



THE CAMP INVENTION DAILY SESSION 1

HI, I'M NIHFty BOT™!
WELCOME TO CAMP!



WELCOME TO THE FIRST DAY OF CAMP INVENTION®

Each day, your child is entering a place where their ideas matter and anything is possible! This is a safe and fun space where your child can create, test, try, fail, discover and explore the incredible world of invention. Look closely throughout the week — we're sure you'll see your child's ideas turning into reality!

THE CAMP INVENTION MODULES

ROAD RALLY

Did you know there is an organism that is considered a “plantimal”? That's right — part plant and part animal. The green sea slug takes genes from the algae it eats and absorbs them into its own DNA. After that, the green sea slug doesn't have to collect food. It can get its energy from the sun, just like a plant! After exploring this process with a slimy “slug,” we played an energy game to earn awesome transportation points. **Ask your inventor about how the green sea slug might inspire the way future vehicles are fueled.**

DUCK CHUCK

We catapulted into a duck-filled challenge today! An international flock of rubber ducks need our help to get to their home pond. We used an air cannon to knock down cup towers while investigating air pressure. Then, we brainstormed some ideas for designing our own duck-chucking devices. **What materials is your innovator planning to use for their duck-chucking design?**

SolarBot

Today, we explored a solar-powered world where we could use creativity and insect-inspired ingenuity to investigate circuitry and the benefits of solar power. Then we built our own cricket-inspired SolarBots. After adopting our SolarBots, we created personalized habitats for our new little friends. **Find out the name of your child's SolarBot and ask how they personalized their habitat.**

OPEN MIC

Today, we received our very own wireless microphone and discovered that it is made up of many inventions! We took a peek inside and revealed the electret microphone, co-invented by Hall of Famer Jim West. We wrapped up by watching a demonstration to see how sound waves can be transferred. Soon, we will be designing our own inventions. **Ask your sound engineer to tell you what their favorite voice setting is on their microphone!**

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CONNECTION QUESTIONS

1. What did you discover today that you didn't know before?
2. What was a challenge you faced today? How did you overcome it?
3. Which activities did you enjoy the most?

WE'RE SO GLAD YOU'VE JOINED THE CAMP INVENTION FAMILY!

Congratulations on helping your innovator make the leap from *what is* to *what might be*. Through this experience, your child will build skills in STEM and cultivate an Innovation Mindset.

We've learned directly from our Nation's Greatest Innovators™ — National Inventors Hall of Fame® (NIHF) Inductees — that invention skills can be taught and learned. We also know that empowering children with these skills and connecting them with innovative role models can be life- and world-changing.

Here at camp, your child is free to explore, with open-ended experiences where there are no “right” or “wrong” answers. To help foster your child's Innovation Mindset during and after their camp experience, here are a few tips:

- Use “I wonder...” statements to help guide your child.
- Encourage creative solutions that stretch their imagination.
- Provide support as they build their invention confidence.

“I believe all children are inventors.” — Michael J. Oister, CEO, National Inventors Hall of Fame

SAFETY

Your child's safety is very important to us. When dropping off and picking up your child, you must accompany them into the _____ to sign them in and out each day.

CONTACT INFORMATION

THANK YOU TO OUR SPONSORS

The Camp Invention program is made possible through the assistance of a number of organizations, businesses and individuals that believe in the importance of inspiring the next generation of innovators.



Camp Invention participants find inspiration in the stories and lessons of Collegiate Inventors Competition® Finalists and NIHF Inductees.



THE CAMP INVENTION DAILY SESSION 2

HERE'S WHAT'S HAPPENING AT CAMP!

