Invention Project®

FOR FLEXIBLE, YEAR-ROUND LEARNING

FOR GRADES PREK-8

A NATIONAL INVENTORS HALL OF FAME® EDUCATION PROGRAM

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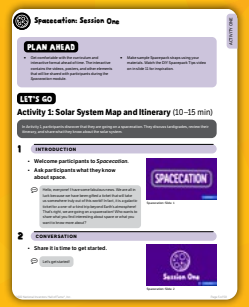


APPENDIX

CURRICULUM EXCERPT

View a sample of our curriculum to see how we provide detailed guidance for easy-to-implement program experiences.

Learn more about Invention Project **here.**

TRANSFORM YOUR CLASSROOMS

Invention education leverages children's natural inclination to create and guides them through the act of invention to build the mindset and skills they need to navigate life. Invention Project® is the key to bringing this transformative approach to learning into the classroom.

This flexible, innovative program adapts to fit your district's needs and your students' learning styles with equitable, developmentally appropriate instruction that aligns with national and state standards and seamlessly integrates life skills.

> "There is no shortage of creativity among young people, especially if we let them **follow their instinctive curiosity.**"
>
> **GERTRUDE ELION,** NATIONAL INVENTORS HALL OF FAME INDUCTEE

AUTHENTIC LEARNING

- Engaging, hands-on activities promote teamwork and collaboration
- Experiences that build competency in decision-making and self-management
- Opportunities to practice empathy and relationship skills

STRESS-FREE IMPLEMENTATION

- Step-by-step curriculum guide and online resources reduce prep time
- Individually packaged materials allow for hassle-free implementation
- Dedicated National Inventors Hall of Fame® support

FLEXIBLE & IMMERSIVE CURRICULUM

- 32 unique modules with six hours per module
- Instructor-led and asynchronous learning opportunities for in-school, afterschool and summer implementation
- Includes pre- and post-tests to track student progress

Learn more about Invention Project **here.**

I CAN INVENT MINDSET

Like all National Inventors Hall of Fame® education programs, Invention Project is designed to lead students to build the I Can Invent® Mindset — a growth mindset encompassing essential skills and traits demonstrated by innovators including our Inductees. This mindset is instilled through hands-on exploration and strengthened through application.

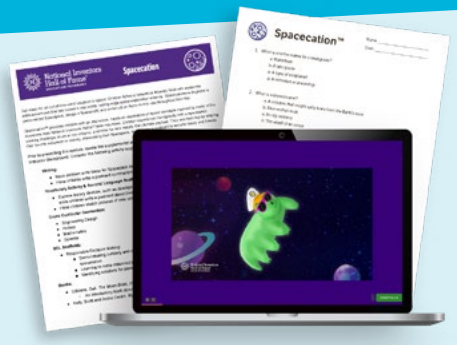
Invention Project equips educators to foster each aspect of the I Can Invent Mindset, enabling students to unlock their full potential, discover the power of their own creativity and confidently overcome challenges in any area of life.

Learn more about Invention Project **here.**

WHAT'S INCLUDED

EDUCATOR RESOURCES

- Step-by-step curriculum aligned to national and state standards
- Pre- and post-test to track student progress
- Curriculum supports such as videos and presentations



STUDENT RESOURCES

- Step-by-step activity guides
- Individually packaged materials
- Supplemental online resources

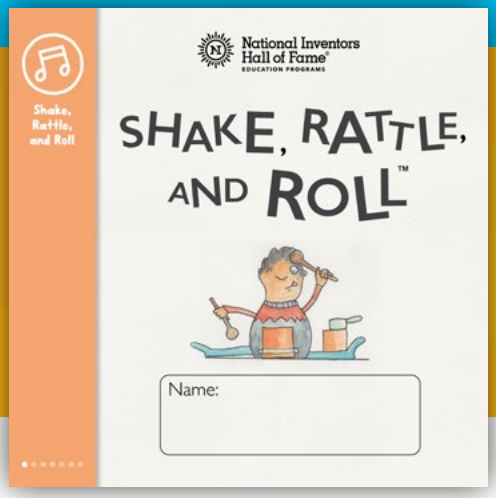
FIRST-CLASS CUSTOMER SERVICE

- Available 24/7 for questions that come up
- Offers a complete and customized training program to prepare for classroom implementation
- Supports submitting paperwork for grants and other state/national funding
- Will work with each district to build the right set of modules and program for them

Learn more about Invention Project **here.**

MODULE OVERVIEWS

THE FOLLOWING INVENTION PROJECT MODULES ARE DESIGNED SPECIFICALLY TO MEET NATIONAL AND STATE EDUCATION STANDARDS.



KEY SKILLS AND CONCEPTS

- Language Development
- Sound Waves
- Amplification
- Music Composition
- Relationship Skills

SHAKE, RATTLE, AND ROLL™ MODULE OVERVIEW

Children embark on a journey filled with good vibrations to discover what makes sound, how it travels into our ears and how we can change it! Inspired by everything from the sounds in their own homes to underwater whale communication to animal ear shapes, children investigate, experiment and build their own sound-based inventions.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

DESIGN THINKING

Applying design thinking to develop a DIY instrument and sound catcher.

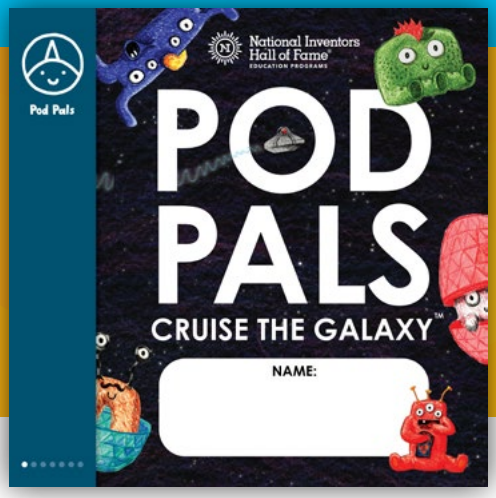
CREATIVE PROBLEM SOLVING

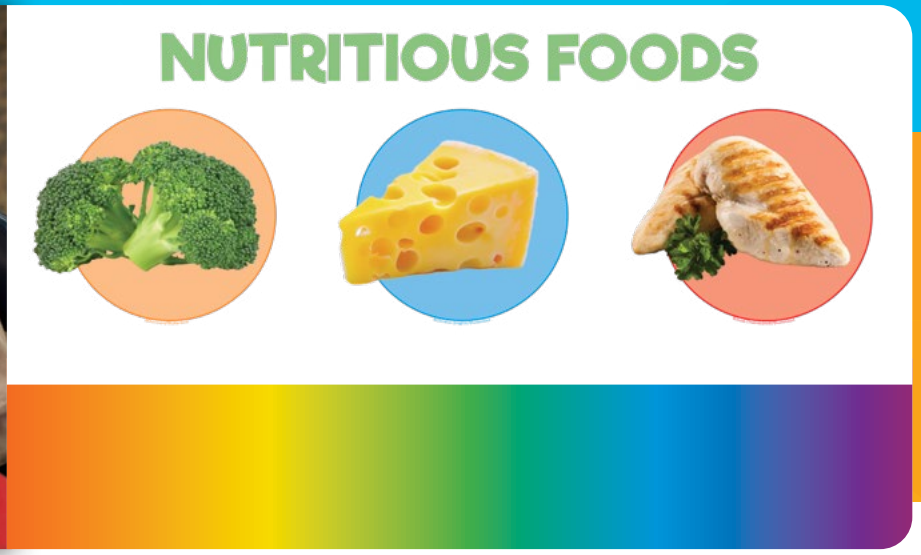
Using creative problem solving to match an object or location to a sound.

