National Inventors Hall of Fame®

EDUCATIONAL PROGRAMS

Thank you for joining us today. Tell us where you are joining from!

To participate, please go to slido.com
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(Can be accessed via mobile device or computer)

National Inventors Hall of Fame®

EDUCATIONAL PROGRAMS

WELCOME!

HOUSEKEEPING ITEMS

Mute

Question submission and voting

Webinar recording

OUR PANELISTS

Alaina Rutledge

Vice President of Education Research and Development

Britt Magneson

Vice President of New Business Development, PreK-12 Partnerships

AGENDA

The National Inventors Hall of Fame®

Key takeaways from the field

Invention Project® K-6

Q&A

National Inventors Hall of Fame®

The mission of the National Inventors Hall of Fame is recognizing inventors and invention, promoting creativity and advancing the spirit of innovation and entrepreneurship.

In partnership with uspto UNITED STATES PATENT AND TRADEMARK OFFICE

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NATIONAL INVENTORS HALL OF FAME

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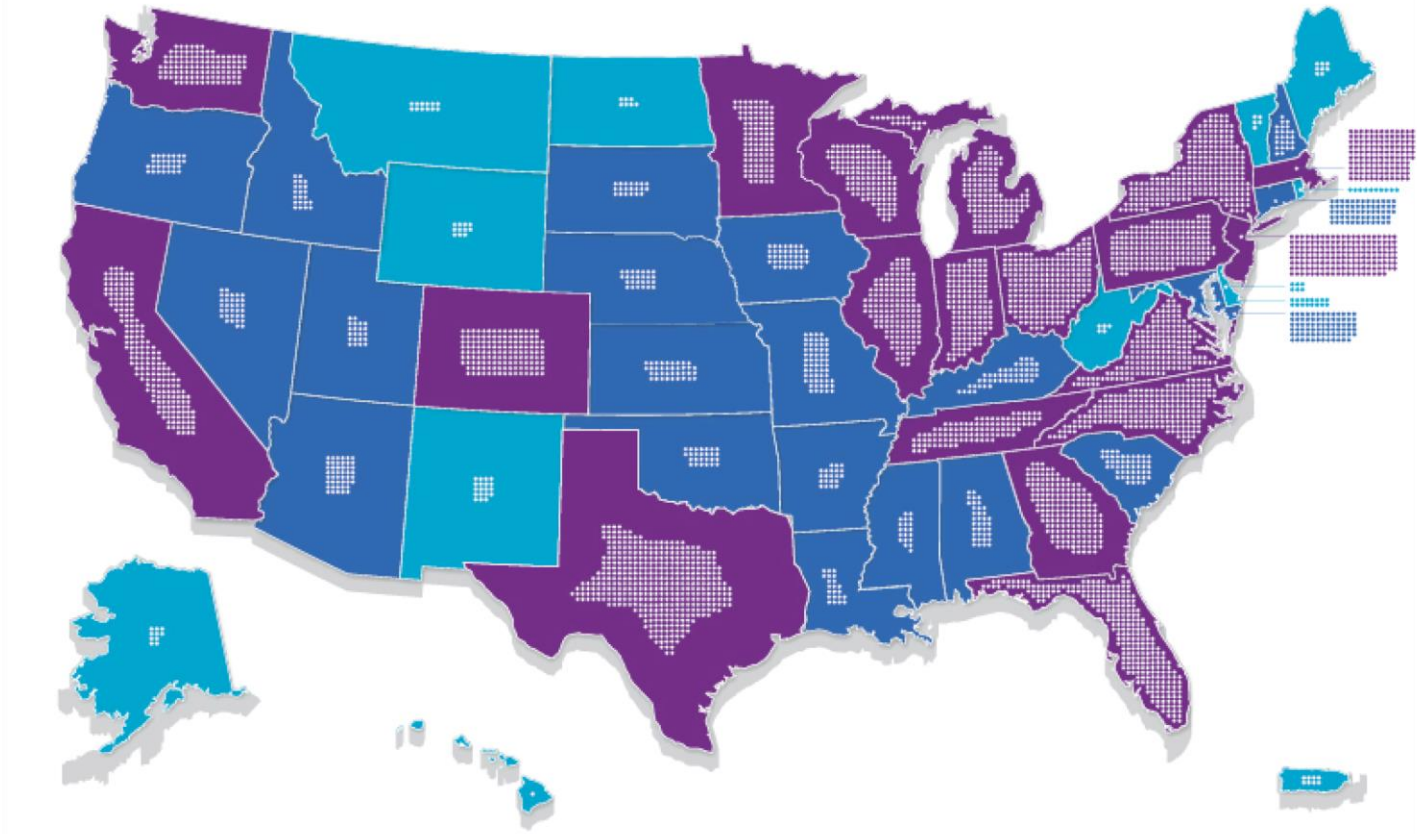