ROAD RALLY

We merged into the fast lane today as we explored the science behind the way some animals move, like hydraulics, suction and spring-like muscles. These animal insights helped us gather more ideas for our transportation designs! Then we built and tested a propeller-powered vehicle! **Ask your automotive designer which animal motion they plan to incorporate in their vehicle.**

SolarBot

It's time to see the world through a cricket's eyes — a day in the life of an insect! We solved riddles and searched for cricket food in a scavenger hunt while exploring many fascinating cricket characteristics. Then we focused our imaginations on the amazing anatomy of a cricket and built cricket-inspired inventions. **Ask your scientist to share their knowledge of cricket anatomy.**

OPEN MIC

Today, we heard stories of how different National Inventors Hall of Fame® Inductees have solved specific problems through invention. We applied the early phases of the Camp Invention Design Thinking Process™ to identify and explore a challenge or problem that we would like to solve. Then, we sketched and molded ideas for potential inventions. **Have your innovator describe the challenge they hope to solve.**

DUCK CHUCK

We built a device to reveal our duck's home pond and discovered some duck fun facts! Then, we built our duck launchers and tested the trajectory of objects to increase our accuracy. We explored how velocity, angles and trajectory work together when launching rubber ducks. **Have a conversation with your inventor about how they improved their launch accuracy today.**



Making Connections

Throughout the week in Road Rally, campers are exploring vehicles that can move on land and are prototyped to move in the air and in water. They look to nature for inspiration as they design their one-of-a-kind vehicles.

This type of investigation can continue at home! Make it a fun challenge to take everyday household objects and toys and point out the mechanical features that are found in other applications or may have been inspired by nature!

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CONNECTION QUESTIONS

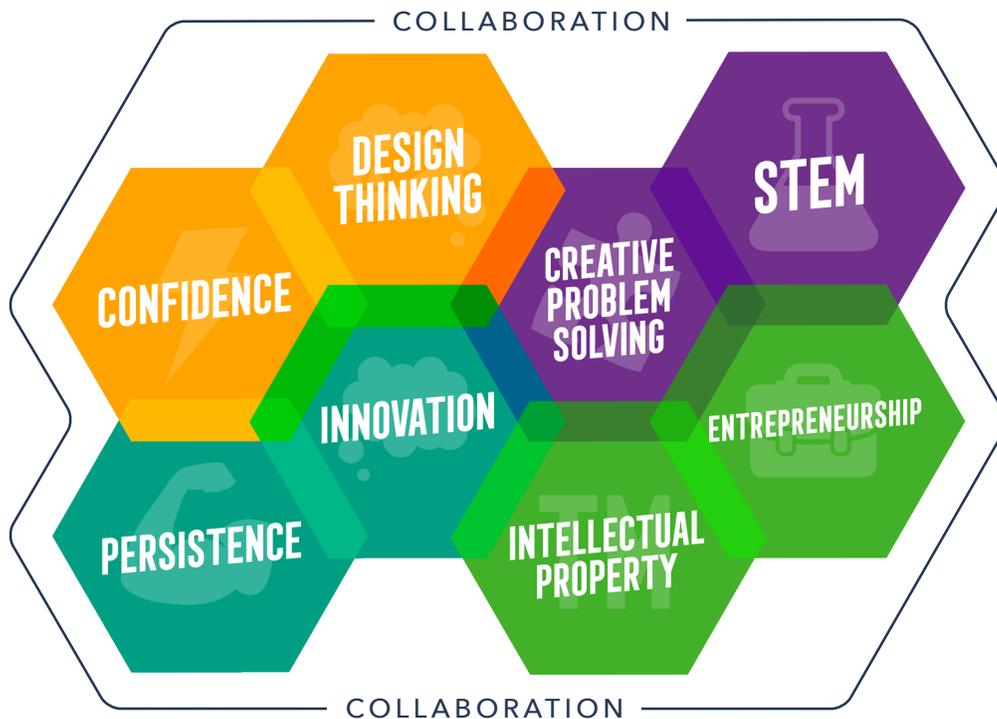
1. What did you find challenging today? How did you handle it?
2. Which materials have you been using to create your inventions?
3. What materials do you like to use most?

YOUR CAMPER IS BUILDING THE INNOVATION MINDSET

Here at Camp Invention, we believe every child can invent. In fact, every National Inventors Hall of Fame® (NIHF) program is built on this belief.

As they enjoy open-ended, hands-on exploration, your camper is building the Innovation Mindset. Developed through lessons from world-changing inventors (our Hall of Famers!), this mindset will assure your child that they can improve their abilities over time, empowering them not just at camp but throughout life.

The Innovation Mindset is made up of nine essential skills and traits that are strengthened every time your child applies them. Each Camp Invention module highlights different aspects of this mindset, guiding your child to unlock their full potential and discover the power of their creativity.



