TYPA

SUMMER TECH CAMP

In Association with MAST

MODERN ACADEMY OF SCIENCE AND TECHNOLOGY

Overview

This summer, students step into the role of innovators - designing, building, and solving challenges through hands-on STEM experiences.

Each camp is built around a **story-driven theme**, where students apply science, engineering, and technology to real-world style problems in a fun, structured environment. From building machines to coding interactive systems, every day combines creativity with practical learning.

GRADES 1–2

Students journey into extreme environments, learning how science and engineering help us survive in the cold.

Through hands-on experiments and builds, they explore how materials behave in freezing conditions and design simple machines to move across icy terrain.

Core Teaching Principles

- Experiment with ice, water, and temperature changes
- Build moving vehicles and simple mechanisms
- Create basic circuits through interactive games
- Explore patterns and symmetry inspired by nature

GRADES 1–2

Time Traveling Engineers

Students travel through history to rediscover how early civilizations solved engineering challenges.

They build working models inspired by ancient inventions while learning how simple machines still shape the world today.

- Construct bridges, pulleys, and lifting systems
- Build compasses and explore navigation
- Learn how structures stay strong and stable
- Discover how people measured time before modern tools

GRADES 1–2

Sorcery School STEM

Students explore the science behind “magic,” using chemistry and physics to create surprising effects.

They follow step-by-step experiments while also building interactive projects that combine creativity with scientific thinking.

- Create slime, potions, and chemical reactions
- Explore invisible forces like static electricity
- Build moving “magic” devices and illusions
- Learn how materials change and react

GRADES 3–4

Arctic Explorers (Advanced)

Students take on more complex engineering challenges in extreme environments.

They test materials, design structures, and build robotic systems while learning how living systems adapt to harsh conditions.

- Investigate insulation and temperature control
- Build robotic animals and moving systems
- Explore ecosystems and survival strategies
- Design structures that can withstand environmental stress

GRADES 3–4

Time Travelling Engineers (Advanced)

Students recreate more advanced historical inventions and explore how early engineering led to modern technology.

They combine mechanical design with basic programming and energy systems.

- Build trebuchets and explore forces and motion
- Convert energy into electricity using simple generators
- Create mechanical systems that process information
- Design and program moving machines