PROGRAMS IN EACH STATE

- 90 & UP
- 28-89
- UP TO 19

2.4 MILLION

CHILDREN, EDUCATORS, COLLEGE STUDENTS & INVENTORS IMPACTED

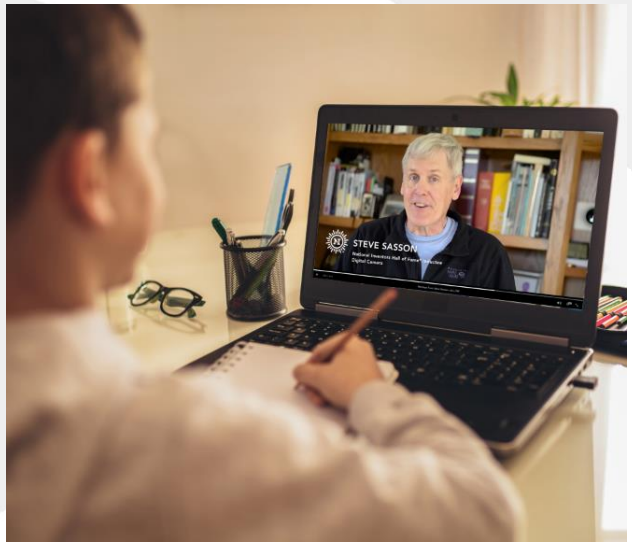
581

WORLD CHANGING INDUCTEES

30 YEARS

LEADERS IN STEM EDUCATION

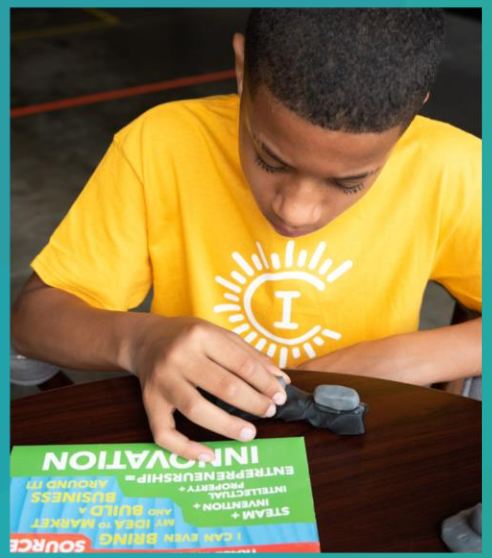
WHY


STEVE SASSON


DESIGN THINKING PORTFOLIO
SKETCH
PROTECT
PITCH

1,300+ CAMP INVENTION CONNECT™ PROGRAMS

40,000+ PARTICIPANTS



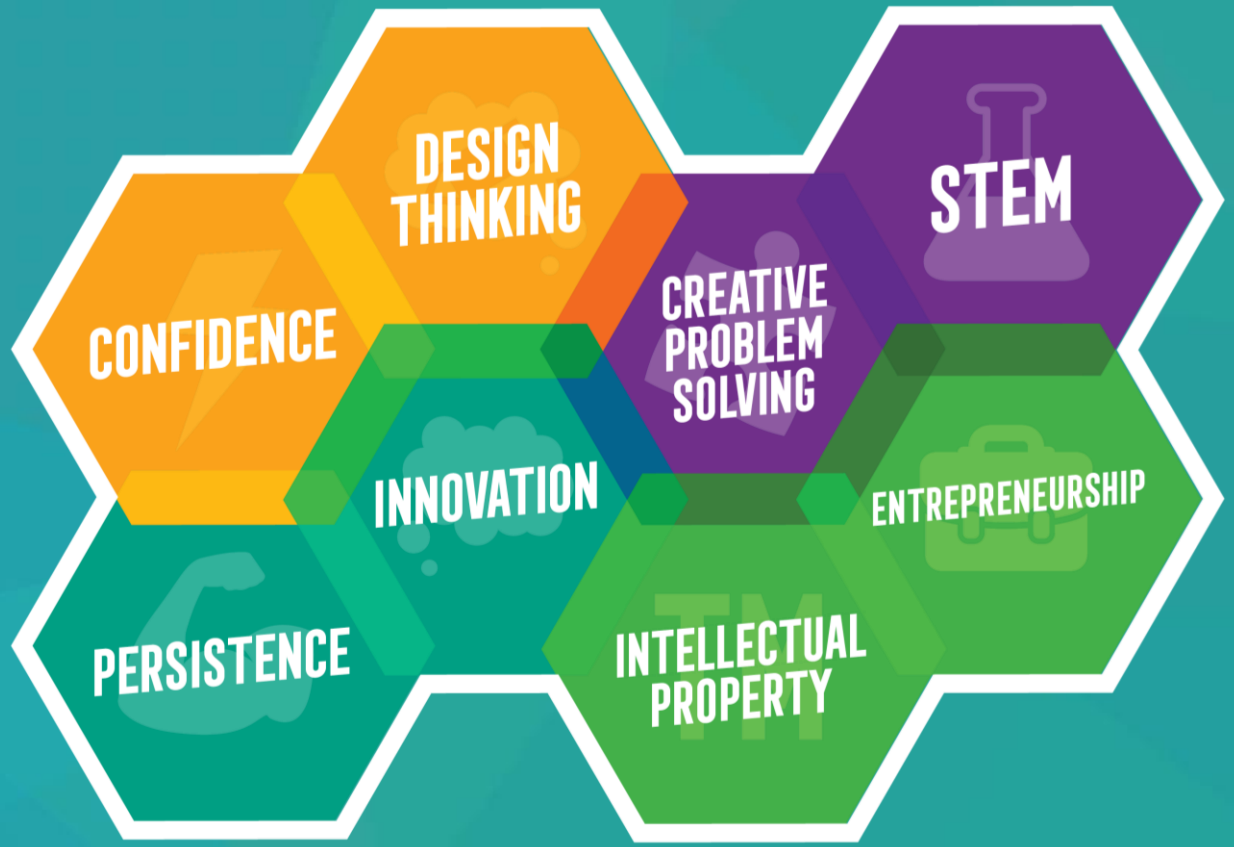
"I know you all had to do all of this in a short time, and **YOU REALLY NAILED IT!** I've been **INCREDIBLY IMPRESSED** with it all from a lead coach standpoint and as a parent!"

— MEG. H., GOWER WEST ELEMENTARY SCHOOL

"This was different from our online school because **WE GOT TO TALK TO OTHER KIDS** and I didn't have to just figure things out on my own. It was nice to be led by someone who helped me understand it. There were **SO MANY ACTIVITIES** and they were really fun."

— LYDIA, AGE 7

INNOVATION MINDSET



Focused on problem identification through empathy and collaborative problem solving

Pedagogical approach

The integration of the invention process into teaching and learning results in novel solutions

DESIGN THINKING

CONFIDENCE

STEM

CREATIVE PROBLEM SOLVING

INNOVATION

ENTREPRENEURSHIP

PERSISTENCE

INTELLECTUAL PROPERTY

The Challenges Districts and Educators Are Facing

"We are looking at offering **MULTIPLE WAYS TO ATTEND SCHOOL** – from virtual to hybrid to full time."

MONICA S., DIRECTOR OF ADVANCED ACADEMICS

"Our struggle right now is **LOW STUDENT ENGAGEMENT.** There is **NOT A LOT OF SUPPORT AT HOME.** It was a hard enough challenge face to face, but it's really hard when they are not right in front of you."

STEPHANIE E., K-12 SCIENCE INSTRUCTIONAL SPECIALIST, FLINT COMMUNITY SCHOOL DISTRICT

"The problem is **WE CAN'T ENGAGE STUDENTS** because they don't have anything tangible."