STEM

Exploring sound waves through hands-on experiments and activities.

Learn more about Invention Project here.





KEY SKILLS AND CONCEPTS

- Creative Design
- Health and Wellness
- Color
- Gravity
- Responsible Decision-Making

POD PALS CRUISE THE GALAXY™ MODULE OVERVIEW

Children follow the adventures of the Pod Pals — aliens that have come to Earth and need help returning to Planet P. As the story unfolds, children explore a variety of science concepts, from gravity to nutrition to the color spectrum, and are challenged to complete tasks to help their new alien friends.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

CREATIVE PROBLEM SOLVING

Using creative problem solving to create sturdy structures for the Pod Pals.

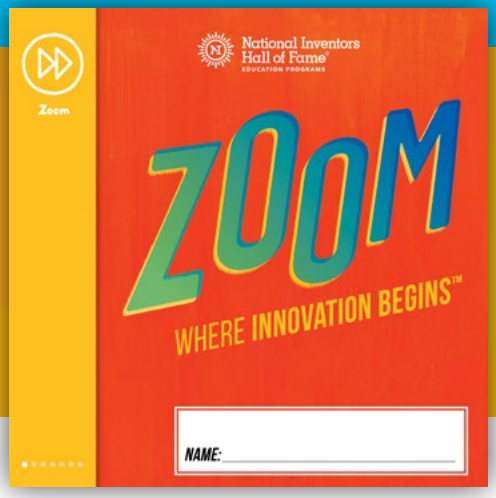
PERSISTENCE

Practicing persistence as they test and modify soft landings for their Pod Pals.

DESIGN THINKING

Creating space shoes using a variety of materials.

Learn more about Invention Project here.



KEY SKILLS AND CONCEPTS

- Underwater Exploration
- Career Exploration: Chemist
- Career Exploration: Veterinarian
- Career Exploration: Architect

ZOOM: WHERE INNOVATION BEGINS™ MODULE OVERVIEW

Children explore career paths that take them to the depths of the ocean, far into outer space and everywhere in between. Challenges include developing an invention for ocean exploration, mixing colors and creating slime, and designing and building tall, stable structures.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

STEM

Exploring STEM concepts, like chemistry, by completing hands-on experiments.

INNOVATION

Designing and building inventions to help sick animals.

CONFIDENCE

Developing confidence by completing a variety of STEM challenges and experiments.

Learn more about Invention Project **here.**

KEY SKILLS AND CONCEPTS

- Structures and Processes
- Habitats and Ecosystems
- Speaking and Listening
- Entrepreneurship

ROBOTIC AQUATICS™ MODULE OVERVIEW

Diving into the latest ocean research, children create a habitat for their own aquatic friend. They design a tank featuring a newly designed and patented aquatic plant, and then they discover the power of symbiotic relationships and create a friend for their aquatic animal. Finally, they develop their own bio-inspired invention and deliver a pitch that is sure to make a splash.

CURRICULUM HIGHLIGHTS

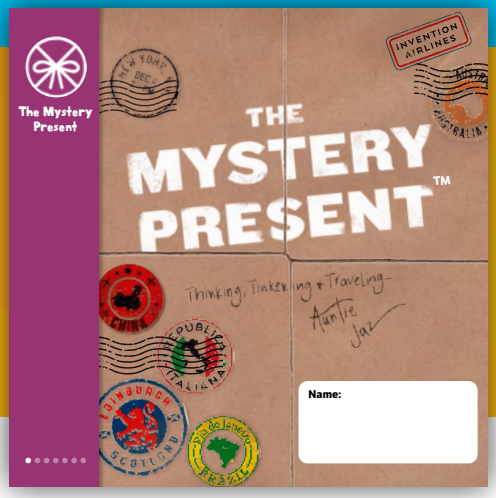
THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

Learning how to patent a new aquatic plant.

Exploring cutting-edge ocean research and technology.

Learning how to find and reach a target audience for a product.

Learn more about Invention Project **here.**



KEY SKILLS AND CONCEPTS

- Art
- Circuitry
- Design Thinking
- Engineering
- Geography

THE MYSTERY PRESENT™ MODULE OVERVIEW

Join Nico and Zoe as they discover the world through their traveling Auntie Jaz. On her most recent trip, Auntie Jaz visited many different markets around the world and traded her gadgets for a Toy Box with souvenirs that are clues to the final mystery present. Participants explore circuitry, build strong castles, and see if they can help Nico and Zoe figure out what the mystery present could be!

CURRICULUM HIGHLIGHTS

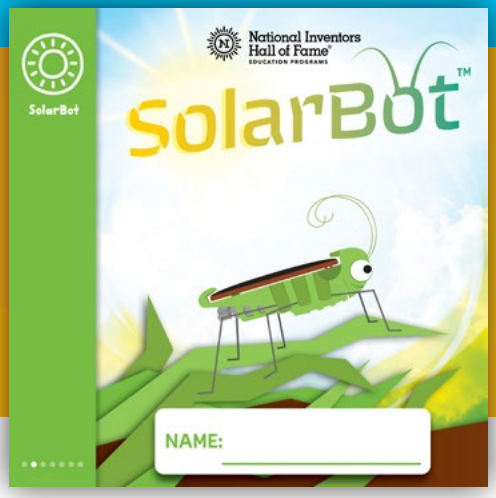
THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

Practicing persistence as they assemble a circuit to illuminate a light bulb.

Exploring buoyancy as they test whether objects sink or float.

Using creative problem solving to build a tall, strong and wide castle with limited materials.

Learn more about Invention Project **here.**



KEY SKILLS AND CONCEPTS

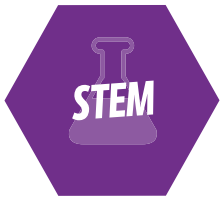
- Alternative Energy
- Circuitry
- Habitats and Ecosystems
- Water Conservation

SOLARBOT™ MODULE OVERVIEW

Children explore circuitry, engineering and cricket anatomy as they make and adopt their own solar-powered robotic cricket. Hands-on challenges lead them to consider the lives of real insects as they create customized habitats complete with cricket playgrounds, develop cricket-inspired musical inventions and outsmart predators.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:



Applying STEM to understand crickets' antennae, molting abilities, sound detection and powerful legs.

