

January 28, 2020



WELCOME!



BUILDING STEM SUPERHEROES IN K-2 LEARNING SPACES

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Twin Cities PBS Ready to Learn

- Project Overview
- Outreach
- Partnerships
- Hands-On!
- Family Science Event
- Digital Games





PROJECT OVERVIEW



The contents of this document were developed under a grant from the U.S. Department of Education. However, those contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government. PR/Award Number U295A150012. The U.S. Department of Education is the funding agency.



WE ALL BELONG AT HERO ELEMENTARY!



PROJECT GOAL



Improve the school readiness and academic achievement of children in grades K-2 in science and literacy.



TARGET AUDIENCES



- Latinx communities
- English Language Learners
- Children with disabilities
- Children from low-income households



PHILOSOPHY & APPROACH



CHILD CENTERED

- The best learning is fun and engaging.
- Parents, caregivers, and school and neighborhood communities play vital roles in helping children learn.

EQUITY FOCUSED

- Research-based equity strategies support all children and benefit young STEM learners from underrepresented communities.
- Materials that welcome and affirm all children boost engagement and learning for everyone.

ASSETS BASED

- All children bring assets to their learning.
- Building in supports for all children's unique strengths and challenges is essential for equity in education.



PHILOSOPHY & APPROACH



CONSTRUCTIVIST INSPIRED

- Children benefit when they build knowledge through active learning.
- Science talk and reflection help children make sense of new learning experiences.

MEDIA ENHANCED

- Technology can transform learning and help all children succeed in school and throughout their lives.
- Blending technology-based and real-world learning spaces supports young children's learning and development.



PHILOSOPHY & APPROACH



STANDARDS ALIGNED

- Connecting children's academic and enrichment experiences supports their learning.

RESEARCH DRIVEN

- Designing effective learning experiences requires a thoughtful research process and ongoing evaluation.

OPENLY SHARED

- Offering free project resources and professional learning is fundamental to the success of the *Hero Elementary* enterprise.



MEDIA PRODUCTS



26 Playlists

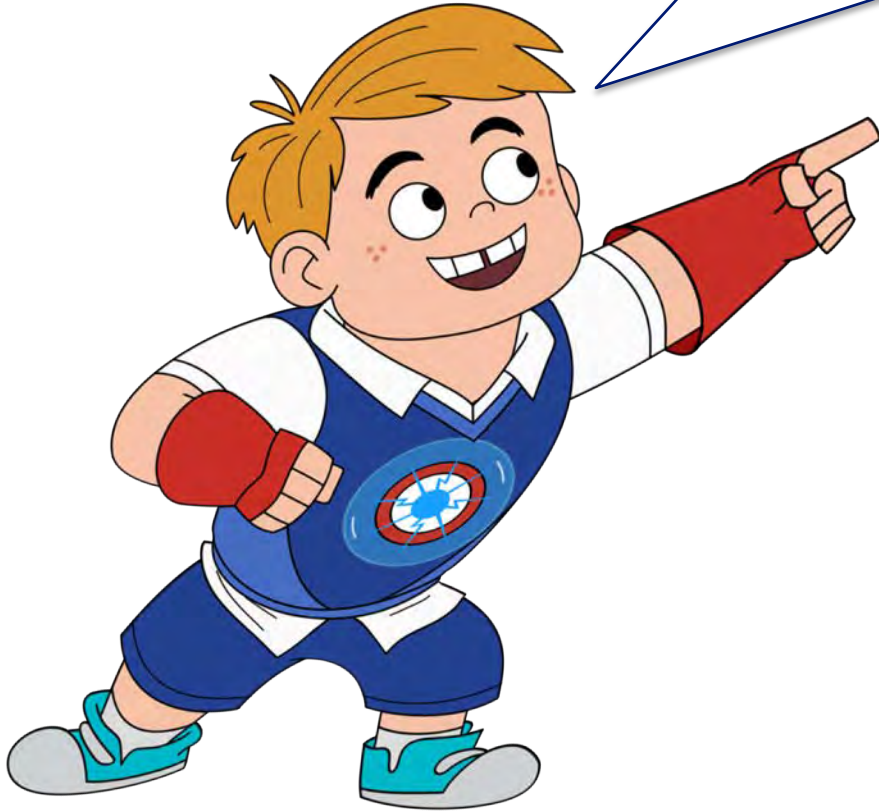
- 40 TV shows
- 16 digital games
- Science Power Notebook
- 8 Analog games
- 52 Hands-on Activities
- Informational e-books



PLAYLISTS



What's a playlist?



A collection of content about a topic to inspire, empower, and deepen children's science learning



PBS KIDS DISTRIBUTION



VIDEO

- Traditional broadcast
- 24/7 channel (including streaming)
- PBS Kids video App
- Amazon

DIGITAL

- PBS Kids website
- PBS Kids games App
- PBSLM
- PBS Parents



CURRICULUM → WHAT KIDS DO!