LET'S HEAR FROM
SOME INDUCTEES!



**“IF YOU KNOW HOW TO LEARN, YOU CAN
LEARN ANYTHING.”**

Sumita Mitra • Inventor of Nanocomposite Dental
Materials • NIHF Inductee

**“YOU MAY NOT GET IT RIGHT THE FIRST TIME, BUT TRYING OVER AND OVER
AGAIN TO GET IT RIGHT CAN OFTEN LEAD TO SUCCESS.”**

Eric R. Fossum • Inventor of the CMOS Image Sensor • NIHF Inductee





THE CAMP INVENTION DAILY SESSION 3

At Camp Invention®, your child is given the freedom to think of new, innovative ideas. Throughout the week, children are reminded of their rights as creators. They receive valuable insights and encouragement from world-changing inventors — National Inventors Hall of Fame® Inductees — to embrace creative thinking and to problem solve their way to success!



HERE'S WHAT'S HAPPENING AT CAMP!

SolarBot

First, we investigated one of the cricket's predators, the spider, and we discovered some unique and incredible features of different kinds of spiders. Then, we used a brainstorming tool called webbing and applied our arachnid knowledge to invent a way to protect our SolarBots from predators. **Ask your innovator how they protected their SolarBot today.**

DUCK CHUCK

Today we explored how different fulcrums affect how far we can throw our ducks. Then, we propelled ourselves into an exploration of velocity and used this knowledge to improve our duck-chucking devices. Finally, we used our critical thinking skills to modify our launcher and create the ultimate duck-chucking device! **Ask your innovator how far their duck can fly.**

OPEN MIC

We created prototypes of our inventions to better communicate how they might work. We even learned some neat DIY tips on how we can use cardboard in unique ways to add strength, flexibility and improved function. **Ask your designer about their favorite DIY tip.**

ROAD RALLY

Today we examined the unique features and adaptations of several animals and plants to select which ones we want to incorporate into our super-morphing vehicle. We heard from NIHF Inductee Margaret Wu about the power of making one small change, and then we changed our vehicles to operate with a pulley-and-belt system! **Ask your inventor to tell you how their vehicle morphs to travel in the air and underwater.**

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CONNECTION QUESTIONS

1. What is fun about solving challenges?
2. What are you looking forward to tomorrow?
3. Which activities did you enjoy the most?

WE'VE GOT THE SKILLS TO TAKE ON ANY CHALLENGE

As we have fun at camp, we're also building the skills and traits that make up the Innovation Mindset — a powerful mindset that puts lessons from great inventors into action!

Design Thinking

Through design thinking, we're learning to identify and solve problems in ways that can help others.

Confidence

We're building confidence and seeing ourselves as capable creators as we turn our ideas into reality.

Creative Problem Solving

We're using critical and creative thinking to come up with solutions to real-world problems.

STEM

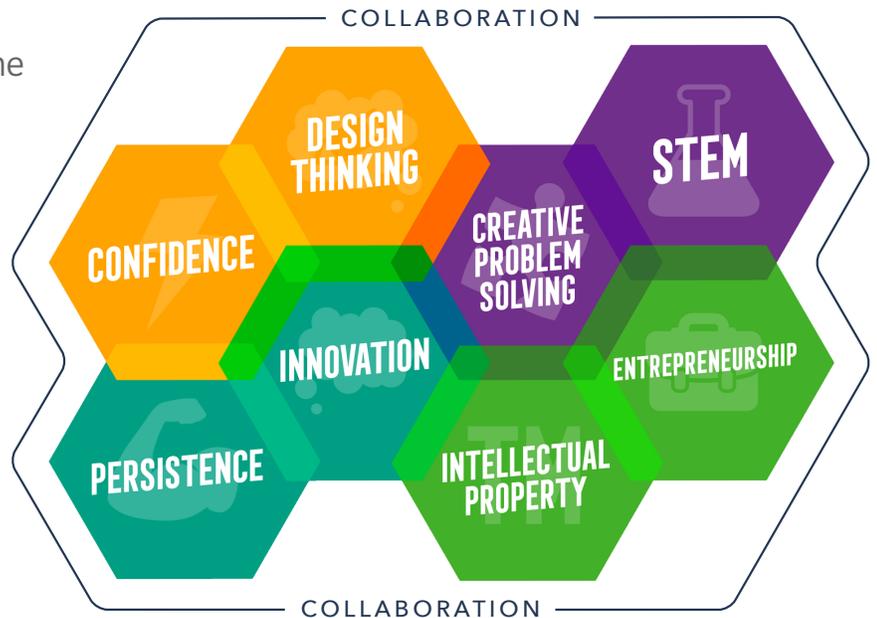
We're learning about the world around us as we explore science, technology, engineering and math.

