- Studios include a discussion forum (comments) and are a great way to keep track of student projects (shows projects added chronologically).
- Want to learn how to share a Scratch project to a studio? Here's a **step-by-step guide**! (Hint: if you make all of your learners studio "curators" it's way easier for them to add projects!)

# Scratch Camp 2020: Scratch the Musical

Link to Scratch Camp page!



## Starter Projects

Scratch the Musical teaser project. Remix yourself into the musical! Also links to "backstage studio."

## Studio Curators

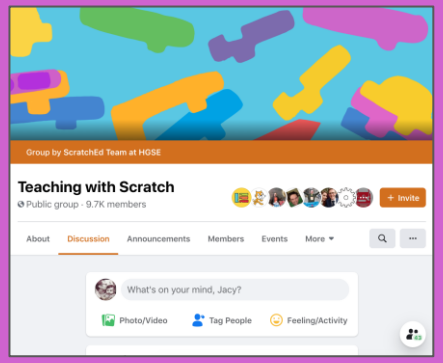
Provides an opportunity for learners to practice Digital Citizenship.

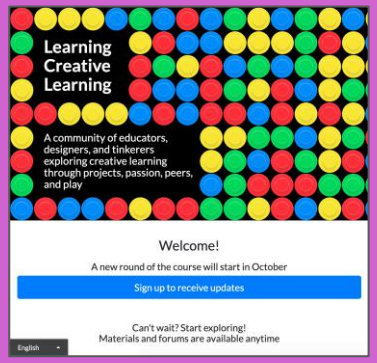
## Remixing

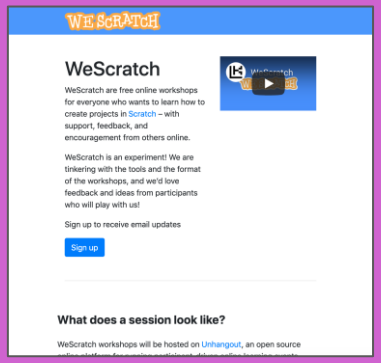
Peer-to-peer interaction, learners can comment on each other's code and help debug.

# Continue your Scratch Journey!

**Several online communities that welcome Scratch users of all levels...**




**ScratchEd:** Connect with other educators through the **Teaching with Scratch FB Group, and ScratchEd Meetups** hosted by the **Creative Computing Lab** at the Harvard Graduate School of Education.

