

Robotic Aquatics™



In **ROBOTIC AQUATICS**, children dive into cutting-edge ocean research, design and patent a new aquatic plant, and create a habitat for their own aquatic friend. Then they make a splash with unique, bio-inspired innovations!

- **PHENOMENA EXAMPLE:** Children explore symbiotic relationships between marine life (e.g., clownfish and anemone) and use this knowledge to further explore collaboration in inventing.
- **SEL EXAMPLE:** Decision-Making Skills
- **MATH CONCEPTS:** Number and Operations in Base Ten
- **LITERACY CONCEPTS:** Reading Inventor Log, Presentation of Knowledge, Ideas and Reading Comprehension, Diagramming and Writing about Invention, 21st-Century Vocabulary
- **WHAT THEY TAKE HOME:** Aquatic friend, personalized fish tank habitat, aqua innovation prototype

NIHF's The Attic™



Art and STEM combine in **NIHF'S THE ATTIC!** Children learn how inventions have changed the way people create as they discover inventors including Walt Disney, explore chemistry, materials science and intellectual property, design one-of-a-kind shoes and build their own spinning robotic artist.

- **PHENOMENA EXAMPLE:** Children discover how animation works, explore the concept of persistence of vision and create their own moving image — a thaumatrope.
- **SEL CONCEPTS:** Self-Awareness, Self-Management
- **LITERACY CONCEPTS:** Reading Standards for Literature: Key Ideas and Details, Speaking and Listening Standards, Reading Inventor Log
- **WHAT THEY TAKE HOME:** Arty Bot, thaumatrope, shoe print and artwork



Spacecation™



Children pack their bags for the ultimate adventure in outer space in **SPACECATION**. They design a Spacepack for the journey, observe an ice volcano, mine an asteroid for valuable metals and have a galactic pizza party on Jupiter's "Pizza Moon," Io!

- **PHENOMENA EXAMPLE:** Children explore Jupiter's moons, use baking soda, polymer snow and vinegar to investigate chemical reactions, and race to assemble pizzas in microgravity.
- **SEL CONCEPTS:** Understanding and Managing the Emotions That Come with the Creative Process
- **MATH CONCEPTS:** Measurement and Data
- **LITERACY CONCEPTS:** Reading and Writing Inventor Log, Reading Standards for Informational Text: Craft and Structure, Exploring Art Careers in STEM
- **WHAT THEY TAKE HOME:** Astro-Arm, Hydraulic Astro-Arm, Spacepack



Marble Arcade™



In **MARBLE ARCADE**, children zigzag through physics, engineering and gaming know-how to build a mega marble machine. By collaborating to take on engineering design challenges, they build experience and positive associations with concepts including energy, force, momentum and simple machines.

- **PHENOMENA EXAMPLE:** Children explore the relationship between mass and speed by completing trials with different rolling objects, then use this knowledge to build their own marble arcade.
- **SEL CONCEPTS:** Self-Management, Relationship Skills
- **MATH CONCEPTS:** Geometry
- **LITERACY CONCEPTS:** Speaking and Listening Standards: Comprehension and Collaboration
- **WHAT THEY TAKE HOME:** Marble Arcade