MICHELLE M., DIRECTOR OF ENRICHMENT AND EXTENDED LEARNING, HOLYOKE PUBLIC SCHOOL DISTRICT

"We are **IN A BUDGET CRISIS.**"

JESSICA S., STEM COORDINATOR, ORANGE COUNTY

"We've been struggling to get the **PROJECT-BASED LEARNING CONNECTED WITH OUR STANDARDS.** I think that is something you could bring to districts."

TERESA S., PRINCIPAL, BIG LAKE SCHOOL DISTRICT

"We have to incorporate **READING AND MATH SKILLS** into everything."

MONICA S., DIRECTOR OF ADVANCED ACADEMICS

"We have areas that are very rural. How do we provide **EQUITY FOR ALL STUDENTS,** even if they can't access the internet or a virtual platform."

JESSICA S., STEM COORDINATOR, ORANGE COUNTY PUBLIC SCHOOLS

"In our district we are always **WORRIED ABOUT SUMMER SLIDE, WELL NOW WE'VE GOT SUMMER SLIDE TIMES 2,** so we're going to have to be really hyper-focused on the standards and filling gaps with kids before we get into what they are supposed to be learning in 2021."

AUDRA R., ADVANCED ACADEMICS K-12 COORDINATOR, NORTHWEST ISD

"I would love a product that has clear **STEM INTEGRATION INTO CORE CURRICULUM** that is all year."

JESSICA S., STEM COORDINATOR, ORANGE COUNTY PUBLIC SCHOOLS

"We are looking at offering multiple ways to attend school – from virtual to hybrid to full time.
- Monica S., Director of Advanced Academic Studies, Richardson ISD

"We have to incorporate reading and math skills into everything"
- Eddie M., Supervisor of Science, Red Clay Consolidated

"Our struggle right now is low student engagement. There is not a lot of support at home. It was a hard enough challenge face to face, but it's really hard when they are not right in front of you"
- Stephanie E., K-12 Science Instructional Specialist, Flint Community School District

"The problem is we can't engage students because they don't have anything tangible."
- Michelle M., Director of Enrichment and Extended Learning, Holyoke Public School District

"We are in a budget crisis"
- Jessica S., STEM Coordinator, Orange County

"We've been struggling to get the project-based learning connected with our standards. I think that is something you could bring to districts."
- Teresa S., Principle, Big Lake School District

"We have areas that are very rural. How do we provide equity for all students, even if they can't access the internet or a virtual platform"
- Jessica S., STEM Coordinator, Orange County Public Schools

"I would love a product that has clear STEM integration into core curriculum that is all year."
- Jessica S., STEM Coordinator, Orange County Public Schools

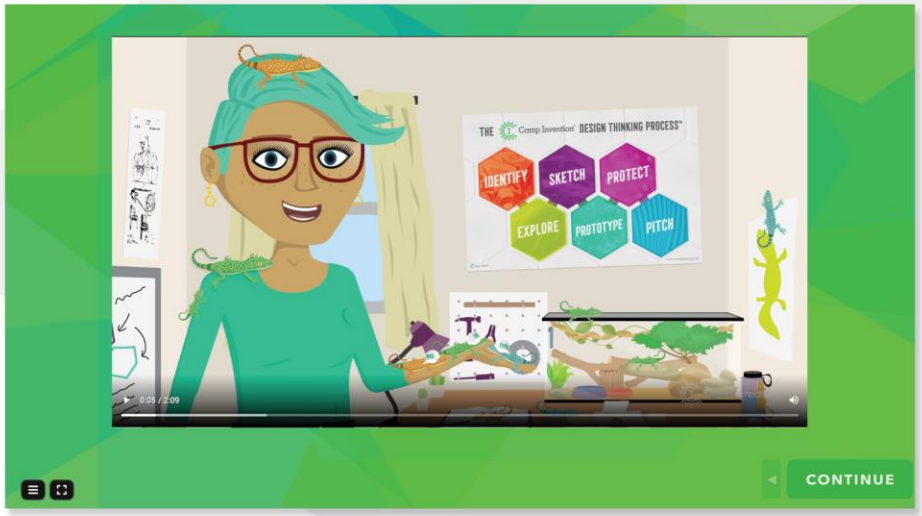
Solutions need to check all the boxes:

- ✓ Flexible curriculum to meet needs of all plans
- ✓ Easy integration
- ✓ Engaging, hands-on projects
- ✓ Tangible materials
- ✓ Flexible parent involvement
- ✓ Literacy and Math integration
- ✓ STEM concepts
- ✓ Alignment to standards
- ✓ Assessments
- ✓ SEL integration

Invention Project®
GRADES K-6

OUR HYBRID SOLUTION

Flexible and Easy-to-Implement Curriculum



OK, next you'll use the clay to make a **Prototype**, or model, of your controller. You can use the clay tool or other tools from around your home, like craft sticks or toothpicks, to add details to your clay model. Let's hear some more about prototyping and meet a National Inventors Hall of Famer by watching this video. CONTINUE	
▶ PROTOTYPE TRACK CONTINUE	
Remember, this is just a rapid round and you will have the chance to spend more time prototyping later today. For this rapid round, I'll play more background music while you spend about 3 minutes using the clay to make a prototype of the video game controller you sketched. CONTINUE	
▶ BACKGROUND MUSIC 2 CONTINUE	
Welcome back, Designers. Let's check out your prototypes. Hold them up to the camera! ★ HAVE PARTICIPANTS HOLD PROTOTYPES TO THE CAMERA Nice, those are looking really innovative! OK, set your prototype aside, and open your Inventor Log to the Controller Sketch and Logo page. You can start sketching your logo for your controller now. A logo is the symbol or picture that represents your company, product, or service. If you need an example, check out the Camp Invention logo on your materials boxes.	

ANCHOR STANDARDS

NEXT GENERATION SCIENCE STANDARDS	COMMON CORE	SOCIAL-EMOTIONAL LEARNING
Science	Reading	Self-Awareness
Technology	Writing	Self Management
Engineering	Speaking and Listening	Social Awareness
Arts	Math	Relationship Skills
Mathematics	College and Career Readiness	Responsible Decision-Making

Invention Project K-6 Units

Unit	Session	Anchor Standard
Unit 1: Ecosystem Explorations	Session 1: Operation Eco-Adventure	STEAM
	Session 2: Ziplining	Math
	Session 3: What Would Rescue Squad Do?	Responsible Decision-Making
Unit 2: Nature's Engineering	Session 4: Operation Bear Trouble	STEAM
	Session 5: Hatch or Slide	College and Career Readiness
	Session 6: Save the Salmon	Relationship Skills
Unit 3: Lights - Bioluminescence and LEDs	Session 7: Operation Night Light	STEAM
	Session 8: Bioluminescence	Reading
	Session 9: Enlightened	Self-Management
Unit 4: Water Pollution	Session 10: Operation Red-Winged Rescue	STEAM
	Session 11: Pipeworks	Writing
	Session 12: Pollution Problems	Self-Awareness
Unit 5: Earth and Human Activity	Session 13: Operation Leave No Trace	STEAM
	Session 14: Plastic Pollution is Not the Solution	Speaking and Listening
	Session 15: Empathy and the Environment	Social Awareness

Unit	Session	Anchor Standard
Unit 1: Designers and Inventors	Session 1: Design Thinking 101	STEAM
	Session 2: Design Thinking Portfolios	College and Career Readiness
	Session 3: Design Thinking Process Speed Round	Relationship Skills
Unit 2: Empathy and Design Thinking	Session 4: Identify and Explore	STEAM
	Session 5: Pip the Gecko	Reading
	Session 6: Empathy and Sketching	Social Awareness
Unit 3: Scale, Decisions, and Prototypes	Session 7: Materials Science	STEAM
	Session 8: Invention Drawings	Math
	Session 9: Prototype	Responsible Decision-Making
Unit 4: Reflect and Protect	Session 10: Reflect and Refine Prototypes	STEAM
	Session 11: Protect Your Property	Writing
	Session 12: Make Your Mark	Self-Awareness
Unit 5: Pitching, Listening, and Deals	Session 13: Pitching 101	STEAM
	Session 14: Crafting the Pitch	Speaking and Listening
	Session 15: Making the Pitch	Self-Management