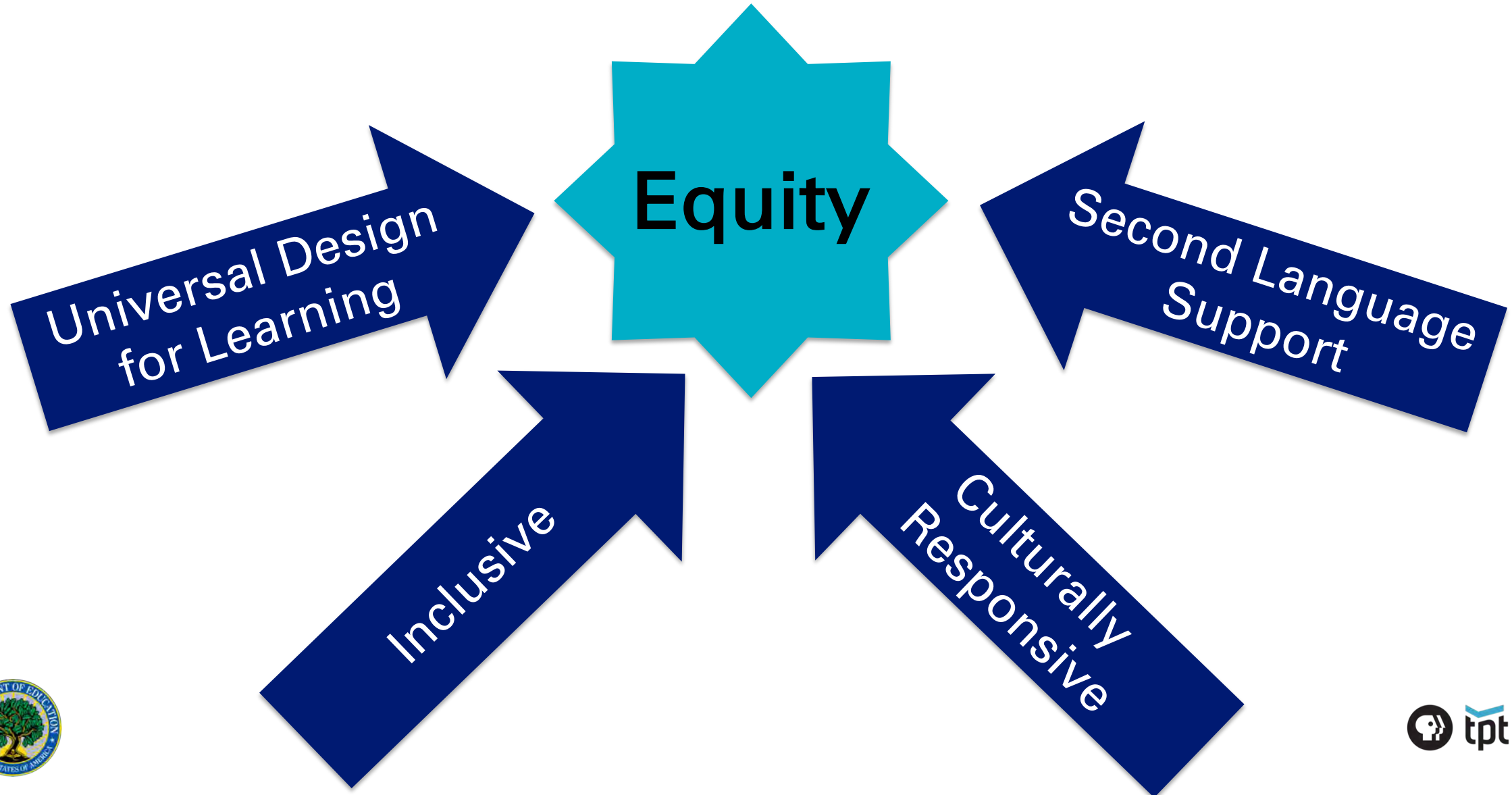
**WE DO
SCIENCE**

**USING THE
SUPERPOWERS
OF SCIENCE**

**TO
UNDERSTAND
BIG IDEAS**



PEDAGOGY: EQUITY FOCUSED



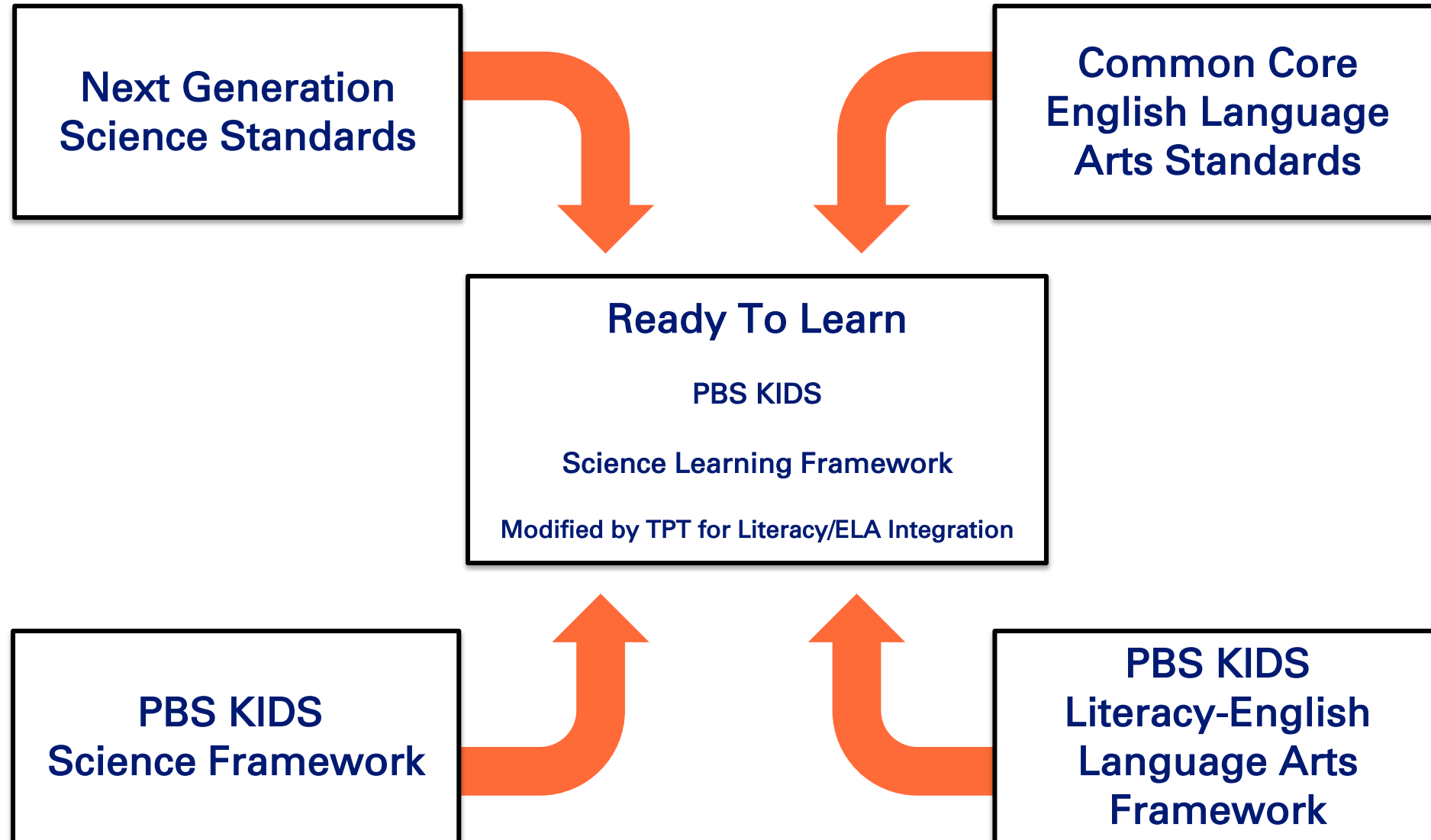
PEDAGOGY AND SEL



- **Growth Mindset**
 - Make mistakes – that's how heroes learn!
- **Social emotional learning (SEL)**
 - Work together
 - Help the community
 - Resilience, heroes don't give up



SCIENCE-LITERACY LEARNING FRAMEWORK



SCIENCE AS LITERACY



SCIENCE & ENGINEERING PRACTICES

Utilize the skills, thinking, & language of Scientific Inquiry & Engineering Design.

- Ask questions
- Define problems
- Plan & carry out investigations
- Analyze & interpret data
- Construct explanations
- Design solutions
- Obtain information
- Communicate information

LITERACY & ENGLISH LANGUAGE ARTS

Produce & receive communication in a variety of forms.

- Speaking
- Listening
- Writing informational texts
- Reading informational texts
- Vocabulary



SUPERPOWERS OF SCIENCE



INVESTIGATE!



GET INFORMATION!

ASK QUESTIONS!

NAME THE PROBLEM!



MAKE SENSE!

SHARE WHAT YOU KNOW!

FIGURE OUT A SOLUTION!

OBSERVE!

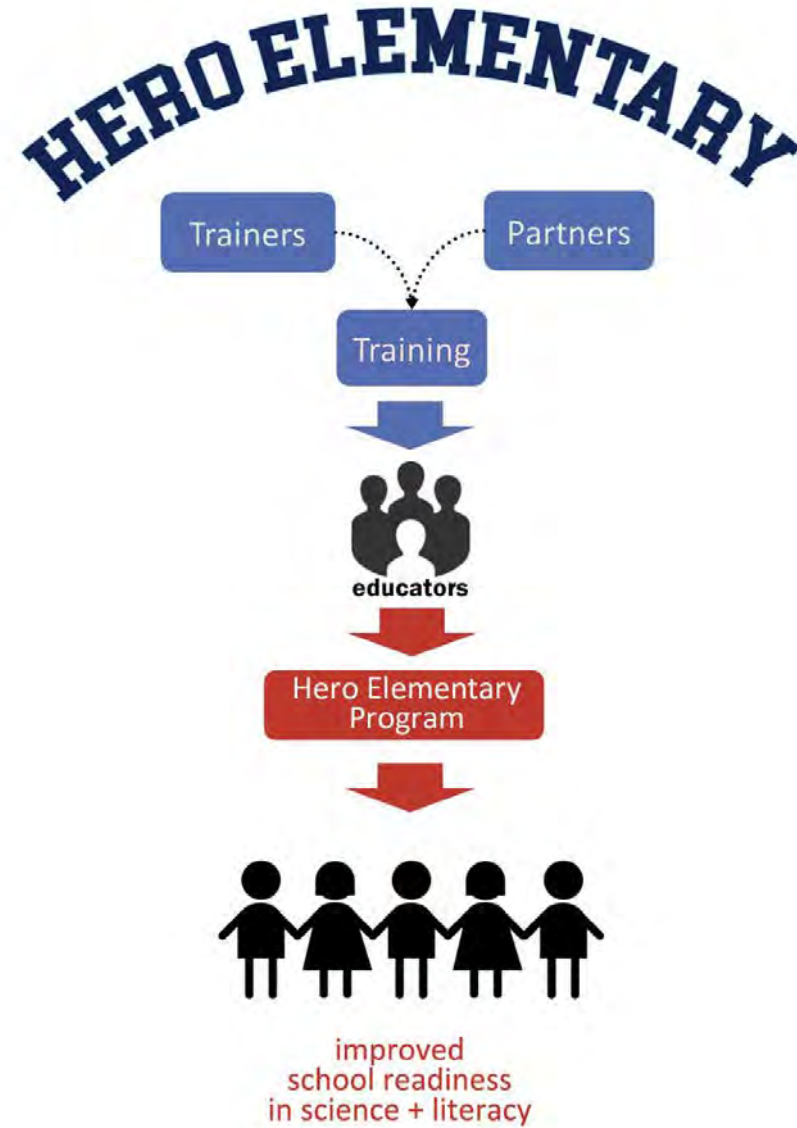
EXPLAIN!