Developing persistence while designing and testing an invention to get their SolarBots across a puddle.

Using creative problem solving to build cricket wings and compete in a Chirp-Off.

Learn more about Invention Project here.

KEY SKILLS AND CONCEPTS

- English Language Arts (Writing)
- Earth Science
- Design Thinking
- Engineering Design
- Responsible Decision-Making

LOST TREASURE™ MODULE OVERVIEW

Children are recruited by Professor Ivana Dig-It to help find the lost treasure of Archaic Island! They must develop an exciting adventure story that will persuade investors to fund their expedition, investigate data about volcanic eruptions, build gadgets to reach fruit in trees, create a treasure map and carefully navigate challenging terrain.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

Using creative problem solving to design volcano-safe protective gear.

Sketching and building a shelter to stay safe from island weather.

Demonstrating persistence to complete challenges and decode a secret message.

Learn more about Invention Project here.

KEY SKILLS AND CONCEPTS

- Animal Science
- Biology
- Engineering
- Measurement and Data

ROBOTIC PET VET™ MODULE OVERVIEW

By developing their knowledge and skills in biology, physiology and circuitry to take apart and diagnose their robotic dogs, students are able to enhance their problem-solving skills. After helping their pets recover, children celebrate the homecoming of their customized robotic pet as they demonstrate design engineering concepts by constructing an interactive dog park attraction.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

STEM

Exploring the inner workings of a robotic dog and discovering basic engineering principles.

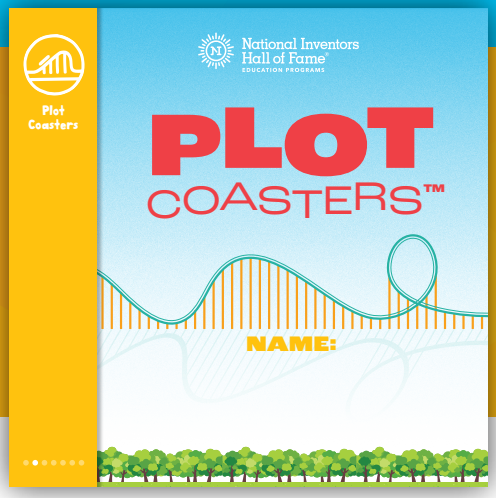
CREATIVE PROBLEM SOLVING

Following step-by-step instructions to investigate dog anatomy to perform surgery.

CONFIDENCE

Realizing they are capable problem solvers as they fix a robotic dog.

Learn more about Invention Project here.



KEY SKILLS AND CONCEPTS

- Collaboration
- Engineering Design
- English Language Arts (Writing)
- Forces and Motion
- Responsible Decision-Making

PLOT COASTERS™ MODULE OVERVIEW

Participants fasten their seat belts, design epic roller coasters and write a bestselling story during their Plot Coasters adventure! As they rise, fall, twist and turn along a creative writing track, they make comparisons to a roller coaster track. Throughout the program, children explore the elements of a story and conduct hands-on physics investigations as they build amazing roller coasters!

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

STEM

Exploring science concepts like inertia and centripetal force while building their roller coaster.

ENTREPRENEURSHIP

Developing a commercial to advertise their innovative roller coaster or bestselling story.

DESIGN THINKING

Creating a one-of-a-kind roller coaster using a variety of materials.

Learn more about Invention Project here.

KEY SKILLS AND CONCEPTS

- Design Thinking
- Engineering Design
- Entrepreneurship
- Mechanical Engineering
- Speaking and Listening

STICK TO IT™ MODULE OVERVIEW

In Stick To It, participants are inspired by the inventions and careers of National Inventors Hall of Fame Inductees. Each session brings new challenges with engaging, hands-on activities that give participants the chance to think like a design engineer, mechanical engineer and physicist. With the Gnarly Narwhal sharing his awesome words of wisdom, children will think big, dig in and stick to it!

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

INTELLECTUAL PROPERTY

Completing a mock patent application and creating a trademark-worthy logo to protect one of their inventions.

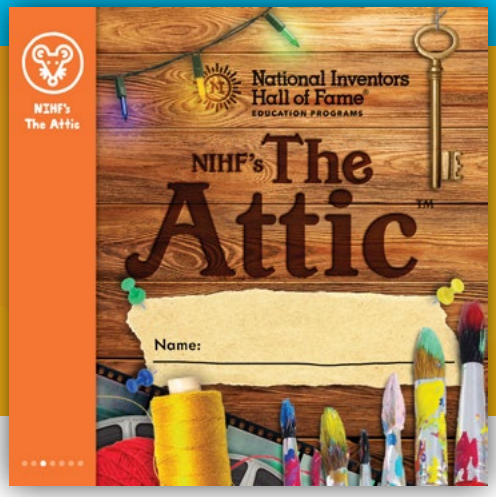
DESIGN THINKING

Sketching, designing and creating innovative clothing of the future.

CONFIDENCE

Building confidence while building, testing and modifying prototypes to solve invention challenges.

Learn more about Invention Project **here.**



KEY SKILLS AND CONCEPTS

- Engineering Design
- Art
- Reading
- Speaking and Listening
- Self-Awareness

NIHF'S THE ATTIC™ MODULE OVERVIEW

Combining art and STEM, this STEAM-powered experience shows children how innovations can shape the way people make art. Entering an inspiring space where they can experiment with art, animation, chemistry and materials science, children build their own Arty Bot to create fun spin art and learn how trademarks can protect their ideas.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

CONFIDENCE

Gaining confidence while building a spin art robot.

INTELLECTUAL PROPERTY

Understanding how patents and trademarks can protect creative ideas and designs.

DESIGN THINKING

Experimenting with designing and creating shoes.

Learn more about Invention Project here.

KEY SKILLS AND CONCEPTS

- Mechanical Engineering
- Flight
- Engineering
- Geometry
- Self-Management

FLIGHT LAB™ MODULE OVERVIEW

Children travel beyond the horizon as their imagination is fueled by some of the greatest innovators of aviation. A robot flight trainer, LINK, will be their guide as they soar through challenges. Students explore the science of flight in nature, from insects and pterosaurs to bats, birds and beyond. The sky is the limit as they experiment with flight by sending gizmos and gadgets into the atmosphere and take apart a LINK robot to discover its inner mechanics.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

PERSISTENCE

Demonstrating persistence while taking apart a LINK robot.

STEM

Exploring principles of flight by experimenting with paper airplanes and a handcopter.

INNOVATION

Designing and building an innovative flying device inspired by other flight inventions.

