Camp Invention® | Gear Up Curricula Highlights

Stuck!™

In **Stuck!**, campers balance creativity and budget as they embark on an entrepreneurial endeavor, explore the phases of product development and compete in a low-tech prototyping challenge to design an exclusive new product. After designing a new invention, campers gain a competitive advantage in the marketplace by protecting their intellectual property with patents and trademarks.

- **PHENOMENA EXAMPLES:** Adhesives, circuits, gears, shapes and structures
- **CAREER CONNECTIONS:** Accountant, entrepreneur, financial planner, marketing professional, product designer
- **LIFE SKILLS:** Creative thinking, decision-making, flexibility, goal-making, planning and organization, resilience, risk-taking
- **MATH CONCEPTS:** Geometry, measurement and data
- **LITERACY CONCEPTS:** Communication, explanatory writing, ideation, multimodal presentation, speaking and listening, STEM vocabulary
- **WHAT THEY TAKE HOME:** Personalized money bag; product prototype

New Heights™

In **New Heights**, campers take on an engineering challenge inspired by innovative architecture and materials technologies as they construct a sustainably built superstructure. They explore electrical engineering by assembling a motorized elevator, incorporate concepts from biomimicry to enhance the stability of their structures and showcase their eco-friendly design solutions to investors.

- **PHENOMENA EXAMPLES:** Balance and stability, circuits, gravity
- **CAREER CONNECTIONS:** Architect, construction manager, electrical engineer, interior designer, mechanical engineer, sketch artist, structural engineer
- **LIFE SKILLS:** Collaboration, confidence, critical thinking, curiosity, evaluating impacts, persistence
- **MATH CONCEPTS:** Geometry, measurement and data
- **LITERACY CONCEPTS:** Asking and answering questions, presentation of knowledge and ideas, reading informational text, STEM vocabulary
- **WHAT THEY TAKE HOME:** Multistory superstructure with motorized elevator and lights

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Gadget Garage™

In **Gadget Garage**, campers gear up to invent in an immersive, garage-type setting and explore the inner workings of gadgets as they investigate engineering concepts, build original prototypes and excavate a useful gearbox. Discovering mechanical engineering concepts, they deconstruct a wind-up robot and engraver tool before repurposing parts to create a spinning light wand.

- **PHENOMENA EXAMPLES:** Gears, light, motors, sensors
- **CAREER CONNECTIONS:** Actor, clay artist, designer, electrical engineer, mechanical engineer
- **LIFE SKILLS:** Collaboration and communication, confidence, creative problem solving, curiosity, decision-making, identifying solutions, interpersonal skills, teamwork
- **MATH CONCEPTS:** Geometry
- **LITERACY CONCEPTS:** Communication and collaboration, presentation of knowledge and ideas, reading informational text, speaking and listening, STEM vocabulary
- **WHAT THEY TAKE HOME:** Etch-n-Glow Wand™

Ooze and Aahs™

In **Ooze and Aahs**, campers uncover chemistry concepts as they explore, observe and analyze the properties of slimy substances and uncover features of different bacteria, bugs and insects. Incorporating engineering, they create a device to protect aquatic wildlife during the sampling process and design an insect-inspired bioinvention to solve the challenge of improving water quality.

- **PHENOMENA EXAMPLES:** Mixtures and solutions, predator and prey relationships
- **CAREER CONNECTIONS:** Biotechnologist, chemist, entomologist, microbiologist, pest control technician, water quality technician
- **LIFE SKILLS:** Analyzing data, information and facts, cooperation, decision-making, observation, reasoning and problem solving
- **MATH CONCEPTS:** Counting and cardinality, operations and algebraic thinking
- **LITERACY CONCEPTS:** Asking and answering questions, presentation of knowledge and ideas, reading informational text, STEM vocabulary
- **WHAT THEY TAKE HOME:** Bioinvention; collection device; insect wings; creature comfort item