Session 4: Rescue Squad

Name _____

BEAVER AIRDROP DATA

CIRCLE YOUR ANSWERS

AIRDROP 1	Coffee filter Plastic bag ____ Other	Heavy Light	High Low	Toss Drop	Yes No
AIRDROP 2	Coffee filter Plastic bag ____ Other	Heavy Light	High Low	Toss Drop	Yes No
AIRDROP 3	Coffee filter Plastic bag ____ Other	Heavy Light	High Low	Toss Drop	

Notes: _____

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Session 5: Design Thinking Project™

Name _____

READING INTO DESIGN THINKING

My Pet Pip

Uh oh! My pet gecko, Pip, is stuck in a corner of the terrarium behind a rock, not within reach of his water dispenser, and is at risk of becoming dehydrated! Pip's natural instincts must be kicking in; I wonder how I can solve this unprecedented challenge, yet be mindful of maintaining the experience within his environment? Perhaps Pip's habitat could be transformed into more of a recreation area or an oasis rather than an obstacle course! Hey, I think I just identified a challenge to solve using Design Thinking, but we need to act quickly on this imminent challenge. I'm also concerned that the heat lamp might be malfunctioning as well, but that's a whole different story. Since geckos don't create their own heat, they must draw it in from an outside source, therefore, a properly functioning heat lamp is crucial, especially while Pip is in such a precarious situation!

Now, I wonder if anyone has invented playground equipment for reptiles. I know from doing some research that zoological parks have been creating ways to stimulate natural behavior in animals by designing habitats that encourage behaviors, like scratching or digging, that they would naturally exhibit in the wild. Geckos have small microscopic hairs on their toes called setae that allow them to scale their way up walls and hang upside down. What kind of enrichment could we investigate and innovate for Pip that could incorporate this creature feature? Hmm…

What will you include in Pip's terrarium?

_____

_____

_____

Let's give Pip some new experiences!
Draw some ideas for animal enrichment for Pip.

Session 3: Rescue Squad

Name _____

Level Up Your Decision-Making Game

Help Ranger Mia and CEO Dawon make responsible decisions as they find their way back to Rescue Squad Headquarters. Circle your decision for each problem.

RS Decision Making Framework
Identify the Problem
Explore the Situation
Generate and Test Solutions
Reflect and Evaluate

While constructing a Squad Pod, trash and debris were left all over the place!

A Safely throw away the trash.

B Leave it, someone else will pick it up.

The room is empty and all the lights are on!

B Leave them on, it's just one room.

A Turn off the lights.

A pair of funky glasses and a very big hat were left on a park bench.

A Try to find the owner, besides, the Very Big Hat smells a little … weird.

B Keep them, they look great on me.

During a hike, you see dog poop. There is a dog poop cleanup station nearby with bags and a scooper.

Rescue Squad Headquarters is 3 miles away, and there's a lot of traffic on this sunny day.

A There's a bike trail near my house with bikes we can borrow for free. Let's ride!

B Let's drive. We can roll the windows down and turn on the air conditioning, even if we are stuck in traffic.

Tally up your choices:

A ____ B ____

More B
Ranger-In-Training

LEVEL UP YOUR DECISION-MAKING GAME HANDOUT, INTERMEDIATE

Session 15: Rescue Squad

Air Pollution

Vena stood on the corner of the street watching the cars drive around town. She noticed the traffic fumes billowing from the cars. She was able to wear a mask to reduce the effect of traffic pollution on her health, but she felt empathy for the trees that need clean air to grow.

Industrial Pollution

Fiona works for an environmental organization and was asked to investigate a strange-looking sludge near a factory. As she approached the pond near the factory, her heart sank, and she had empathy for the fish that were floating on the surface of the pond because they could no longer live in the water.

Litter

José spent his afternoon picking up and recycling bottles left by picnickers at his favorite park. He saw a squirrel scamper away with a plastic bottle cap in its mouth. José felt empathy for the squirrel. He thought the squirrel might try and eat the plastic, thinking it

Water Pollution

Sam took his boat out one sunny Saturday. In the distance, he noticed a black skim of water and some debris floating near the hull of his boat. He had empathy for the sea birds, when he thought about how they would be

Rubrics and Assessments

RESCUE SQUAD™ RUBRICS

Unit One: Ecosystem Explorations
Life Science and Earth's Systems, Math,
Responsible Decision-Making