OUTREACH

OUTREACH MODEL



OUTREACH MODEL



Outreach

- Recruitment through cold emails, conferences and networking
- Exploratory calls

Contract

- Stakeholder language
- Roles and responsibilities are clearly defined

Training

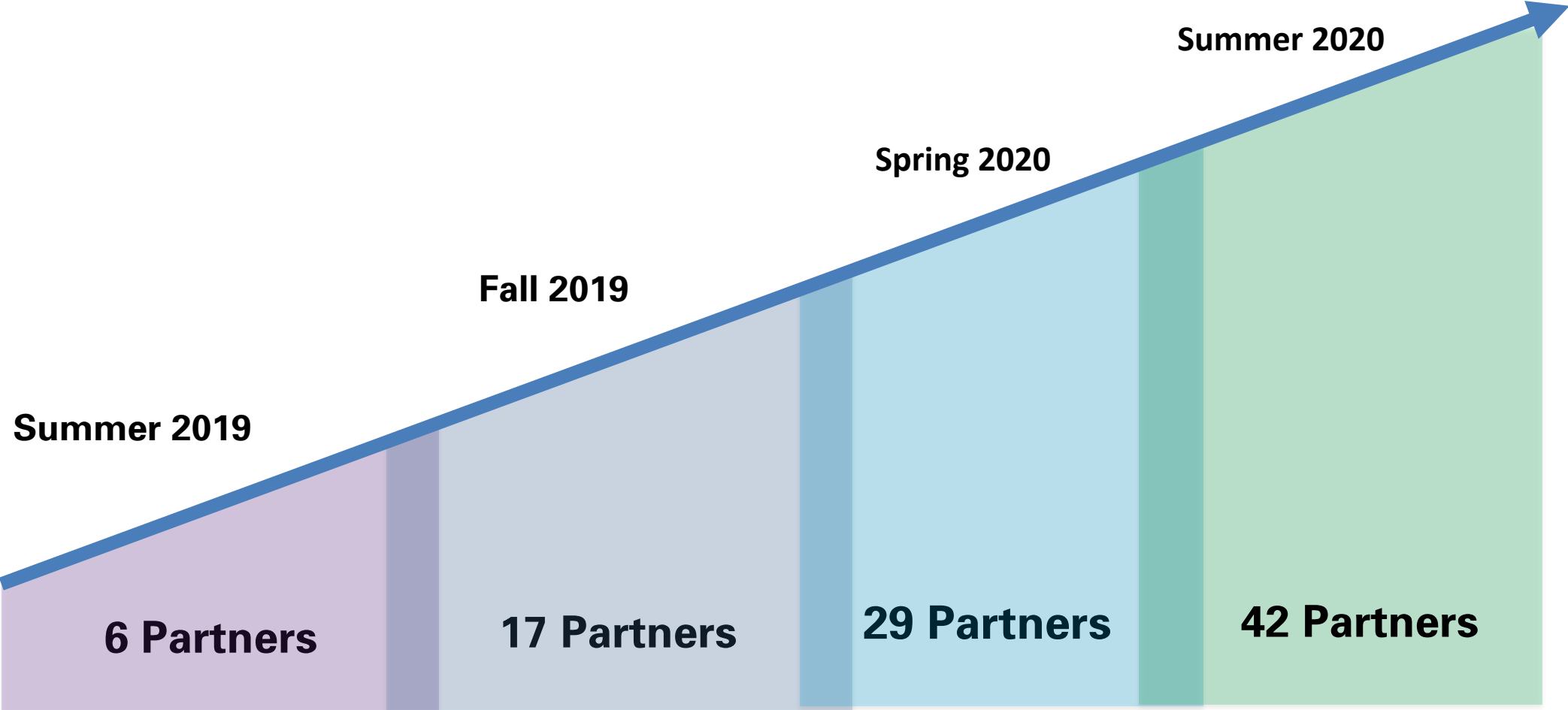
- 8 hour in person Hero Elementary training
- 1 hour zoom training on Playlist Website
- Other support

Implement

- Work with Partner on implementation timeline
- Partner has access to Educator Website, webinars and other support



PILOT TO SCALE



PARTNER SUPPORT



- Hero Elementary Training in-person training
 - 8 Hour Training for Directors and Managers
 - 8 Hour Training Classroom Educators
 - 4 Hour Refresher Training Partners Scaling Up
- Online Hero Elementary Training
- Implementation and Playlist Website Zoom Training
- Educator Platform
- Online Playlist Website Training
- Webinars
- Newsletters



PROFESSIONAL DEVELOPMENT TIMELINE



Cohort 4

Cohort 3

Cohort 2

Pilot

WestEd Evaluations

January
2019

January
2020

Professional
Development
Release

Professional
Development
Release

Professional
Development
Release

Professional
Development
Release

TRAINING CONTENT APPROACH



Approach

- Activation: Existing knowledge and skills
- Demonstration: Learners observe demonstration
- Application: Using newly acquired skills
- Integration: Reflect and discuss new skill

Learning Objectives

- Skills & Knowledge to effectively implement
- Equity Approach
- Program Customization
- Technology Integration

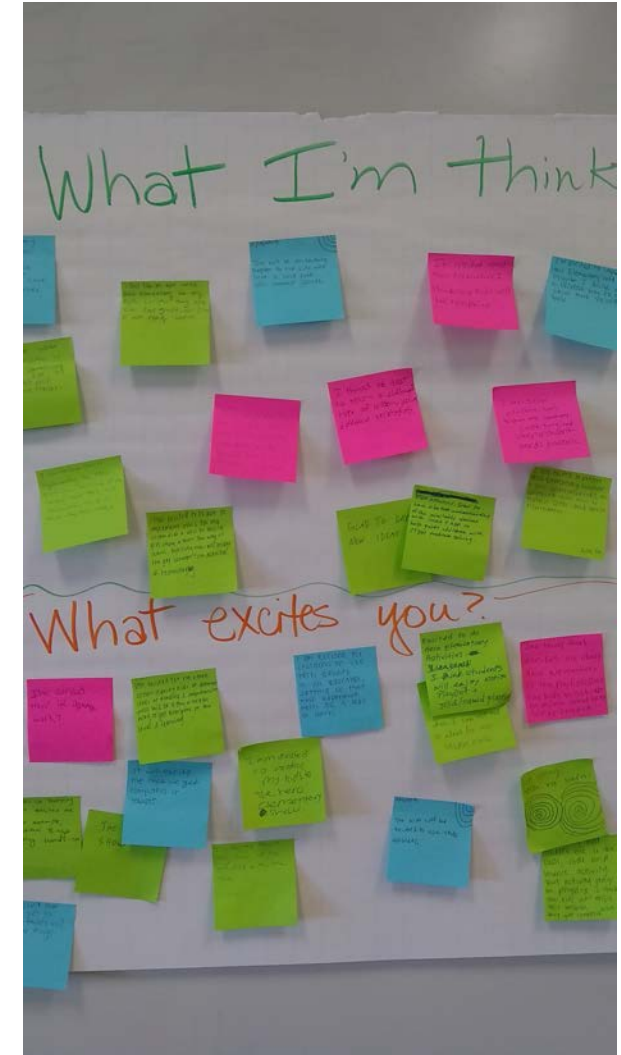
HERO ELEMENTARY TRAINING



- 20 certified Hero Elementary Trainers
- 18 in person trainings, with 500 trained



HERO ELEMENTARY TRAINING



ONLINE TRAINING



HERO
ELEMENTARY

Account

Admin

Dashboard

Courses

Calendar

Inbox

Commons

Help

Home

Announcements

Modules

People

Grades

Pages

Syllabus

Files

Conferences

Assignments

Discussions

Outcomes

Quizzes

Collaborations

Settings

Online Educator Training

Edit

HERO
ELEMENTARY

WHERE THE POWERS OF SCIENCE MAKE HUMANS TRULY SUPER

Hero Elementary is an expansive educational media initiative focused on improving school readiness in science and literacy for children grades K-2 nationwide, with an emphasis on Latino communities, English Language Learners, youth with disabilities, and children from low-income households.