Learn more about Invention Project **here.**

KEY SKILLS AND CONCEPTS

- Engineering Design
- Entrepreneurship
- Design Thinking
- English Language Arts (Reading)
- Responsible Decision-Making

INNOVATION FORCE® MODULE OVERVIEW

Children join the Innovation Force, a team of NIHF Inductees who solve the world's challenges while battling supervillains! They need designers, makers and entrepreneurs to help outwit The Plagiarizer, their arch enemy who is stealing ideas. With inspiration from real-life inventions, children are empowered to design, build and market an invention that will save the world.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

Modifying gadgets for a target audience and creating marketing to spread the word about their super idea.

Sketching and building a device to pick up "toxic sludge."

Designing and creating a superhero disguise and alter ego.

Learn more about Invention Project **here.**

KEY SKILLS AND CONCEPTS

- Physics
- Engineering Design
- Mathematics
- Intellectual Property
- Relationship Skills

CHAMPIONS™ MODULE OVERVIEW

Children discover unseen champions of the sports world and explore how innovators have changed the way people experience sports! Students build their own functioning tabletop games and investigate Inductees who have revolutionized sports. They draft inventors and inventions to add to their Innovation Dream Team, and use their inspiration to add elements including concession stands, equipment and seating for the ultimate sports complex.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

INTELLECTUAL PROPERTY

Creating a trademark-worthy mascot and name for their sports complex.

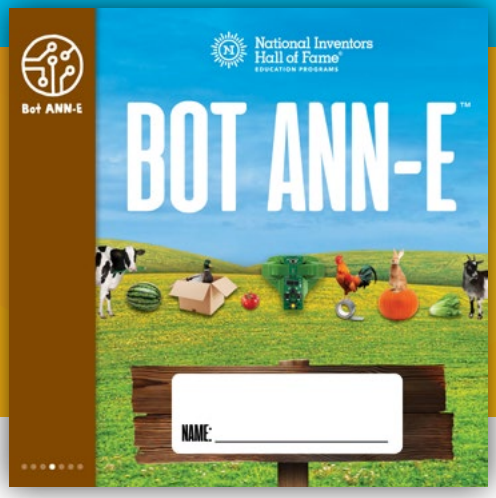
CONFIDENCE

Building confidence as they add new elements to their tabletop games.

STEM

Exploring physics and math as they create their tabletop games.

Learn more about Invention Project here.



KEY SKILLS AND CONCEPTS

- Life Science
- Design Thinking
- Environmental Engineering
- Elementary Coding
- Self-Management

BOT ANN-E™ MODULE OVERVIEW

Children are challenged to transform a polluted wasteland into a thriving farm and business. To complete their mission, students work with a programmable robot called Bot ANN-E, which is designed to teach fundamental coding techniques. Children program Bot ANN-E to accomplish tasks such as tending to a farm, herding farm animals and navigating a city to learn how automated technology can maximize their time and profits.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

INNOVATION

Learning innovative ways robots can enhance productivity and help make our lives easier.

STEM

Exploring fundamental coding and binary code through a variety of activities.

DESIGN THINKING

Designing imaginative landscapes and programming Bot ANN-E to navigate them successfully.

Learn more about Invention Project **here.**

KEY SKILLS AND CONCEPTS

- Algebraic Thinking
- Architecture
- Design Thinking
- Engineering
- Self-Awareness

OPTIBOT™ MODULE OVERVIEW

Children launch into the future with their own Optibot — a small self-driving robot that senses changes in light. Exploring the technology behind transportation, children design the ultimate futuristic vehicle that might one day become a reality. Students improve their designs using a prototyping process that allows them to develop problem-solving skills they can apply to other areas of their lives.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

PERSISTENCE

Building creativity and persistence by personalizing, modifying and testing the Optibot.

CREATIVE PROBLEM SOLVING

Developing strategies and methods to allow the Optibot to traverse and overcome obstacles.

DESIGN THINKING

Exploring how sensors are used in automated systems like the ones in self-driving cars.

Learn more about Invention Project here.

KEY SKILLS AND CONCEPTS

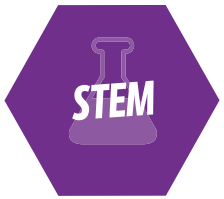
- Algebraic Thinking
- Engineering Design
- Geometry
- Probability
- Physics

FAIR GAMES™ MODULE OVERVIEW

Combining mathematics and physics concepts, this experience provides a hands-on exploration of topics ranging from measurement, probability and algebraic thinking to simple machines and design engineering. Participants build carnival-themed games while using applied mathematics to get ready for the Mega Carnival!

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

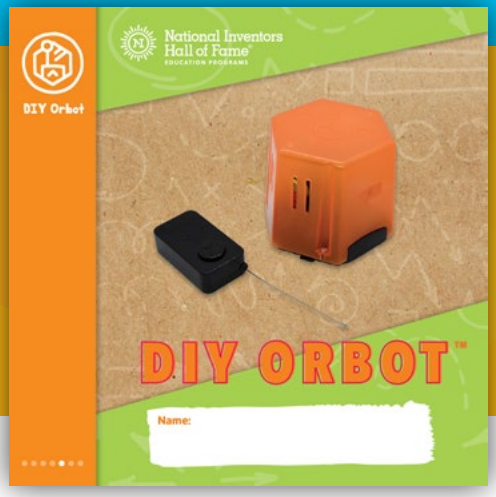


Exploring math concepts like estimation while building carnival-themed games.

Testing, modifying and retesting different game prototypes.

Creating one-of-a-kind games to build a Mega Carnival.

Learn more about Invention Project here.



KEY SKILLS AND CONCEPTS

- Mechanical Engineering
- Architecture
- Design Engineering
- Design Thinking
- Responsible Decision-Making

DIY ORBOT™ MODULE OVERVIEW

Children build confidence and STEM competency while earning special certifications in a series of fun, hands-on challenges. They build their own personalized DIY Orbot to earn a Designer certification, take apart their bot to earn the title of Mechanic, transform their bot into a bot-dozer that knocks down towers to become a Construction Manager, and prepare their bot to play soccer, create art and perform a dance routine to become a Personal Trainer, Artist and Choreographer.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

Building persistence by completing a series of tasks with their robots.

Overcoming a series of challenges to build confidence in their problem-solving abilities.

Exploring lessons in reverse engineering and the invention process.

Learn more about Invention Project **here.**

KEY SKILLS AND CONCEPTS

- Engineering Design
- Life Science
- Circuitry
- Habitats and Ecosystems

RESCUE SQUAD™ MODULE OVERVIEW

Children join the Rescue Squad, a gamified eco-adventure where inventing, engineering and quick thinking are used to solve major environmental problems and restore nature's balance. Students report to different locations across the continent to receive missions. They accomplish the phases of their operations, level up to new challenges and show the world how small changes can make a big difference to restore balance on planet Earth.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

STEM

Exploring STEM concepts like circuitry and energy efficiency while restoring balance in nature.