	NGSS *Life Science and Earth's Systems*	Common Core *Math*	SEL *Responsible Decision-Making*
4	A strong understanding of ecosystems and habitats is apparent.	The analysis of shapes and angles is always used when modifying prototypes and collecting data.	Is always able to recall and apply the decision-making framework when solving a problem.
3	An adequate understanding of ecosystems and habitats is apparent.	The analysis of shapes and angles is often used when modifying prototypes and collecting data.	Is often able to recall and apply the decision-making framework when solving a problem.
2	A vague understanding of ecosystems and habitats is apparent.	The analysis of shapes and angles is sometimes used when modifying prototypes and collecting data.	Is sometimes able to recall and apply the decision-making framework when solving a problem.
1	An understanding of ecosystems and habitats is not evident.	The analysis of shapes and angles is not used when modifying prototypes and collecting data.	Is not able to recall and apply the decision-making framework when solving a problem.
Alignment	K-LS1-1 3-LS4-3 3-LS4-4	K.G4 K.G5 1.G1 1.G2 2.G1 3.G1 4.G1	Identifying Problems Analyzing Situations Solving Problems Evaluating Reflecting

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RESCUE SQUAD RUBRICS

SQUAD KNOWLEDGE

✔ Correct answers are in bold.

UNIT ONE

What is another name for a zipline?
A: Zipperina
B: Joe
C: Flying fox

How can you practice "backyard conservation"?
A: Grow wildflowers, use less fertilizer or weedkiller
B: Drink only chocolate milk
C: Wear all purple clothes

How many pounds of paper do Americans use each year?
A: 1 pound
B: 580 pounds, or more than the weight of a gorilla
C: One million pounds

UNIT TWO

How much water can a drippy faucet waste each year?
A: 0 gallons
B: 34 gallons
C: All the water in the ocean

How many recycled plastic bottles does it take to make one new fleece jacket?
A: 1 bottle
B: 1 million bottles
C: 25 bottles

How far would a year's worth of America's stacked, used Styrofoam cups reach?
A: Halfway to the sun
B: From the East Coast to West Coast of the United States
C: Across the city of Toronto

ADDENDA

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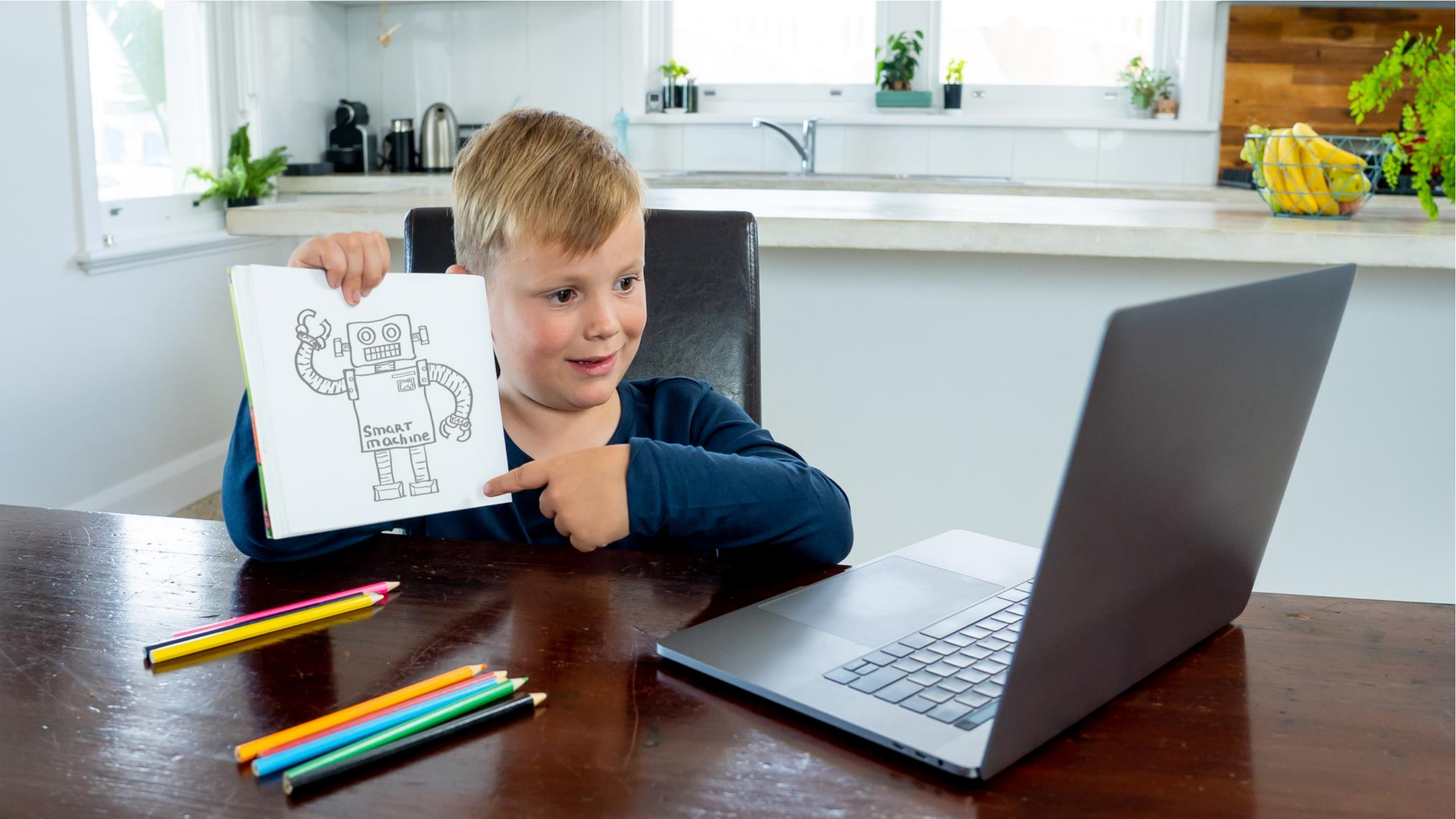
GRADES K-6