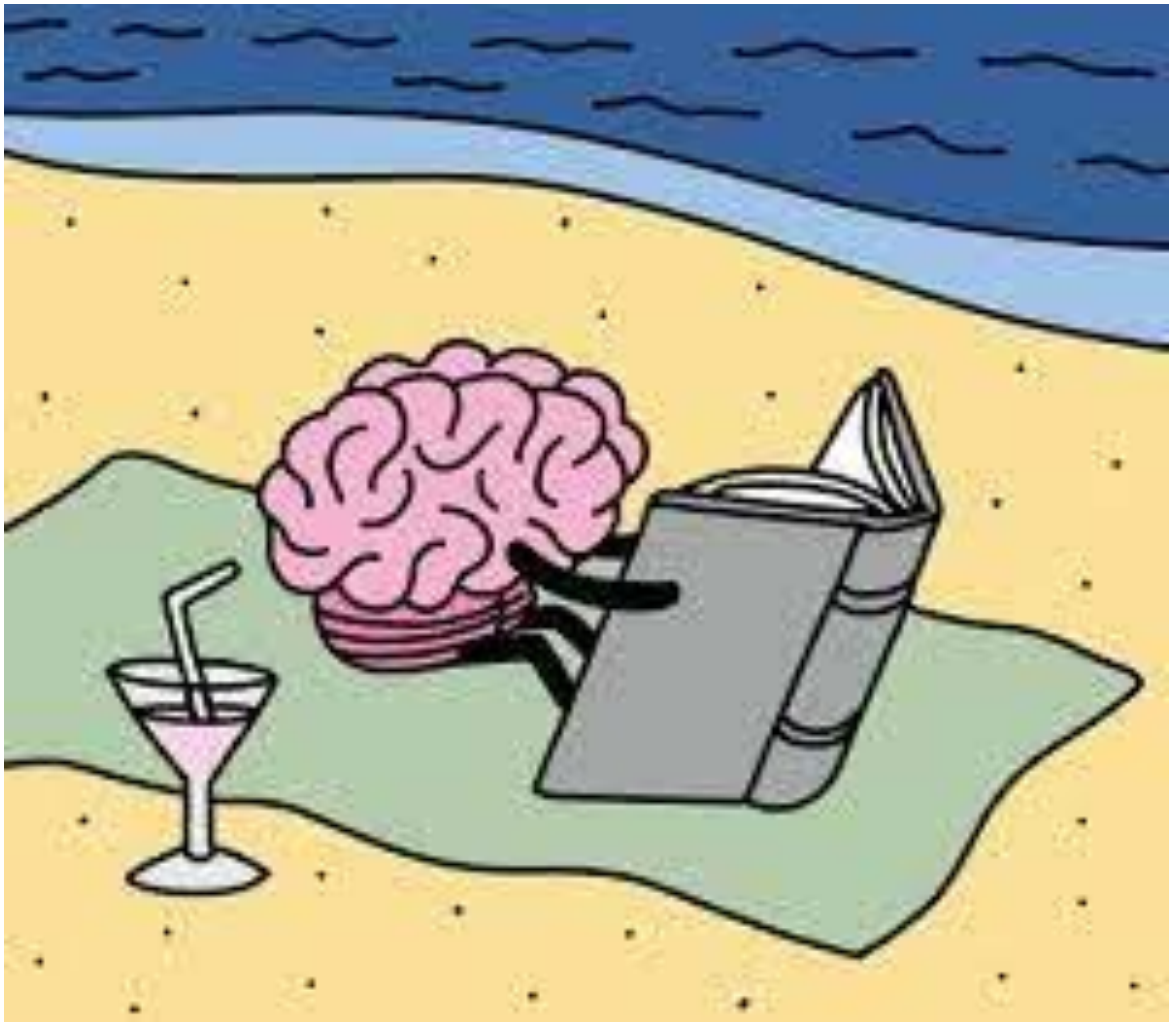
**Learning Creative Learning:** a free course and community exploring creative learning, hosted by the **LLK Group, MIT**. Create hands-on projects, explore new technologies, and share ideas.

**WeScratch:** Also hosted by LLK, a weekly online workshops for participants to experiment and create projects with Scratch – and to learn about the ideas and motivations underlying Scratch.

**Keep in touch!**

Sign up for our educator email list:

https://bit.ly/scratchemailsignup



# Brain Break!

The Concord Consortium

# Preparing **brighter futures**

**Revolutionizing** digital learning for science, math, and engineering

Virtual labs and hands-on digital tools designed to foster critical thinking and problem solving for students and equipped with resources and supports for instructors.

**Available to you for free!**

The Concord Consortium

# Cultivating **curiosity** to bring out the inner scientist in everyone

*Hands-on Data Collection*

*Early Education*

*Video Series*

The Sensing Science curriculum supports early science learning of concepts involving **matter** and its changes. Particle Patty is a playful video animation that demonstrates the role of **particle motion** in solids, liquids, and gases.