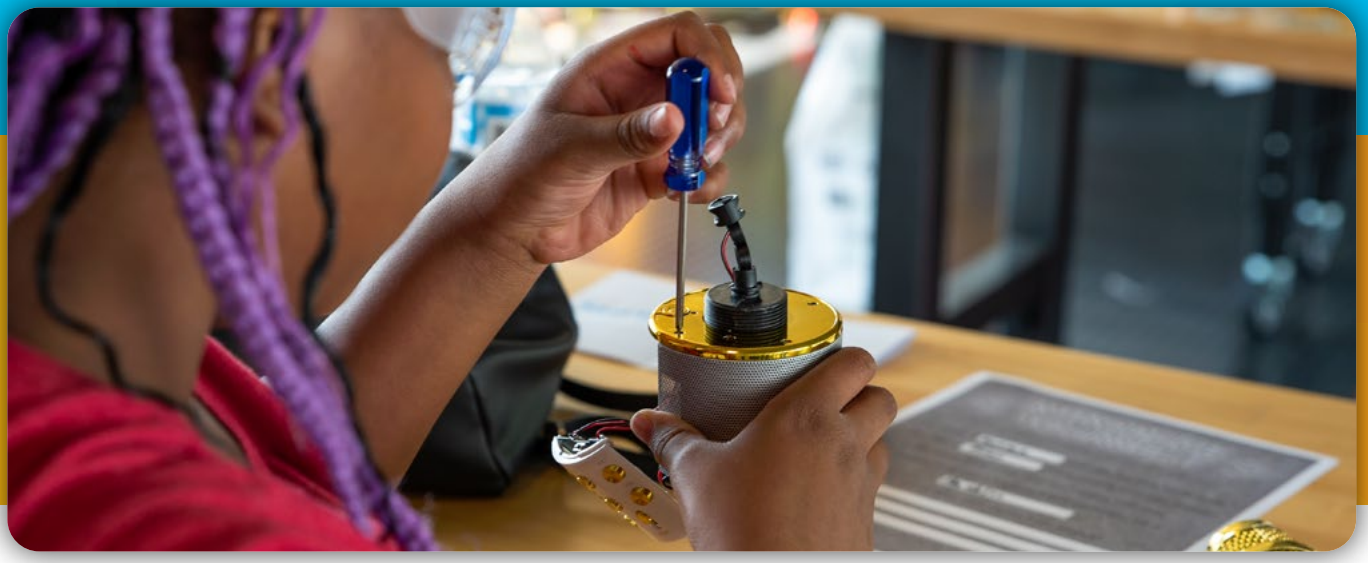
PERSISTENCE

Practicing persistence by following step-by- step instructions to build an LED plant.

CONFIDENCE

Developing confidence by creating and sharing a campaign for the future.

Learn more about Invention Project **here.**



KEY SKILLS AND CONCEPTS

- Intellectual Property
- Presentation Skills
- Reverse Engineering
- Sketching and Designing Invention Prototypes
- Relationship Skills

OPEN MIC™ MODULE OVERVIEW

In this empowering module, children voice their ideas as their imaginations are amplified through invention and entrepreneurship! First, they reverse engineer a wireless microphone, and then they follow the Camp Invention Design Thinking Process™ to develop and pitch their own amazing inventions.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

CONFIDENCE

Gaining confidence by sharing original ideas and delivering persuasive invention pitches.

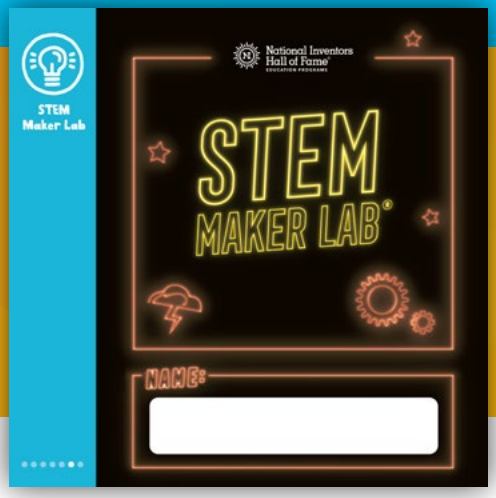
INTELLECTUAL PROPERTY

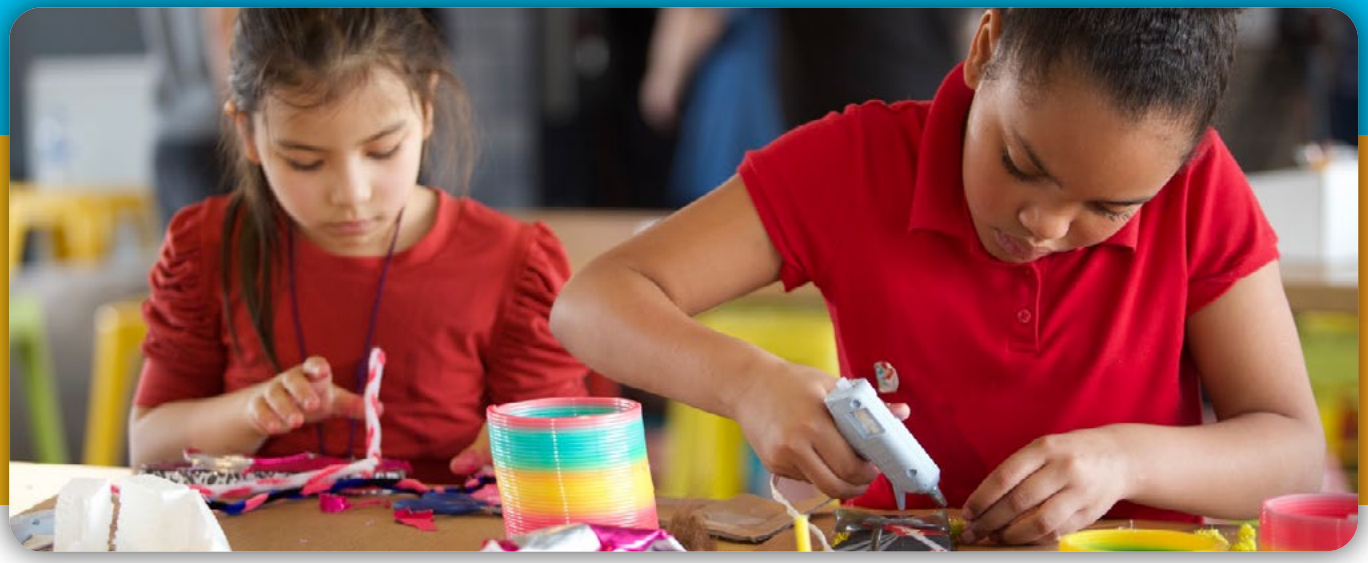
Discovering the power and purpose of intellectual property through lessons from world-changing inventors.

DESIGN THINKING

Practicing design thinking by moving from sketches to prototypes to marketable products.

Learn more about Invention Project here.