This online training for educators is to prepare you for your implementation of the Hero Elementary education program. Expect to spend about 1-2 hours on each module in this course (for a total of 5-10 hours). To get started click "Start Here" below.

Note: You will need a tablet and access to the playlist website (login+password) and assigned playlist (ask your program supervisor to assign the Heating and Cooling Playlist to you).

START HERE

CONTACTS

RESOURCES

Program: Hero Elementary's [transmedia](#) universe integrates science and literacy to ignite children's natural curiosity and broaden their understanding of how the world works and empower them to make a positive difference in their communities. All materials are aligned with the [Next Generation Science Standards](#).

The Hero Elementary education program centers on an innovative learning platform featuring thematic "[playlists](#)" or collections of educational media assets with embedded learning analytics. Each playlist features:

- ◊ animated PBS Kids television episode
- ◊ digital or analog game
- ◊ non-fiction e-books
- ◊ hands-on science activities
- ◊ [Science Power Notebook](#) where kids create their own content
- ◊ educator assets
- ◊ child enrichment resources for parents/caregivers

Acknowledgments: Hero Elementary is funded by a cooperative agreement with the [United States Department of Education's Ready To Learn](#)™ program. The Hero Elementary television series is produced with key television production partner [Portfolio Entertainment](#)™. Other partners include: [LRNG](#)™, [WestEd](#)™, [Capstone Publishing](#)™, and a network of informal education programs, serving children in their communities nationwide.

WELCOME TO THE WORLD OF HERO ELEMENTARY



Synopsis

It's 9 a.m. and elementary school kids everywhere are arriving for the start of the day. But at Hero Elementary things look a bit different. High-flying Lucita Sky comes in for a landing. Benny Bubbles employs his bubble-generating powers to bounce in over the bushes. Standing near the door, Sara Snap suddenly disappears! Looks like she forgot her lunch box and teleported home to get it. And here comes the brilliant AJ Gadgets with his ultra-boost backpack, zooming to the school just in the nick of time.

At Hero Elementary, super-powered students are learning how to use their extraordinary talents to save the day. At the same time, the students discover they have an additional arsenal of powers to call upon: The Superpowers of Science. These skills like observing, testing ideas and, more often than not, trying again. After all, it helps to investigate the height of a tall building before you try to leap over it!

When superpowers and science merge, mayhem often ensues — because Hero Elementary students are still learning how to master their incredible skills. Fortunately, they have the perfect teacher, Mr. Sparks, who shows the students how to turn their mishaps into exciting discoveries using scientific thinking. There's also the adorable class super-pet, Fur-Biur, a speedy hamster whose insatiable appetite can fill her cheeks to epic proportions!

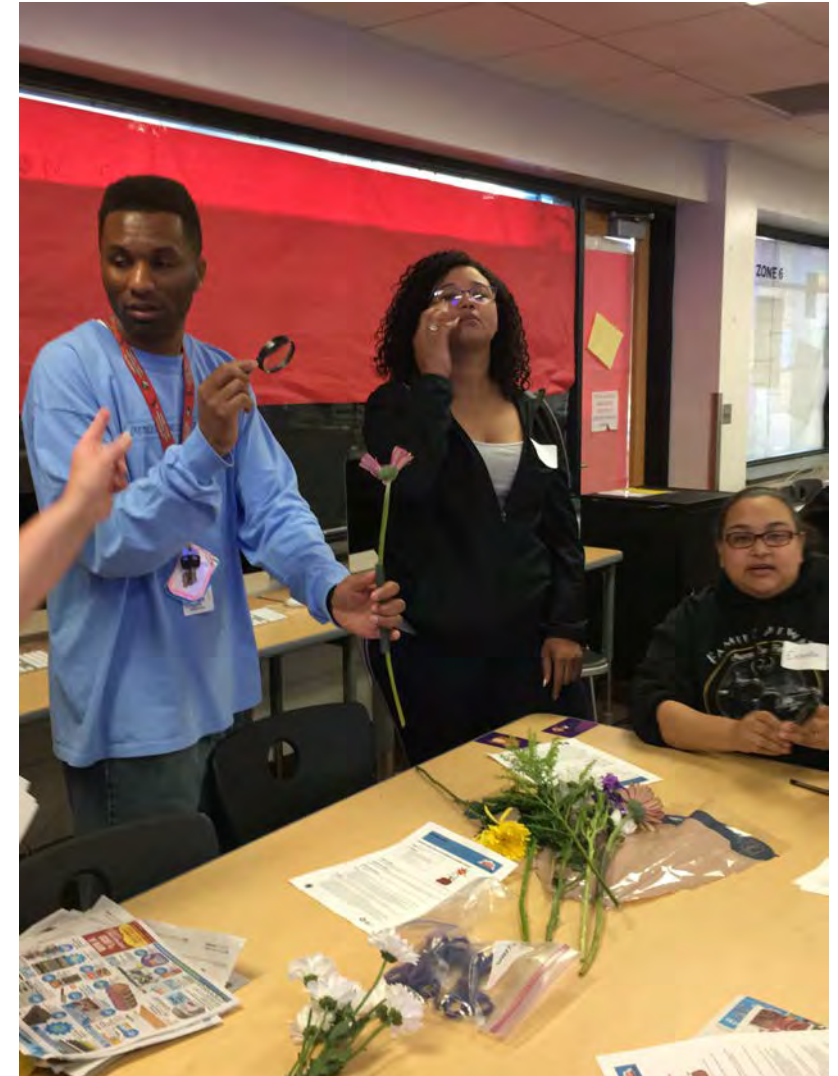
Our young heroes are fueled by a strong desire to help people in need and make the world a better place. The students of Hero Elementary are an example to kids everywhere for scientific thinking, empathetic problem-solving, and for saving the day! When heroic hearts and minds work together, there is nothing they can't accomplish ... and it all starts at Hero Elementary!