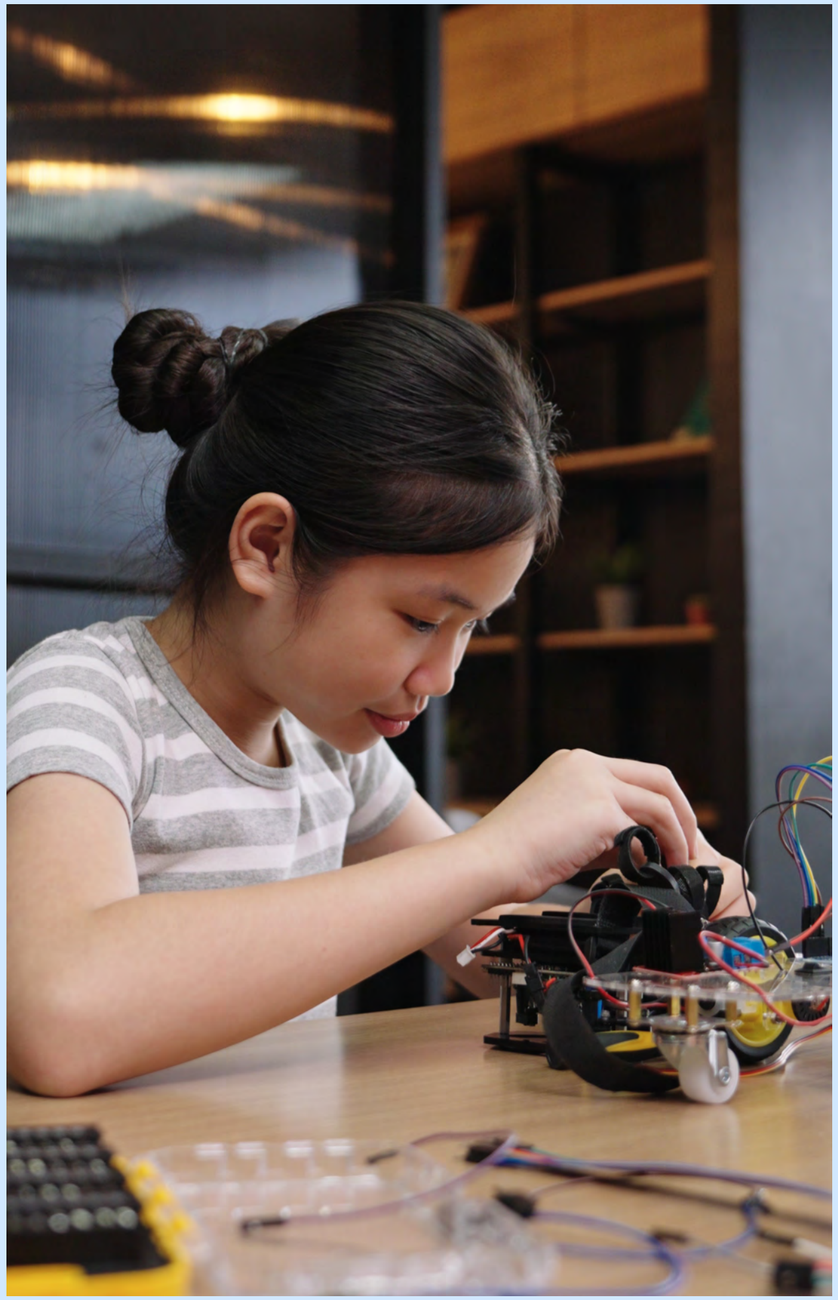
GRADES 3–4

Sorcery School STEM (Advanced)

Students combine science, coding, and engineering to create interactive systems that feel like magic.

They build projects that respond to movement, light, and signals while learning how technology works behind the scenes.

- Code interactive devices using micro:bit
- Build simple holograms and optical illusions
- Design kinetic structures and moving systems
- Explore balance, tension, and hidden forces



GRADES 5–8

Future Machines

Students design and build advanced robotics systems using sensors, motors, and code.

They move beyond instructions, modifying and improving their projects to create unique, functional machines.

- Build and program multi-part robotic systems
- Use sensors to collect data and trigger actions
- Develop custom code to control behavior
- Expand projects with additional features and automation

GRADES 5–8

Fantastic Contraptions

Students design creative machines from scratch, focusing on problem-solving and iteration.

They analyze how systems work, then prototype and refine their own versions through testing and experimentation.

- Design chain-reaction machines and mechanisms
- Build systems without step-by-step instructions
- Experiment with gears, motion, and timing
- Solve mechanical challenges through trial and improvement

GRADES 5–8

Amusement Park Engineering

Students apply engineering and physics to design interactive rides and games.

They build structures, program behaviors, and create systems that simulate real-world attractions.

- Build rides like drop towers and moving systems
- Use sensors to create safety and control features
- Program interactive games and scoring systems
- Combine structure, movement, and user experience

8-Week Summer Camp Schedule

WEEK	G1–2	G3–4	G5–8
Week 1	Arctic Explorers	Sorcery School	Future Machines
Week 2	Time Travelers	Arctic Explorers	Fantastic Contraptions
Week 3	Sorcery School	Time Travelers	Amusement Park
Week 4	Arctic Explorers	Sorcery School	Future Machines
Week 5	Time Travelers	Arctic Explorers	Fantastic Contraptions
Week 6	Sorcery School	Time Travelers	Amusement Park
Week 7	Arctic Explorers	Sorcery School	Future Machines
Week 8	Time Travelers	Arctic Explorers	Fantastic Contraptions

- Hands-on STEM learning
- Small group sizes
- Projects students take home
- Experienced international teaching team

Register Now – Limited Spaces Available!