# Enabling inquiry & experimentation with **scientifically accurate** virtual labs


*Intelligent Tutor*

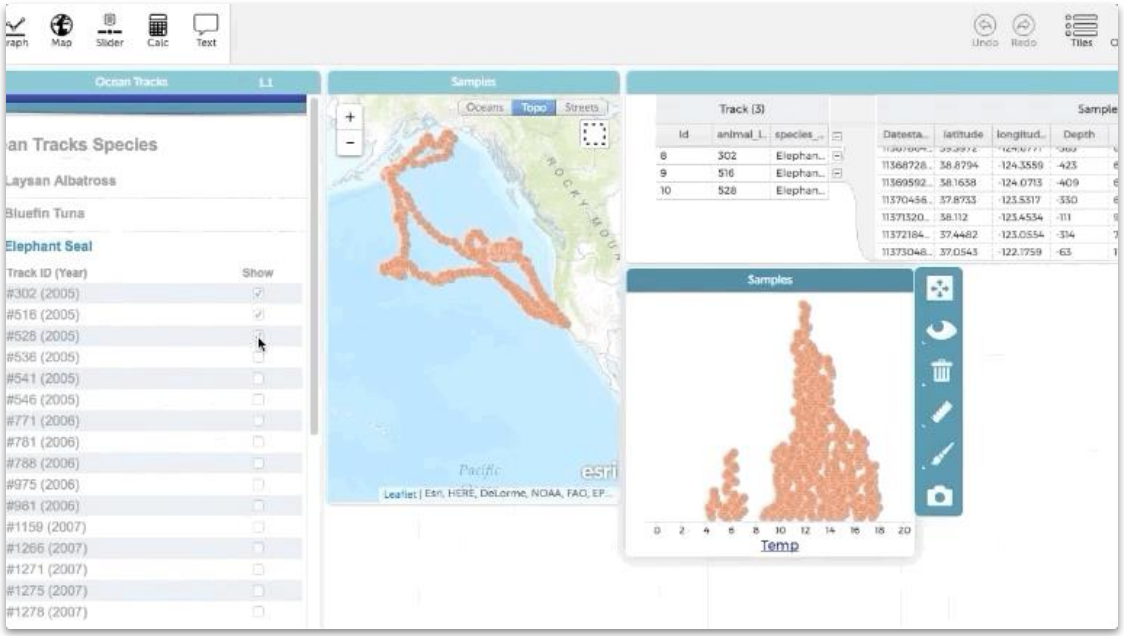
*Out-of-School Time Guide*

*Real-Time Dashboard*

Geniventure engages students in exploring **heredity**, **genetics**, and the **protein-to-trait** relationship by breeding and studying virtual dragons.

The Concord Consortium

# Inspiring **meaningful** data exploration




*Tutorials*

*Import Your Own Data*

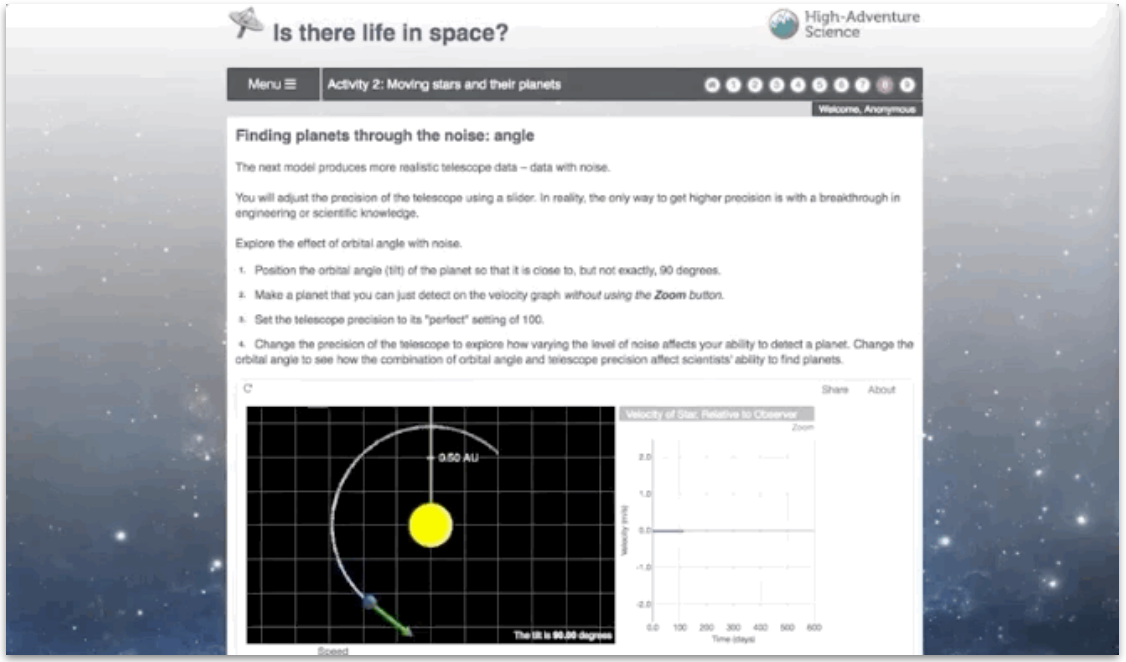
*Sensor Compatibility*

With CODAP, you can **explore**, **visualize**, and **learn** from data in any content area. Our mission is to make data literacy accessible for *all* students.

The Concord Consortium

CODAP

# Developing **innovative** approaches to understand and guide learning




*Assessments*

*Teacher Edition*

*Real-Time Dashboard*

Our Earth Science Resources help students understand Earth as a set of **complex systems** that are intricately **interconnected**, while explaining how Earth's processes affect people and, in turn, how people affect Earth's processes.