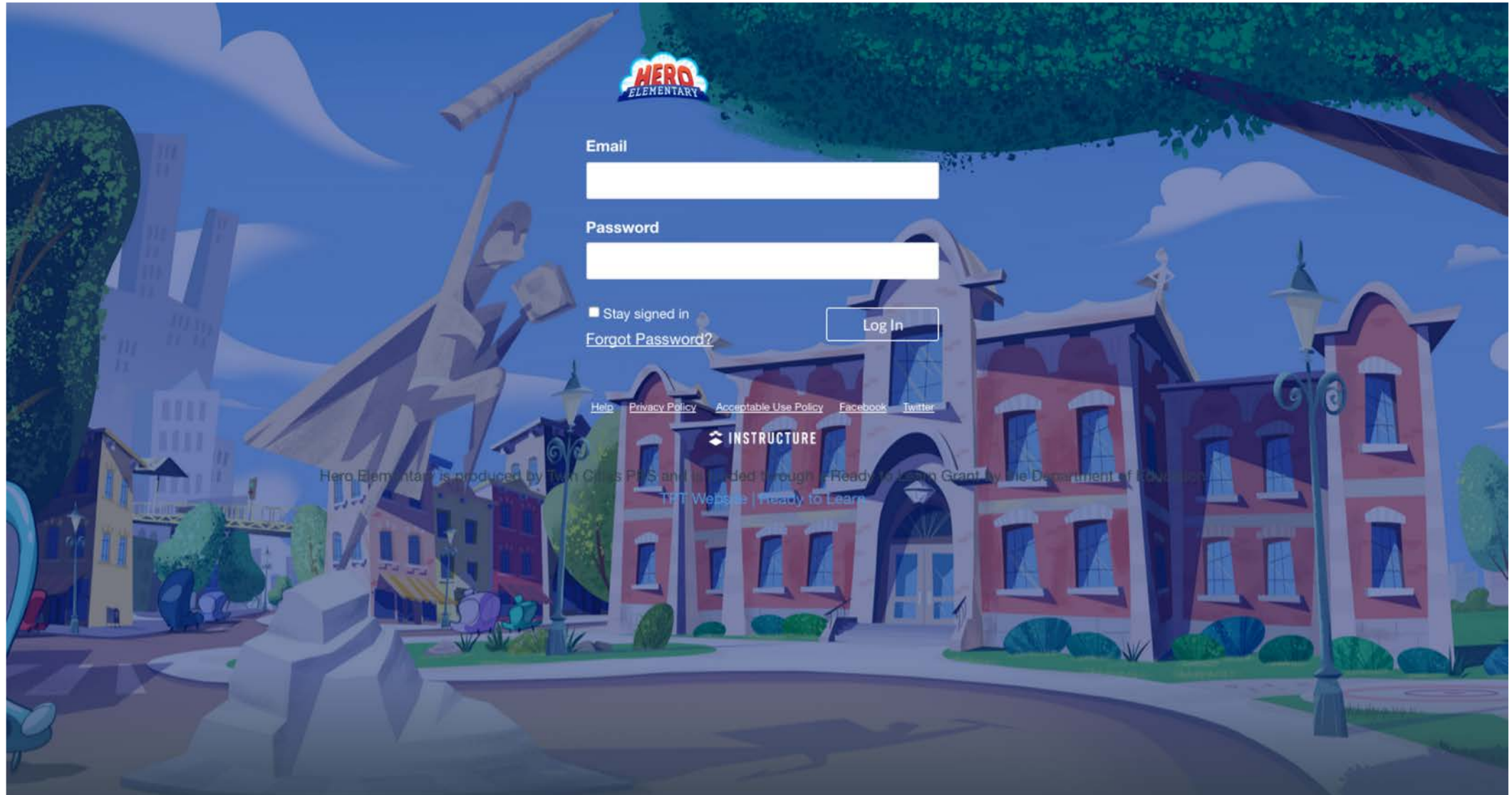
WHAT EDUCATORS SAY ABOUT HERO ELEMENTARY



- “Teaching my staff and then seeing my students learn and use the curriculum”
- “Students being exposed to such inclusive curriculum”
- “Hero Elementary is inclusive and represents the populations they serve”
- “I appreciate the equity-focus. I am hopeful that students will identify with the characters and that it will empower them to be confident in their curiosity and education.”



EDUCATOR WEBSITE





PARTNERSHIP



SUCCESSFUL PARTNERSHIP CRITERIA



Enrichment Focused

- Track record of providing quality programming in their community.
- Strong Program Director/manager relationship.
- Productive child/educator ratio.

Commitment to Equity and Diversity

- Strong commitment and approach to equity.
- Curriculum, pedagogy, and challenge is responsive to individual differences and social political context of learning.
- Experience working with our targeted populations.

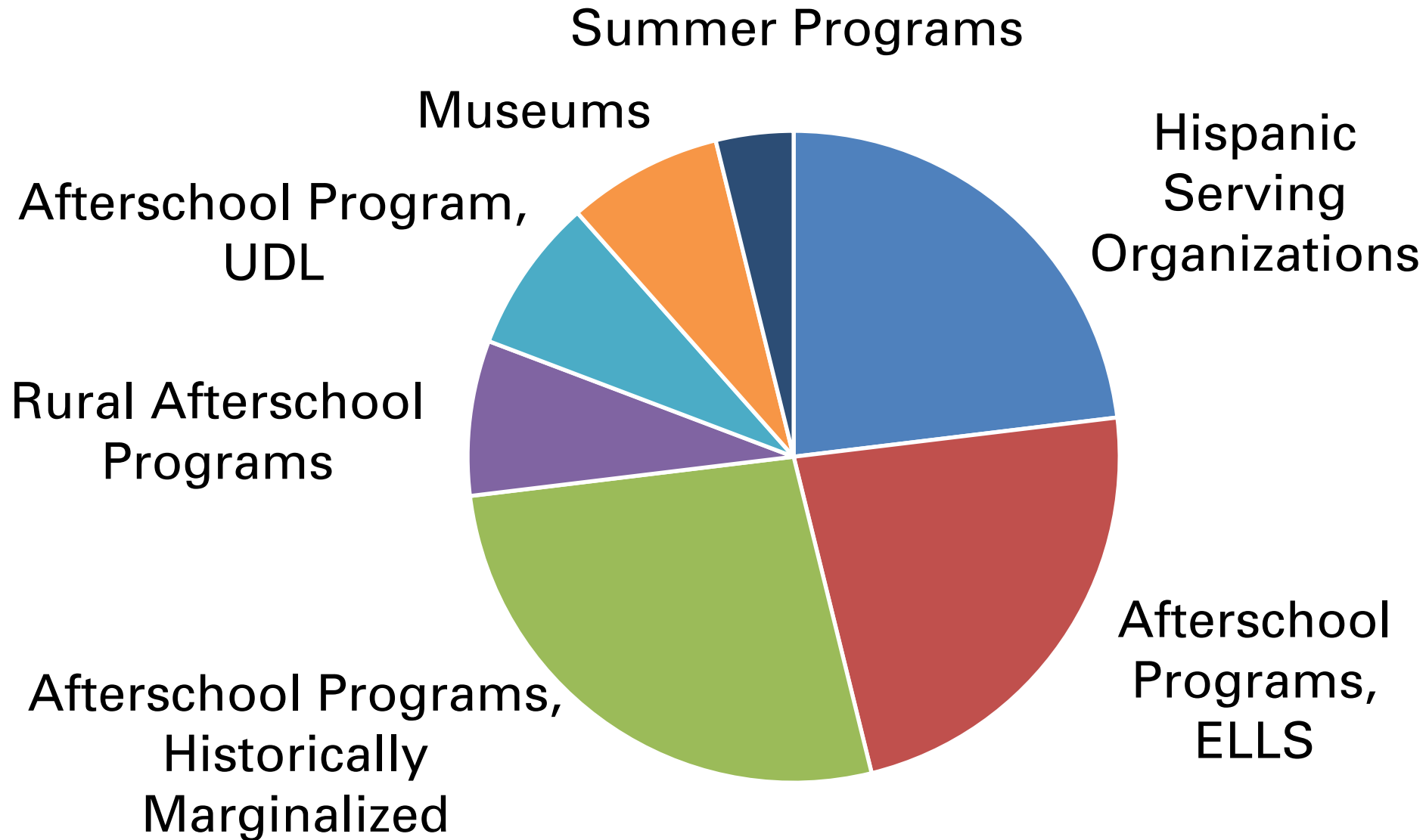
Cohesive Communities of Practice

- Professional development is valued by organization.
- Offers family programming and opportunities for parents/guardians to be involved.

Strong plans for Implementing *Hero Elementary*

- Can implement *Hero Elementary* collection or resources to fidelity.
- Can handle the technology lift.