Persistence

As we create and test our inventions, we're learning to recover from failure and overcome obstacles.

Innovation

Our hands-on challenges help us dream up new inventions and improve on existing ones.



Intellectual Property

We're discovering the power of intellectual property and recognizing the value of our own ideas.

Entrepreneurship

We're becoming curious, creative risk takers and leaders as we build basic business skills.

Collaboration

Through teamwork, we're learning to show empathy and acceptance of people and ideas.

LET'S HEAR FROM AN INDUCTEE!



“I DON'T THINK ANYONE MAKES ANYTHING TODAY WITHOUT HELP FROM OTHERS.”

George Alcorn
Inventor of the X-ray Spectrometer
NIHF Inductee

Learn about George Alcorn and other NIHF Inductees on our YouTube page! Scan the QR code or go to [YouTube.com/NationalInventorsHallofFame_NIHF](https://www.youtube.com/NationalInventorsHallofFame_NIHF).





THE CAMP INVENTION DAILY SESSION 4

HERE'S WHAT'S HAPPENING AT CAMP!

ROAD RALLY

As we cruised toward the finish line, we put the final touches on our super-morphing vehicles and started to get ready for the Super Road Rally by constructing a testing course! We built structures for our vehicles to go down, through and around to demonstrate their dynamic capabilities. **Ask your designer what they want to see their vehicle do in the Super Road Rally.**

SolarBot

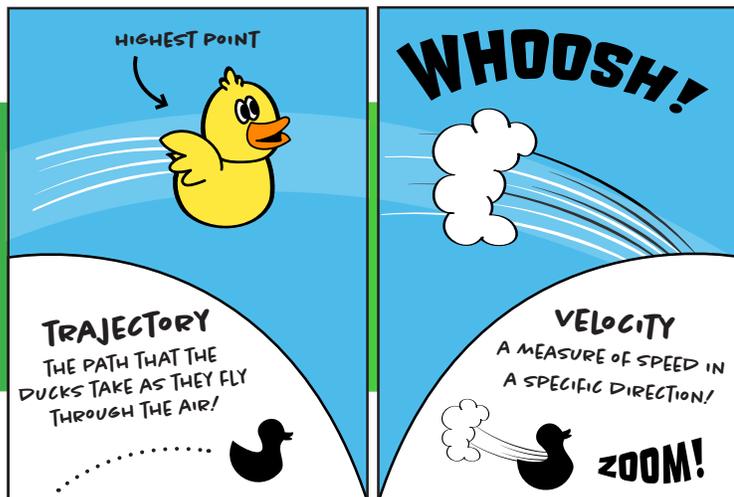
Today we discovered that someone left a garden hose running by accident, and it created a giant puddle of water! After learning the importance of water conservation, we employed physics to build playground equipment to help our SolarBots cross the puddle and shut off the hose. **Ask your innovator how they helped their SolarBot cross the puddle.**

DUCK CHUCK

Sydney Opera House or bust! This is just one of several landmarks we explored around the world today. We built our own versions using recyclable materials to represent our duck's home pond. Then we met Hall of Famer Marshall Jones, who shared why it is important to never give up. We added finishing touches to our ultimate duck-chucking device designs. **Ask your inventor to describe the landmark they created.**

OPEN MIC

We discovered that our ideas have value and it can be important to protect them. We filled out a mock patent application and designed an original, trademark-worthy logo for our invention prototype. **Encourage your inventor to share their logo design.**



Trajectory and Velocity

Continue the fun at home by experimenting with speed and angles as you launch a stuffed animal or toy at a target.