The Concord Consortium

# Reimagining engineering design with **student-centered** technologies

*Tutorials*

*Design Your Own*

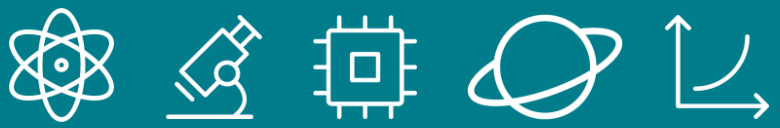
*Lesson Plans*

Through Paper Mechatronics, children can create true working devices – **machines**, **robots**, **toys**, automata, kinetic artwork – using paper as the foundational building material.

# Join the **revolution**

**STEM Resource Finder** *learn.concord.org*

**All Resources** *concord.org/resources*



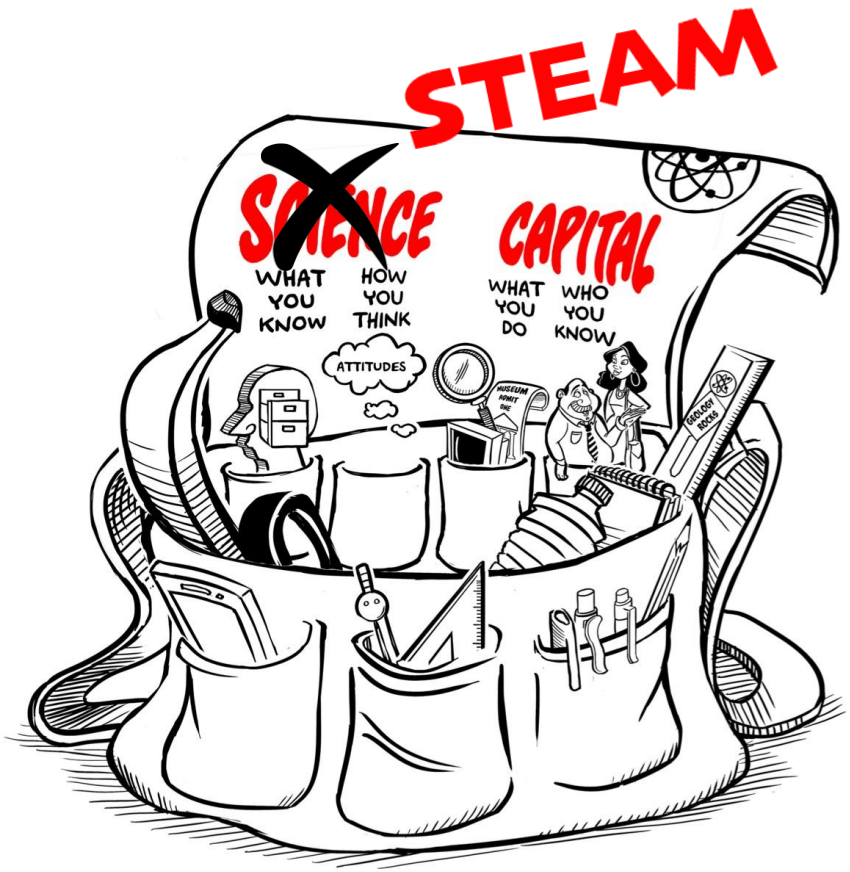
The Concord Consortium

# …but now what?

You have some great materials, but who are your learners and how can you best reach them?

We need to find and share more equitable ways to effectively measure students' exposure to and knowledge of STEAM subjects.

These methods can be used to understand how culture affects students' aspirations and involvement in STEAM.






"STEAM capital" offers an assets-based approach to teaching and learning that works with what students bring into the learning space.

Start with where they are at. They come with their own knowledge and skills.

I spent too much time in my head feeling like I **didn't belong**, or wasn't smart enough, that I couldn't concentrate on my work.