PARTNER PROFILES



3 STRATEGIES FOR SUCCESSFUL PARTNERSHIPS



1. Be Clear on the Why

- Clear on value you both bring to table
- Nature of relationship

2. Long term shared purpose

- Metrics and accountability
- Mutually beneficial relationship

3. Strategic Plan

- What are the goals and how do we get there

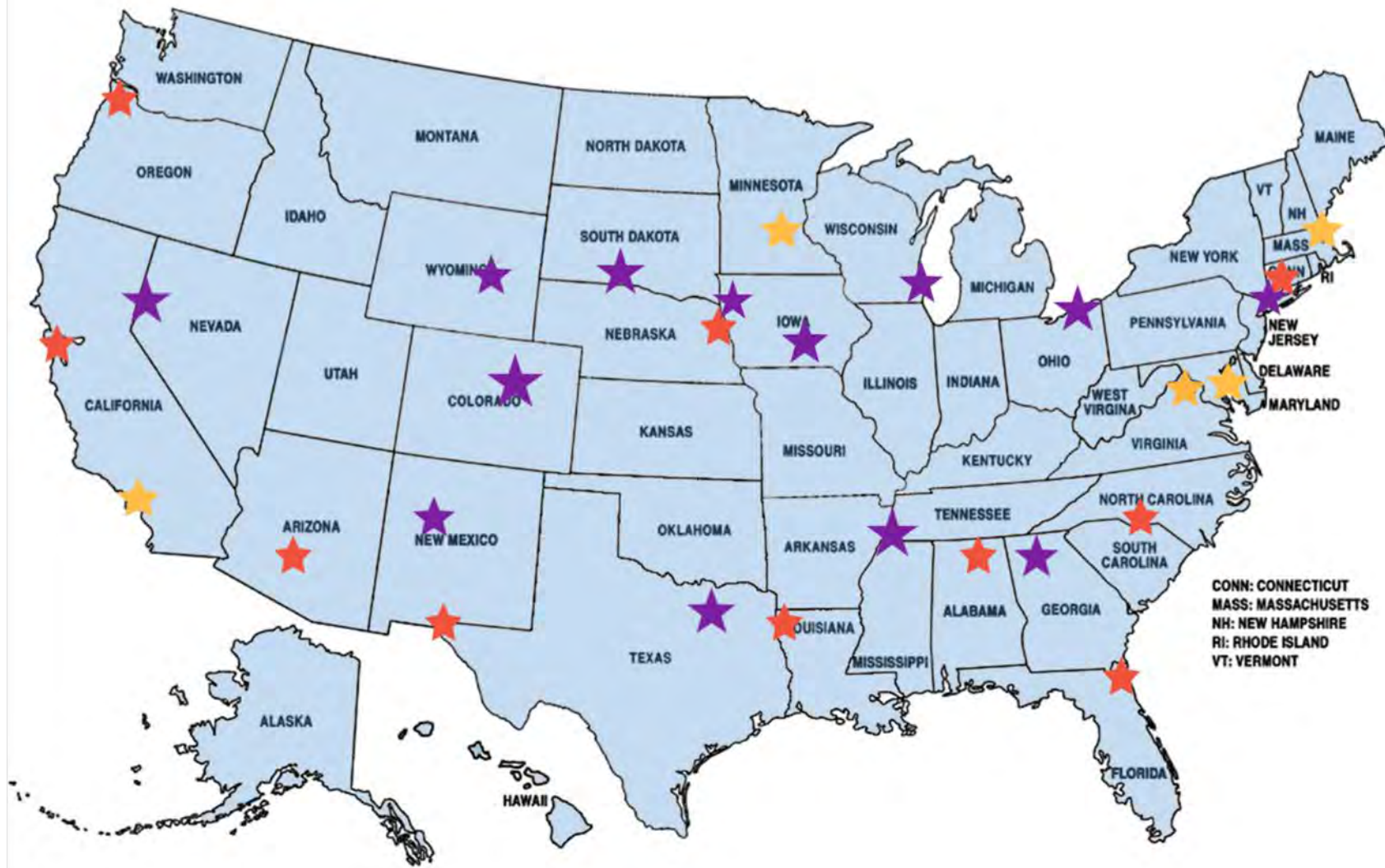




HERO ELEMENTARY PARTNERS



PARTNER MAP



CONN: CONNECTICUT
MASS: MASSACHUSETTS
NH: NEW HAMPSHIRE
RI: RHODE ISLAND
VT: VERMONT



PILOT COHORT SUMMER IMPLEMENTATION



Organization	Implementation	Children enrolled	Playlist Completed
Child First Authority	July 2019	27	3
The Children's Museum at La Habra	June 2019	89	1
Boys and Girls Club of Northern Alabama	July 2019	165	1
Heavenly Hope – Hands4Hope	June 2019	31	3
SPPS Freedom School	June 2019	280	7
YMCA of Metropolitan DC	June 2019	25	2
Total children reached		617	

CHILDREN'S MUSEUM OF LA HABRA



- Parents have limited economic ability to provide their children with necessary educational resources and La Habra strives to fill that gap with its outreach and commitment to education
- 60% Latino, 80% FRL, 37% English Language Learners

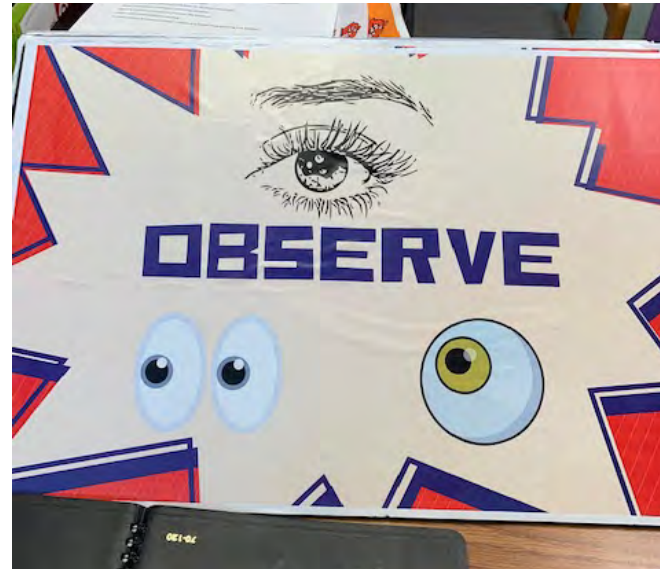


CHILDREN'S MUSEUM OF LA HABRA



"With the help of the *Hero Elementary* playlists', super powers of science episodes and engaging activities, the students were instantly little scientists ready to learn all they could about science! Students experienced first-hand how everyone can be a scientist AND that science is all around us! These enthusiastic little scientists were sad to see the program end but because of *Hero Elementary*, we are now equipped with the tools to continue exploring science on their own!"

- Maria Tinajero-Dowdle; Assistant Director at the Children's Museum at La Habra

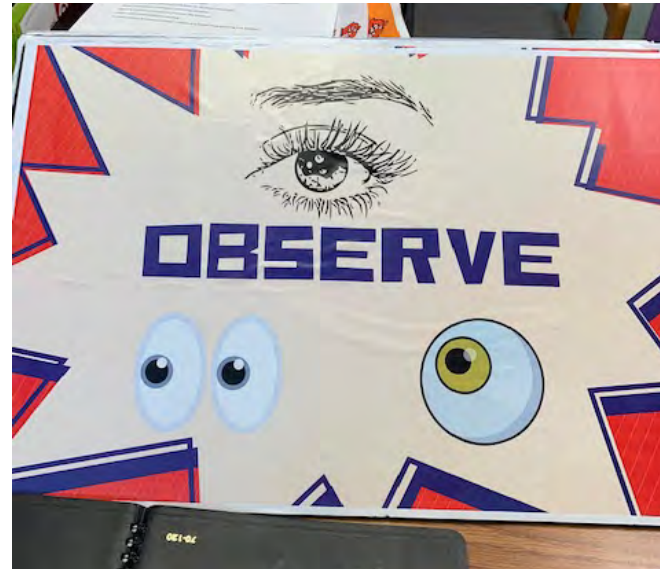


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- **Favorite Playlists: Pushes and Pulls, Wobble or Balance, especially Hero Hideaway Properties of a bridge**
- **“It’s fun being a hero!”**



YMCA DC SUCCESSES



- **The theme “Hero” has a universal appeal. There is an instant buy-in from parents for their children to be involved! Managing programs always run smoother when you have the support of parents.**
- **The Hero Elementary Program always sparks curiosity within the children. This means there is always the possibility of having a learning environment!**



YMCA DC SUCCESSES



- Often the age group that “Hero” is designed for benefits from the themes being taught such as teamwork, problem solving and the Superpowers of Science. (Investigating, observing, analyzing, Explaining, Predicting, test predictions, communicate information)



YMCA DC LESSONS LEARNED



- Try not to cram too much of the playlist into a session or two. There is variety in every playlist. Therefore, Let the learning that happens with each playlist take the time needed so that it ensures that children are absorbing the information.
- The digital Learning Platform needs a wife platform to operate on. Be proactive with schools and sites to make sure a system is available to get the program up and running.
- Technology will at some point fail you. I.E (playlist may be down, wifi may be fickle.)



