

# CAMP INVENTION ILLUMINATE CURRICULA HIGHLIGHTS



## In the Game™



**IN THE GAME** gives students the chance to be innovative all-stars as they engineer their own light-up ball game. After creating a unique sports ball, they explore the physics of motion, then find out how to protect their ideas with intellectual property and reach the goal of being inducted into the Game of Fame!

- **PHENOMENA EXAMPLE:** Ball dissection through media, physics of catching and throwing various balls into Game Board
- **LIFE SKILLS:** Creative and critical thinking, speaking and listening, reasoning and problem solving, risk-taking
- **MATH CONCEPTS:** Calculating scores, probability
- **LITERACY CONCEPTS:** STEM vocabulary, presentation of knowledge and ideas, making inferences, reading and writing in Inventor Log
- **WHAT THEY TAKE HOME:** Game Board: a tabletop game, sports ball, sporting equipment prototype



## Let's Glow™



In **LET'S GLOW**, students learn about biophysics, optics and electrical engineering as they discover illuminating inventions and engineer their own one-of-a-kind Glow Box. They investigate how light works in LEDs, fiber optics and even glowing animals. With ultraviolet light, they uncover clues to reveal a mystery, using the power of light to help their ideas shine.

- **PHENOMENA EXAMPLE:** Light refraction experiments, light and foil reflection, streaking petri dishes with UV paint
- **LIFE SKILLS:** Decision-making, goal setting, problem solving, collaboration and communication, persistence
- **LITERACY CONCEPTS:** STEM vocabulary, reading and following instructional text in Inventor Log, sharing of ideas and hypotheses, ask and answer questions, multiple styles of media to communicate information
- **WHAT THEY TAKE HOME:** Glow Box: a proprietary box with white and UV LED light strips wired to a double-sided circuit board and slides featuring their designs

## Operation: HydroDrop™



In **OPERATION: HYDRODROP**, students embark on an epic global operation to explore and solve water challenges around the world. They personalize their own light-up robotic Lab-on-Wheels inspired by cutting-edge marine science technology. Using creative problem solving, they engineer solutions to filter and clean water, becoming hydro heroes.

- **PHENOMENA EXAMPLE:** Drought and flooding, water filtration
- **LIFE SKILLS:** Resilience, reasoning and problem solving, interpersonal skills, speaking and listening
- **MATH CONCEPTS:** Calculating water usage of various crops and making comparisons
- **LITERACY CONCEPTS:** Diagramming and writing about invention, reading and writing in Inventor Log, comprehension and collaboration, STEM vocabulary, ask and answer questions, making inferences, cause and effect
- **WHAT THEY TAKE HOME:** Lab-on-Wheels: a mobile laboratory with a light-up robotic base, model tiny house with crops, water-solution prototypes

## Prototyping Studio™



Students star as game show contestants in **PROTOTYPING STUDIO**, where they embark on an innovative journey to discover the ultimate place to invent. Equipped with a DIY toolbox, they generate new ideas, bringing them to life by transforming unique inventions. They collaborate with friends for rapid prototyping challenges, and learn that invention can happen anywhere.

- **PHENOMENA EXAMPLE:** Non-standard materials, materials exploration
- **LIFE SKILLS:** Curiosity, flexibility, cooperation, collaboration and communication
- **MATH CONCEPTS:** Calculating cost of goods and materials
- **LITERACY CONCEPTS:** Reading and writing in Inventor Log, presentation of knowledge and ideas, divergent thinking and fluency
- **WHAT THEY TAKE HOME:** Toolbox: a functional and personalized toolbox with a cardboard safety saw and a tape measure, rapid design prototypes