KEY SKILLS AND CONCEPTS

- Biomimicry
- Design Engineering
- Entrepreneurship
- Intellectual Property
- Presentation Skills

STEM MAKER LAB™ MODULE OVERVIEW

Participants explore what it takes to be a maker, inventor and entrepreneur as they use biomimicry to solve invention challenges. Throughout each session, participants experience a hands-on investigation of design engineering, prototyping, marketing, entrepreneurship and intellectual property concepts.

CURRICULUM HIGHLIGHTS

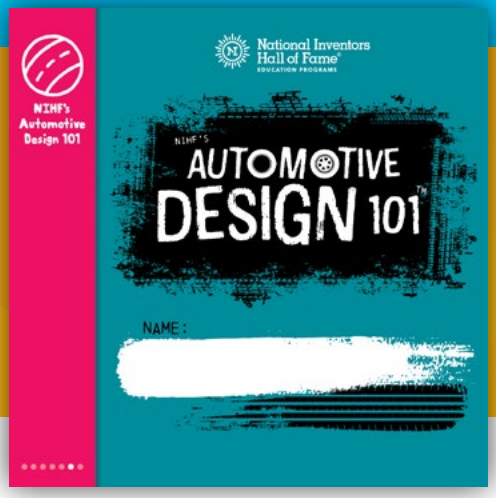
THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

Discovering the power of Intellectual Property Triangulation through hands-on activities.

Practicing decision-making when choosing an exit strategy for their business.

Brainstorming and prototyping solutions to invention challenges.

Learn more about Invention Project **here.**



KEY SKILLS AND CONCEPTS

- Presentation Skills
- Art
- Sketching and Sculpting Invention Prototypes
- Design Thinking
- Engineering Design

NIHF'S AUTOMOTIVE DESIGN 101™ MODULE OVERVIEW

Participants become immersed in automotive design as they create a futuristic vehicle. Along with exploring principles of sketching, sculpting and color mixing, participants are encouraged to think about their vehicle's users while prototyping innovative interiors and safety features.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

INNOVATION

Innovating a car of the future using clay and other materials.

DESIGN THINKING

Designing and modifying a vehicle prototype that takes the needs of their audience into account.

CONFIDENCE

Building confidence while developing a futuristic car prototype.

Learn more about Invention Project **here.**

KEY SKILLS AND CONCEPTS

- Art
- Circuitry
- Design Engineering
- Energy
- Speaking and Listening

CIRCUIT SCULPTURES™ MODULE OVERVIEW

Participants explore dynamic connections between science and art by designing one-of-a-kind circuit sculptures. Inspired by creative problem-solving tools, Inductee words of wisdom and STEAM techniques, participants' imaginations are powered up as they use mechanical and electrical energy to make their unique sculptures light up, rotate and move!

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

CREATIVE PROBLEM SOLVING

Using creative problem solving to add new elements to a circuit sculpture.

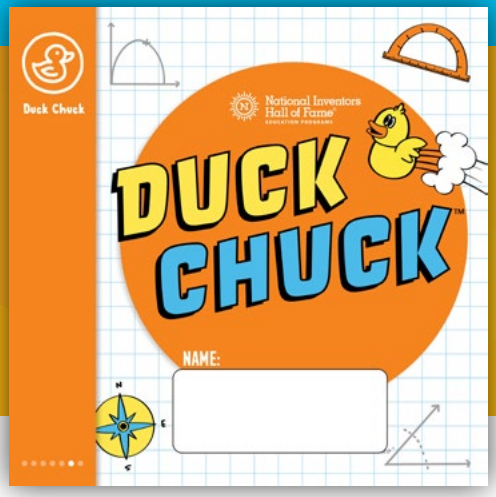
STEM

Exploring potential and kinetic energy using a hand crank.

INNOVATION

Being inspired by energy innovators as they create a circuit sculpture.

Learn more about Invention Project **here.**



KEY SKILLS AND CONCEPTS

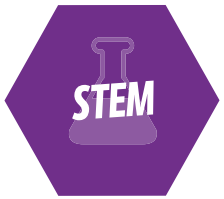
- Entrepreneurship
- Marketing
- Angles and Measurement
- Trajectory and Velocity

DUCK CHUCK™ MODULE OVERVIEW

In this global adventure, children design, build and test a device to launch rubber ducks. First, they collect and budget "quack coins" to buy materials for creating their device. Following step-by-step instructions, they build a launcher. Then they launch their ducks around the world in an exciting effort to visit famous landmarks while putting the physics concepts of trajectory and velocity to the test.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

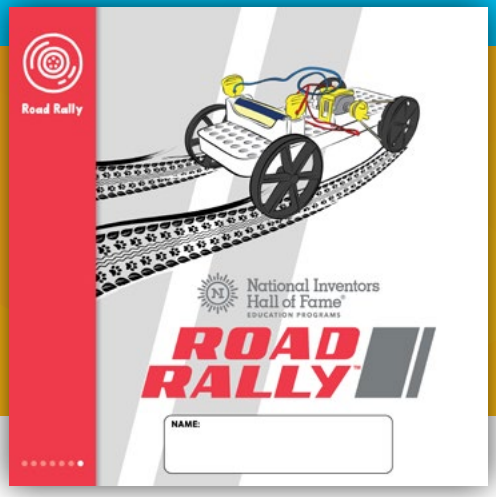


Exploring STEM concepts like velocity and trajectory to design launching devices.

Building entrepreneurship skills by trademarking and marketing inventions.

Determining how to modify inventions through hands-on, creative problem solving.

Learn more about Invention Project **here.**



KEY SKILLS AND CONCEPTS

- Animal Features and Adaptations
- Motion in Nature
- Building and Testing
- Energy
- Self-Management

ROAD RALLY™ MODULE OVERVIEW

Entering a Vehicle Design Lab, children apply nature-based discoveries to create vehicles that can travel across land and have morphing prototype elements to show how it might adapt to move through the air and even underwater. Exploring energy, fuel and movement, children modify their designs to take on challenges in an exciting Super Road Rally.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

PERSISTENCE

Building persistence through the process of creating and modifying prototypes.

DESIGN THINKING

Applying design thinking to give vehicles the ability to maneuver through a series of obstacles.

INNOVATION

Achieving innovation by adding elements inspired by nature to their morphing vehicle design.

Learn more about Invention Project here.

KEY SKILLS AND CONCEPTS

- Earth's Place in the Universe
- Space Systems
- Art
- Measurement and Data
- Responsible Decision-Making

SPACECATION™ MODULE OVERVIEW

This adventure takes children beyond Earth's atmosphere to engage in science-rich activities inspired by the latest discoveries on distant planets, asteroids and moons. Children create Spacepacks and hydraulic Astro-Arm devices, mine an asteroid, create an ice volcano and make galactic pizza on Jupiter's moons.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

PERSISTENCE

Practicing persistence while building and operating an Astro-Arm device.

STEM

Experimenting with chemical reactions, space tools and data collection.

INNOVATION

Creating a Spacepack and a prototype of a spacecraft.