COHORT 2



Organization	Organization Type
Hacienda CDC	Hispanic, ELLs, Low income
Boys and Girls Club of Northern Alabama*	Low Income, Historically Marginalized
Heavenly Hope-Hands4Hope*	Low income, Historically marginalized
SmartGirls HQ	Low income, Historically marginalized
Project Vida	Hispanic, ELLs, Low income
ICAN	Hispanic, ELLs, low income
Hope Haven	Students with Disabilities
San Francisco Beacon	Hispanic, ELLs, low income
YMCA of San Francisco	Low income, historically marginalized
Volunteers of Louisiana	Rural, Low income
Civic Nebraska	Low income, ELLs, historically marginalized

PROJECT VIDA



- Emphasizes literacy and school readiness
- Serves Chamizal neighborhood, 2 blocks north of U.S. Mexico Border
- 8 classes per month for 10 months
- 100% Latino



- Serve children with Autism Spectrum Disorder, Prader Willi, and Down Syndrome
- Social/emotional, speech/language, and sensory/motor learning
- Implementing several classes 2-4 classes a week
- 95% FRL



COHORT 3



Organization	Organization Type
Boys and Girls Club of Central Wyoming	Low-income, rural
Boys and Girls Club of Rosebud Reservation	Low-income, Historically marginalized
Beyond the Bell Iowa	Low-income, Latinx population
Neighborhood House of Milwaukee	ELL's, Low-income
Oakridge 21 st Century	ELL's, Low-income
Boys and Girls Club of Western Nevada	Low-income, Historically marginalized
Girls Inc of Greater Atlanta	Low-income, Historically marginalized
Project Transformation North Texas	ELL's, Low-income, Latinx
Boys and Girls Club of Central New Mexico	Low-income, Latinx, ELL, Historically marginalized
Girls Inc of Tennessee Valley	Low-income, Historically marginalized
East Cleveland Neighborhood Center	Low-income, Historically marginalized

BOYS AND GIRLS CLUB ROSEBUD RESERVATION



- "At the Boys and Girls Club of Rosebud, we truly believe our youth are sacred. That is why, in everything we do, we seek to empower our youth to live out their dreams."
- 2nd poorest county in the country
- 98% Native American

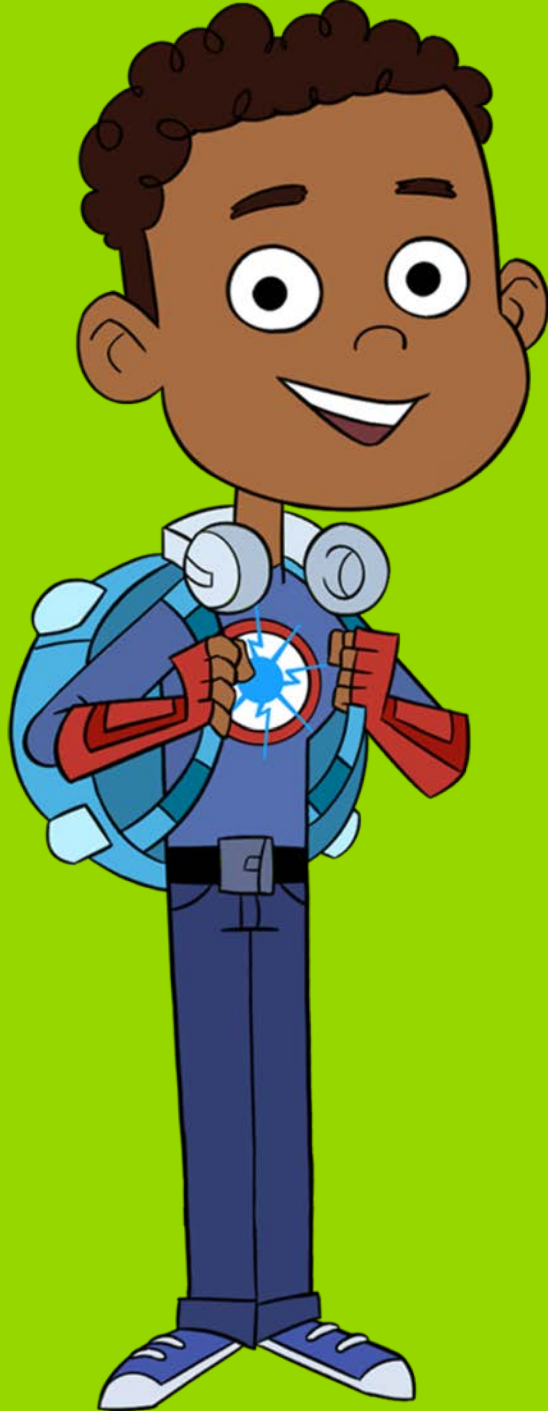


BOYS AND GIRLS CLUB WYOMING



- Focuses on academic success, healthy lifestyles, good character and citizenship
Serves rural communities in Wyoming
- Cowboy ethics
- 85% FRL





HANDS-ON!