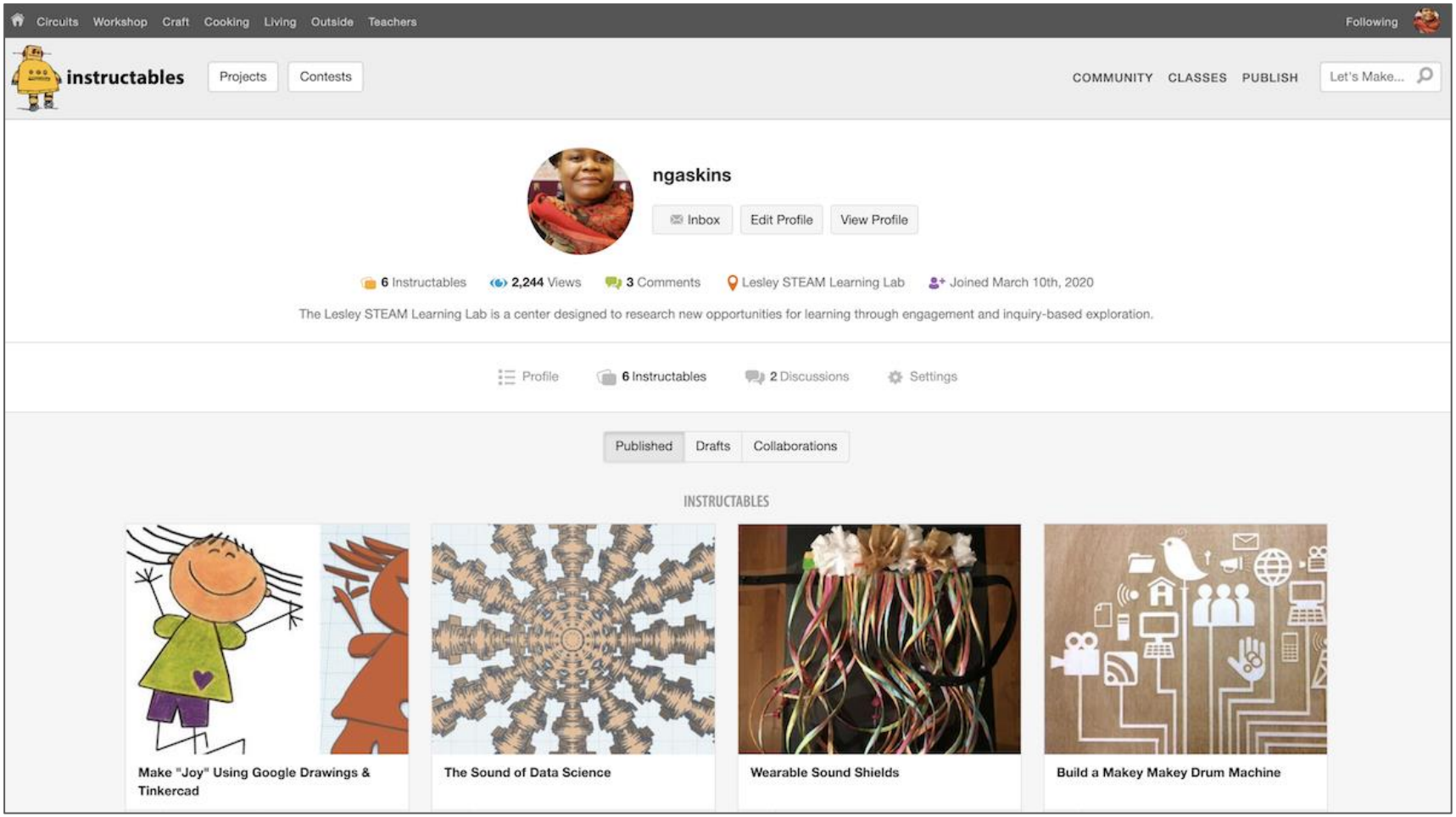
Deana Crouser, a former chemical engineering major

For students from underrepresented groups, the knowledge/skills gap is wider than with other groups.