CREATIVE PROBLEM SOLVING

INNOVATIVE EXPERIENCES

REAL-WORLD CHALLENGES


Smart
machine


A-L
M-Z


Smart machine
A-L
M-Z
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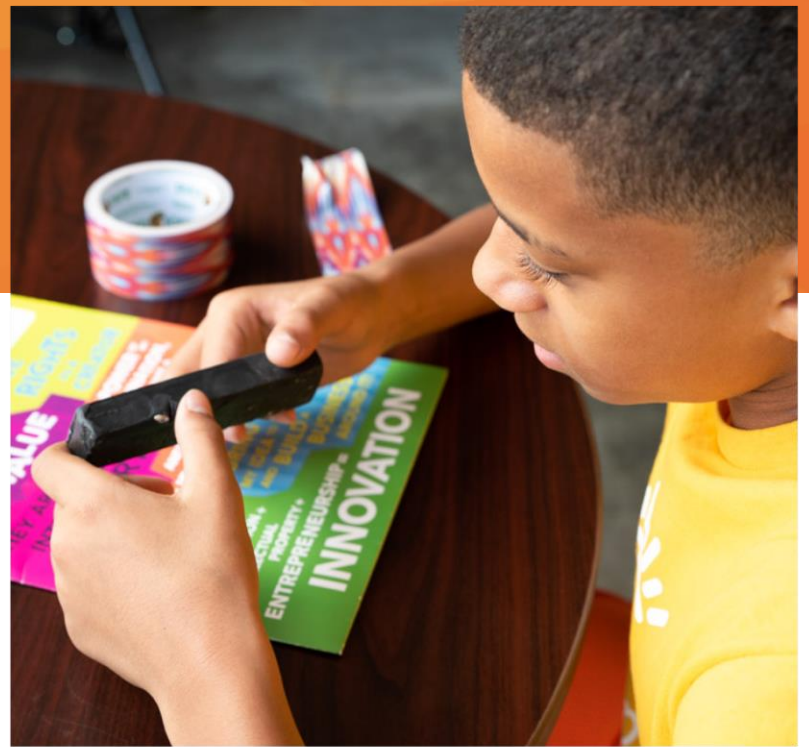
GRADES K-6



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Q AND A

THANK YOU!

Contact a Regional Representative to discuss a customized solution for your district!

Phone: 800-968-4332

Email: NIHFatmyschool@invent.org

Website for blended learning and instruction:
invent.org/blended

WEBINAR RECORDING

Each registered participant will receive an email with access to the webinar recording.