CURRICULUM → PLAYLISTS



PHYSICAL SCIENCE

Forces and Motion

Light and Sound

Matter

EARTH AND SPACE SCIENCE

Earth's Systems

Earth and Human Activity

Earth's Place in the Universe

LIFE SCIENCE

Organisms

Heredity

Ecosystems

PLAYLIST: CHANGING MOTION



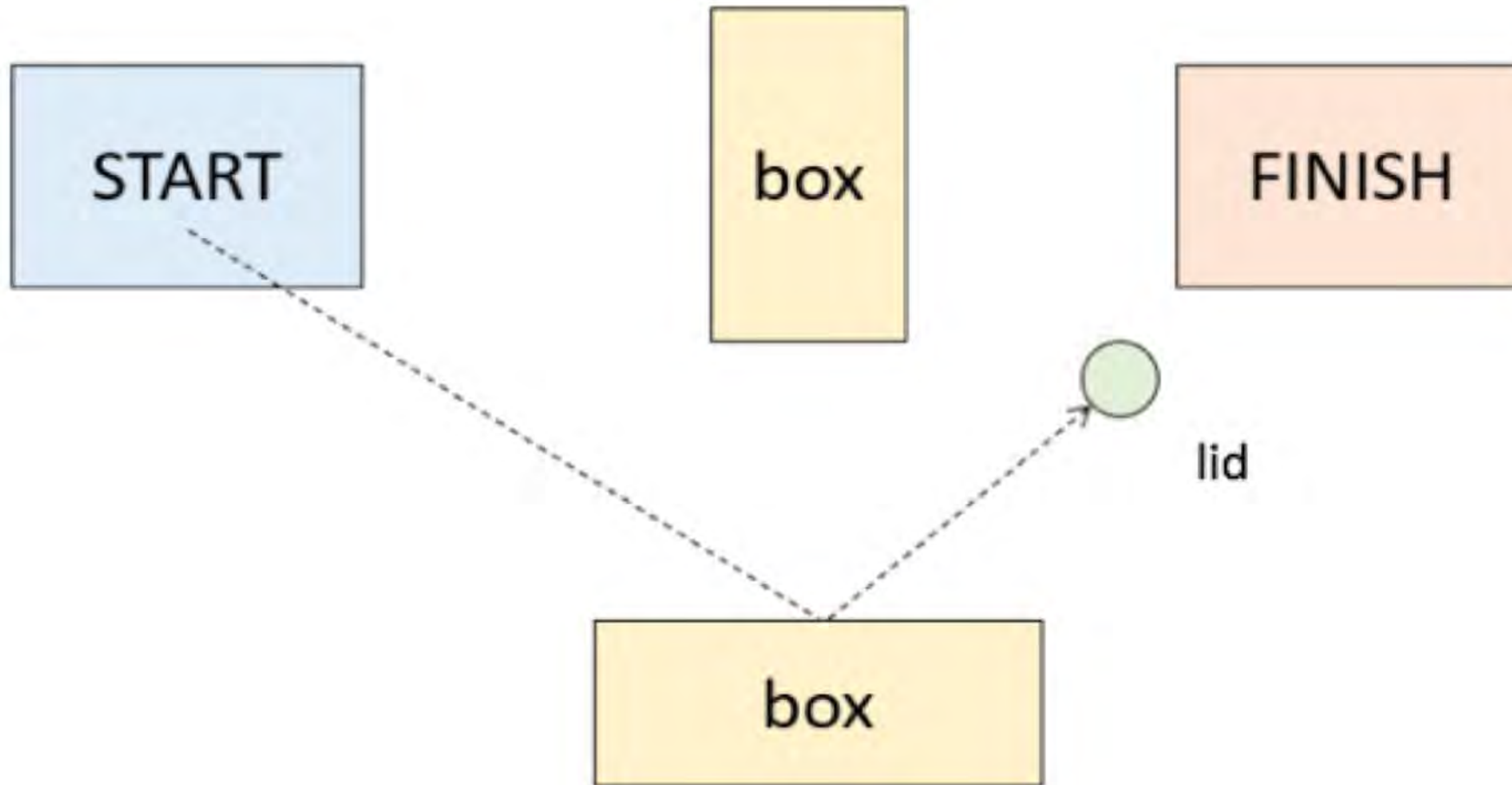
F O R C E S & M O T I O N	PLAYLIST	SCIENCE BIG IDEAS
	Pushes & Pulls	<ul style="list-style-type: none"> * A push (or pull) can make an object move. * A push (or pull) can make an object stop moving. * A push (or pull) can make an object move fast or slowly.
	Make Things Move	<ul style="list-style-type: none"> * Pushes and pulls have different strengths. * Pushes and pulls have different directions.
	Bump & Bounce	<ul style="list-style-type: none"> * When objects bump into each other, they change direction.
	Changing Motion	<ul style="list-style-type: none"> * The <i>direction</i> of a push makes a thing move in the same direction. * The <i>strength</i> of a push makes a thing move fast or slowly. * When a moving object bumps something, it can change direction.
	Wobble or Balance	<ul style="list-style-type: none"> * The shape of a structure affects how stable it is. A tower with a wide base will stay up. But a tall, narrow tower will fall down. * An object that is still and not moving is balanced. Things such as symmetry, weight, size, and shape can affect balance. * An object has pushes and pulls affecting it all the time. These pushes and pulls make the object fall down or stay up.

Science Questions

- How can you make something change direction with a push?
- What happens when you push something with a strong push?
- What happens when you push something with a weak push?



ACTIVITY: PUSH, SLIDE, BOUNCE



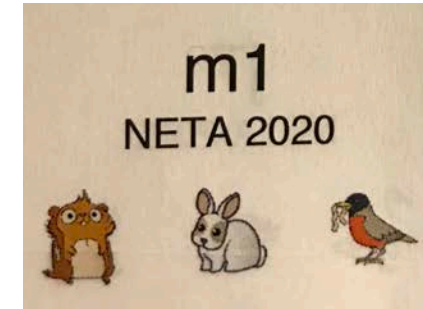
SCIENCE POWER NOTEBOOK



HOW TO LOG IN



1. Turn on device and open Chrome.
2. Go to <https://rtl-dev.tpt.org>
3. Scan your QR code **OR** use the name & animals



4. Click:



FAMILY SCIENCE EVENT



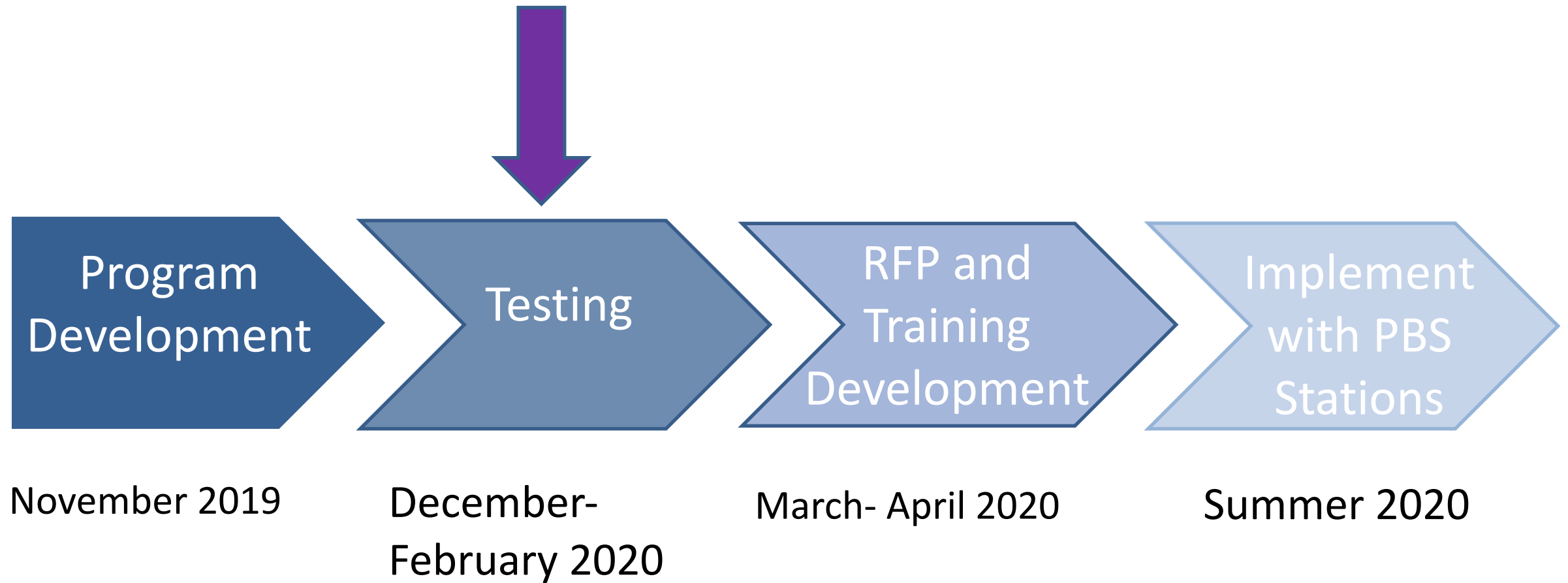
STATION 1: OPERATION INVESTIGATION



STATION 2: BECOME A SUPERHERO



FAMILY SCIENCE EVENT TIMELINE





DIGITAL GAMES

SO MANY GAMES!



PUSH! PULL!! PUZZLES!!!

CITYTOWN MELTDOWN!

TOAD ROAD

TREEHOUSE TROUBLE

CITYTOWN SOUNDS

SUPER SHADOW DETECTIVES

CRITTER COLLECTORS

CRASH OF THE COLLISIONS

OPERATION INVESTIGATION



IN DEVELOPMENT:

- Seasons
- Plants and Animals Needs
- Taking Care of the Earth



CLASH OF THE COLLISIONS



LET'S REFLECT!



- What is exciting to you?
- What else do you want to know?





**THANK
YOU!**