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CONNECTION QUESTIONS

1. When did you feel most proud of yourself today?
2. Which team member do you like working with the most? Why?
3. What's the coolest thing you saw someone create today?

DID YOU KNOW?

Every module develops the Innovation Mindset. Through each of this week's adventures, your child has been collaborating with friends to develop and exercise the power of the Innovation Mindset!

SolarBot

We jumped into **STEM** exploration as we learned about cricket anatomy and built solar-powered robots. Then we applied **persistence** and **creative problem solving** to create customized habitats.

Road Rally

We learned about **innovation** and applied **design thinking** as we modified our morphing vehicles, and we demonstrated **persistence** as we navigated obstacles in the Super Road Rally!

Open Mic

We used **design thinking** to bring our biggest ideas to life! We learned how to protect our ideas through **intellectual property** and grew our **confidence** as we promoted our inventions.

Duck Chuck

Through **creative problem solving**, we launched rubber ducks and put **STEM** concepts to the test. Then we used **entrepreneurship** skills to create marketing campaigns for our launching devices.



Looking for more STEM fun? Scan the code or visit invent.org/blog/stem-activities for hands-on fun!



THE CAMP INVENTION DAILY SESSION 5

It's hard to believe Camp Invention® is coming to an end, but we're so glad you and your child were part of the fun! We hope they had an incredible time inventing, creating and collaborating with friends this week! Even though today is the last day of camp, the skills learned and memories made are sure to last a lifetime.

TIME TO CELEBRATE A WEEK OF INVENTING!

ROAD RALLY

Start your engines, it's Super Road Rally time! We rolled through different Pit Stops and completed challenges to showcase our unique vehicles. It was awesome to discover the power of nature-inspired design and engineering as we created our morphing vehicles. **Ask your innovator about their favorite Pit Stop.**

OPEN MIC

After crafting our invention pitches, we stepped up to the mic and shared what makes our creations unique and innovative! We practiced and delivered our pitches to land a deal. We are ready to use our ideas and voices to make our mark on the world! **What part of the Camp Invention Design Thinking Process™ did your innovator enjoy the most?**

SolarBot

In our grand finale, we investigated cricket wings and discovered how they make a chirping sound. We applied our cricket anatomy knowledge to create DIY instruments inspired by cricket chirps. Finally, we showed off our new wings by competing in a musical Chirp-Off. **Ask your instrument designer what inspired them the most about crickets this week.**

DUCK CHUCK

The culmination of our efforts this week has paid off. It was finally time to show off our duck-chucking devices! We fine-tuned our invention prototypes and created quack-tastic marketing campaigns. We made a splash as we explored geography and successfully navigated our international ducks back to their home ponds. **Ask your duck-chucking device designer about their favorite challenge from the week.**



STAY IN TOUCH!

We're always sharing the latest STEM-based discoveries, activities and Camp Invention photos on our social channels, so be sure to follow us today!



facebook.com/CampInvention



pinterest.com/InventorsHOF



youtube.com/NationalInventorsHaloFame_NIHF



[@CampInvention](https://twitter.com/CampInvention)

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CONNECTION QUESTIONS

1. What was the most exciting activity at Camp Invention?
2. What do you hope to do at Camp Invention next year?
3. How can you create Camp Invention at home?

YOU CAN EARN REWARDS WHEN YOU SHARE THE FUN OF CAMP!

What could make the Camp Invention experience even better? Sharing it with friends and family!

No matter where they live, your friends can find a Camp Invention program that works for them. They'll save on all the fun and learning, and you'll receive unlimited rewards by taking three simple steps:



JOIN

Visit invent.org/friend to find all our Refer a Friend program details. When you enter your email, you'll get a unique link and exclusive savings code others can use to register for camp.

SHARE

Email, text and share your unique link with your friends, family and social networks.

EARN

Each time a new family registers for camp using your link, you'll receive an Amazon.com Gift Card via email. You'll receive \$10 for the first family and \$5 for every family after that. There's no limit to how much you can earn!

Each reward is our thanks for helping us reach even more children and inspire young innovators through hands-on fun!



We hope your camper had a *fun*, inspiring, confidence-building week at Camp Invention!