Learn more about Invention Project here.

KEY SKILLS AND CONCEPTS

- Motion and Stability
- Forces and Interactions
- Energy
- Geometry
- Relationship Skills

MARBLE ARCADE™ MODULE OVERVIEW

In a high-energy experience that combines physics, engineering and gaming, children design and build a mega marble machine. After investigating math, motion and chain reactions, testing their designs and running time trials with objects including glowing LED marbles, children collaborate and cheer each other on as they iterate and improve on their designs.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

STEM

Engaging in hands-on exploration of physics, attachment technology and inclined plane angles.

DESIGN THINKING

Experimenting with engineering design while creating, testing and adjusting marble runs.

CREATIVE PROBLEM SOLVING

Diverging and converging on ideas for building a marble machine.

Learn more about Invention Project **here.**

KEY SKILLS AND CONCEPTS

- Mechanical Engineering
- Design Thinking
- Physics
- Geometry
- Self-Awareness

RC ORIGAMI BOT™ MODULE OVERVIEW

Children construct and operate their own Remote-Controlled Origami Bots! They transform their bots from 2D figures into 3D objects and explore the possibilities of remote control technology by playing a game of Bot Hockey, participating in an RC Origami Bot Training Session and navigating the Ring of Fire Final Arena Obstacle Course.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

CREATIVE PROBLEM SOLVING

Using creative problem solving to design modifications for an RC Origami Bot to complete tasks.

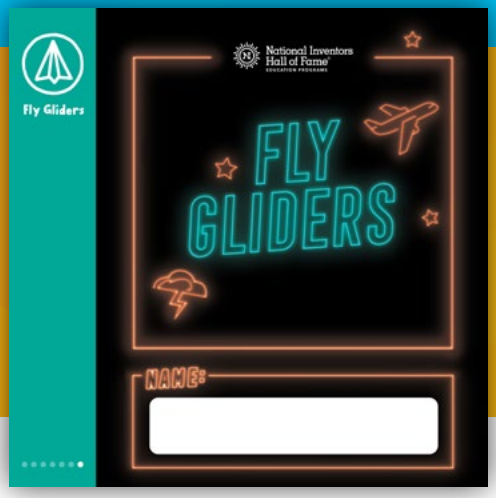
STEM

Exploring how robots are used in different fields, including medicine.

PERSISTENCE

Practice persistence while following step-by-step instructions to build an RC Origami Bot.

Learn more about Invention Project here.



KEY SKILLS AND CONCEPTS

- Flight
- Engineering Design
- Biology
- Forces and Interactions
- Self-Awareness

FLY GLIDERS™ MODULE OVERVIEW

Children engage in high-flying fun as they explore the science of flight with inspiration from Inductees Orville and Wilbur Wright. Students use their most valuable tools — their own eyes and hands — as they experiment with a handcopter, paper airplanes and a heliball, and explore the role of wing shape and nose weight in an airplane's trajectory.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

STEM

Exploring the forces of flight and applying discoveries to paper airplane prototypes.

DESIGN THINKING

Designing, testing and modifying paper airplanes and objects for them to fly over, through and around.

CONFIDENCE

Building confidence while learning how to successfully operate a heliball.

Learn more about Invention Project here.

KEY SKILLS AND CONCEPTS

- Design Thinking
- Biomimicry
- Engineering Design
- Materials Science
- Relationship Skills

WEAR IT OUT™ MODULE OVERVIEW

In Wear It Out, innovators combine creative ideas and maker materials to invent clothing and accessories that are both fashionable and functional. They employ divergent and convergent thinking and creative problem solving to engineer clothing of the future that responds to extreme weather scenarios.

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

ENTREPRENEURSHIP

Completing a business plan for their invention idea.

INTELLECTUAL PROPERTY

Creating a trademark-worthy logo and filling out a patent application for their new wearable technology.

CREATIVE PROBLEM SOLVING

Using creative problem solving to design an innovative piece of wearable technology and an island adventure shoe.

Learn more about Invention Project here.

KEY SKILLS AND CONCEPTS

- Mechanical Engineering
- Biology
- Engineering Design
- Physics
- Self-Management

E-BIRDS MODULE OVERVIEW

Children take a bird's-eye view of the world as they build their own flying electronic bird! Students customize their E-Bird, explore the circuitry that makes it fly, learn about the structure and function of birds' beaks, experiment with flight patterns and design a robot that could help them research birds in the wild!

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

STEM

Exploring different bird features and adaptations.

INNOVATION

Designing an innovative soft robot that can help collect data about bird behaviors and habitats.

DESIGN THINKING

Designing and building the perfect nest for an E-Bird after learning about different types of bird nests.

Learn more about Invention Project here.

DESIGN THINKING PROJECT™ MODULE OVERVIEW

Children discover the power of the Camp Invention Design Thinking Process—identify, explore, sketch, prototype, protect and pitch — as they invent the next big thing! Inspired by inventors including Inductees, students develop a portfolio of their work, create and deliver a pitch, and build design thinking skills including empathy, ingenuity and persistence.

KEY SKILLS AND CONCEPTS

- Design Thinking
- Intellectual Property
- Entrepreneurship
- Scale and Measurement
- Relationship Skills

CURRICULUM HIGHLIGHTS

THIS MODULE EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:

DESIGN THINKING

Using a design thinking process to bring an idea out of their mind and into the world.

CREATIVE PROBLEM SOLVING

Applying creative problem solving to sketch and build unique solutions.

INTELLECTUAL PROPERTY

Discovering the value of their ideas and learning how to protect their ideas through patents, trademarks and copyrights.

Learn more about Invention Project **here.**

KEY SKILLS AND CONCEPTS

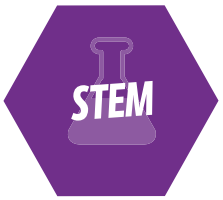
- Responsible Decision-Making
- Design Thinking
- Engineering Design
- Speaking and Listening
- Art
- Forces and Interactions

NIHFTY BOT EXPLORES™ MODULE OVERVIEW

Using their very own NIHFty Bot™ plushie, students apply STEM and creative problem-solving skills to design solutions and engineer new innovations to bring NIHFty's world to life. Combine the NIHFty Bot Explores materials with classroom materials, recycleables and creativity supplies to enhance students' designs as they create gadgets, devices, accessories and adventure items for NIHFty Bot. NIHFty Bot Explores provides six hours of hands-on content for your students.

CURRICULUM HIGHLIGHTS

NIHFTY BOT EXPLORES EMPHASIZES THESE ASPECTS OF THE I CAN INVENT MINDSET:



Exploring STEM concepts, like physics and engineering design, through hands-on activities.

Applying creative problem solving to create, test and recreate solutions to invention challenges.

Building persistence to overcome fun challenges, from chain reactions to deep-sea gear.