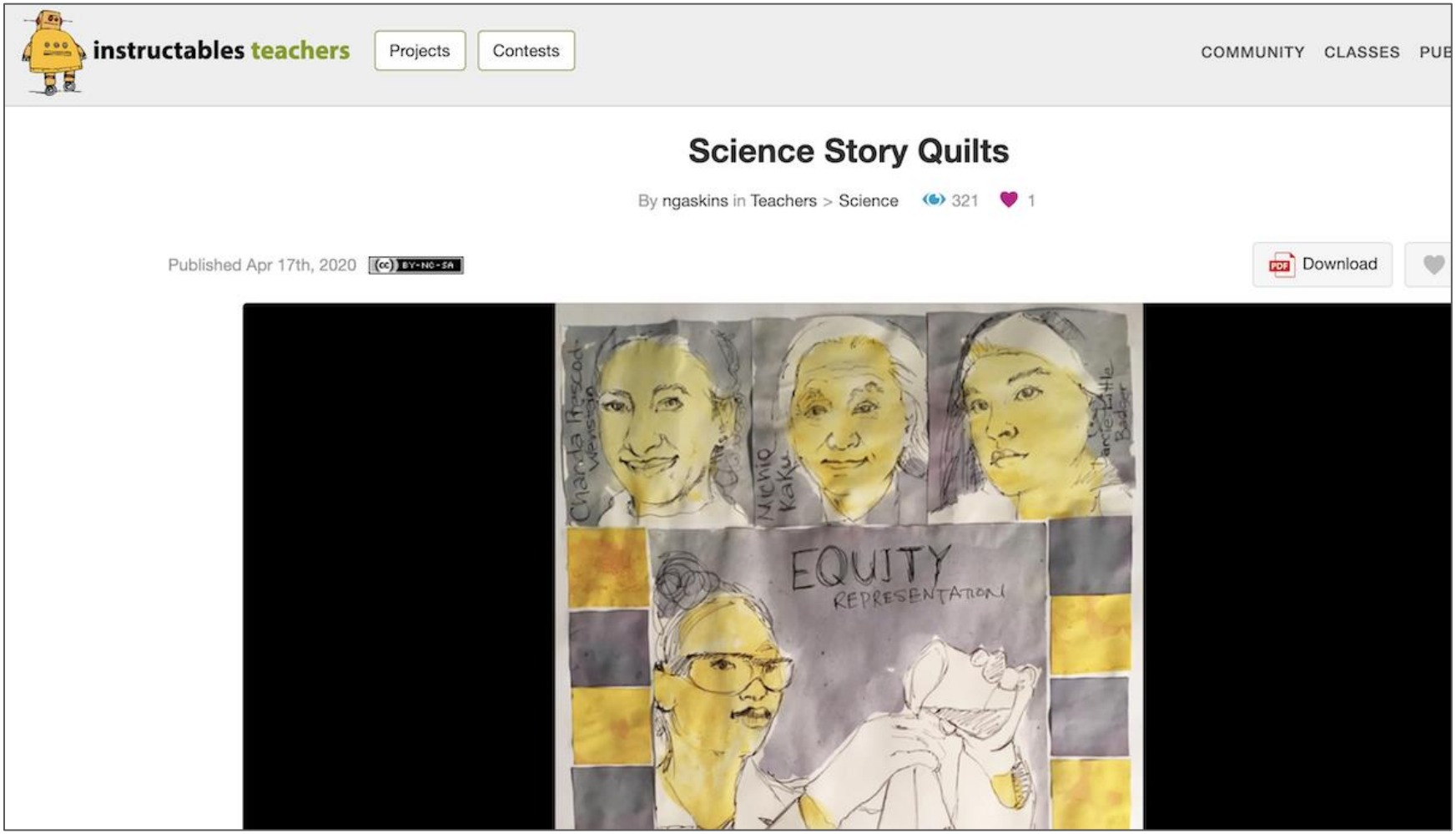
Culturally relevant teaching can provide access to tools and methods that connect students to where they come from in order to develop more effective ways to support their engagement in STEAM.

> We know that every day children are coming to school carrying far more than the content of their backpacks.

Terrasi and Crain de Galarce, 2017




https://www.instructables.com/member/ngaskins/instructables




https://www.instructables.com/id/Science-Story-Quilts

# Questions and Discussion

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SCRATCH FOUNDATION

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NATIONAL GIRLS COLLABORATIVE PROJECT

National Girls Collaborative Project

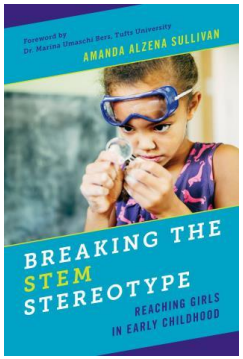
# Upcoming NGCP Webinars

CENTER FOR ASTROPHYSICS
HARVARD & SMITHSONIAN

## Participation in Structured and Unstructured Out-of-School Time (OST) Activities

Tuesday, August 18, 2020

national center for women & INFORMATION TECHNOLOGY




## Gender Equity in Online STEM Learning

Wednesday, September 2, 2020

National Girls Collaborative Project

NATIONAL GIRLS COLLABORATIVE PROJECT