Learn more about Invention Project **here.**

KEY SKILLS AND CONCEPTS

- Gross Motor Skills
- Fine Motor Skills
- Teamwork
- Creative Thinking

GAMES OVERVIEW

Games supplement our modules by giving children the opportunity to engage in more teamwork, out-of-the-box thinking and physical fun through energetic and enriching activities.

CURRICULUM HIGHLIGHTS

GAMES EMPHASIZE THESE I CAN INVENT HABITS:

CONFIDENCE

Gaining confidence and building agility through both collaboration and competition.

CREATIVE PROBLEM SOLVING

Applying creative problem solving to devise strategies in games using unusual objects and new rules.

PERSISTENCE

Building persistence to overcome fun challenges, from balloon tosses to relay races.

Learn more about Invention Project **here.**

KEY SKILLS AND CONCEPTS

- Gross Motor Skills
- Fine Motor Skills
- Teamwork
- Creative Thinking

BASE CAMP OVERVIEW

Base Camp fosters teamwork and nurtures creative thinking by exploring challenges that encourage children to think critically. The energetic and enriching activities set the tone for continuous learning, creating a dynamic environment.

CURRICULUM HIGHLIGHTS

BASE CAMP EMPHASIZES THESE I CAN INVENT HABITS:

STEM

Exploring STEM concepts, like physics and engineering design, through hands-on activities.

CREATIVE PROBLEM SOLVING

Applying creative problem solving to devise strategies in games using unusual objects and new rules.

PERSISTENCE

Building persistence to overcome fun challenges, from tower builds to invention trivia.

Learn more about Invention Project **here.**

INVENTION PROJECT PRICING OPTIONS

Our education programs qualify for Title I, Title II, Title III, Title IV, 21st Century Community Learning Centers and Migrant Education funding, as well as state and local district funding. We will work with districts' budgeting needs.

6 Hours

Invention Project: (Recommended)

- 1 Invention Project kit per participant
- Each participant receives a proprietary take-home item
- $50 per participant
- $8.33 per participant per hour

Invention Project (Shared Materials; Individual Logs):

- 1 Invention Project kit shared between 2 participants
- Module Instructors keep proprietary items for the classroom
- Each participant receives their own Inventor Log
- $27.50 per participant
- $4.58 per participant per hour

NIHFty Bot Explores:

- 1 NIHFty Bot Explores experience per participant
- Sold in sets of 10
- $120 per box or $12 per participant
- $2 per participant per hour

12 Hours

Invention Project x2: (Recommended)

- 2 Invention Project kits per participant
- Each participant receives a proprietary take-home item
- $100 per participant
- $8.33 per participant per hour

Invention Project + NIHFty Bot Explores:

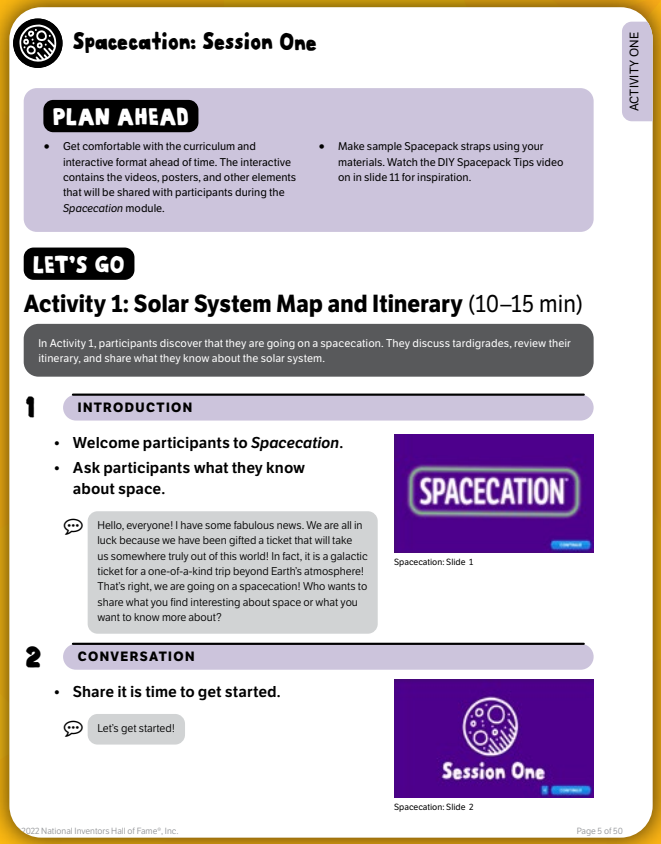
- 1 Invention Project kit per participant
- 1 NIHFty Bot Explores experience per participant
- Each participant receives a proprietary take-home item and a NIHFty Bot plushie
- $58 per participant
- $4.83 per participant per hour

Invention Project (Shared Materials; Individual Logs) + NIHFty Bot Explores:

- 1 Invention Project kit shared between 2 participants
- 1 NIHFty Bot Explores experience per participant
- Module Instructors keep proprietary items for the classroom
- Each participant receives their own Inventor Log and NIHFty Bot plushie
- $35 per participant
- $2.92 per participant per hour

Learn more about Invention Project **here.**

APPENDIX



Spacecation: Session One

ACTIVITY ONE

PLAN AHEAD

- Get comfortable with the curriculum and interactive format ahead of time. The interactive contains the videos, posters, and other elements that will be shared with participants during the *Spacecation* module.
- Make sample Spacepack straps using your materials. Watch the DIY Spacepack Tips video on in slide 11 for inspiration.

LET'S GO

Activity 1: Solar System Map and Itinerary (10–15 min)

In Activity 1, participants discover that they are going on a spacecation. They discuss tardigrades, review their itinerary, and share what they know about the solar system.

1 INTRODUCTION

- **Welcome participants to *Spacecation*.**
- **Ask participants what they know about space.**

Hello, everyone! I have some fabulous news. We are all in luck because we have been gifted a ticket that will take us somewhere truly out of this world! In fact, it is a galactic ticket for a one-of-a-kind trip beyond Earth's atmosphere! That's right, we are going on a spacecation! Who wants to share what you find interesting about space or what you want to know more about?

Spacecation: Slide 1

2 CONVERSATION

- **Share it is time to get started.**

Let's get started!

Spacecation: Slide 2

CURRICULUM EXCERPT

View a sample of our curriculum to see how we provide detailed guidance for easy-to-implement program experiences.

Learn more about Invention Project **here.**

Invention Project®

BRING TRANSFORMATIVE INVENTION EDUCATION TO YOUR DISTRICT TODAY!

TO LEARN MORE, CONTACT:

invent.org | 800-968-4332 | inventioneducation@invent.org

PROGRAMS QUALIFY FOR:

TITLE I, TITLE II, TITLE III, TITLE IV, MIGRANT EDUCATION, STATE/LOCAL DISTRICT RESOURCES AND 21ST CCLC

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The National Inventors Hall of Fame provides STEM education programs for young innovators from PreK through grade 12.