

IDEA CAMP

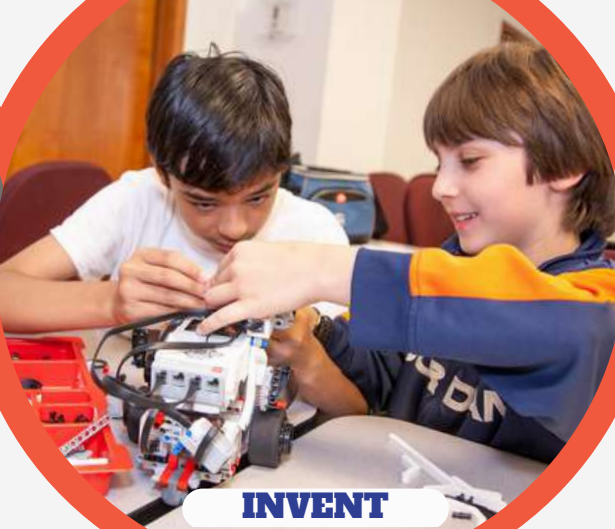
SUMMER 2023

STEM WORKSHOPS

REGISTER FOR IDEA CAMP NOW!



EXPERIMENT



INVENT



BUILD

Engage in 1-week STEM workshops to learn hands-on outside the traditional classroom! Includes daily breakfast, lunch & program supplies.

Location: UMass-Lowell

Time: 8:00 am - 2:30 pm

Open to Grades 5th - 12th

Scan Me!



CLICK TO APPLY

Questions?

padams@lowell.k12.ma.us



SESSION I

June 26th - June 30th



Wire Your Bedroom - (Grades 5 & 6)

Students will design their bedroom security system, candy safe, and more.

Sphero Battle Bots - (Grades 8 - 11)

Students will use the engineering design process to build their own sphero "battle bot" and protective armor. Students will then compete in "battles" with fellow students' robots. May the best "battle bot" win!

Crime Science - (Grades 6 - 9)

Students work in teams to solve a mystery using forensic science. Students will analyze 4 different pieces of evidence (fingerprinting, DNA typing, blood typing, and handwriting analysis), and use the power of observation and computer forensics to put clues together to identify suspects in a crime.

Cooking in the Kitchen - (Grades 5 - 9) @ Stoklosa Middle School

Students will learn all about the science of cooking. They will learn different cooking techniques and prepare a variety of recipes to build their confidence in the kitchen!

Urban Ecology in Lowell - (Grades 8 - 12)

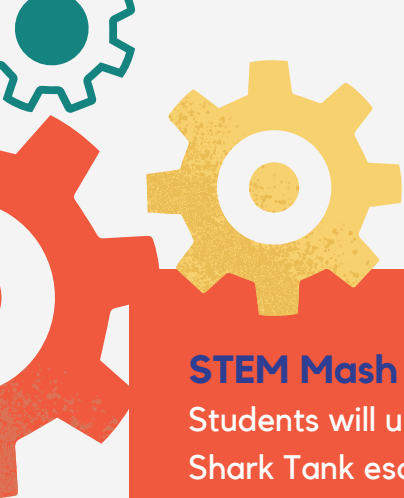
Students will learn about the urban ecology of Lowell, collect real world data (water quality testing, tree sap flow, carbon storage measurements), and investigate sustainable solutions to address the environmental problems Lowell is facing.

Wearable Technology - (Grades 8 - 12)

Wearable Technology combines creativity and computer science to teach coding. Students will design and program their very own wearable technology using Arduino boards and sensors. Bring home a fully functional piece of wearable technology!

Harvard Medical Science* - (Grades 9 - 12) @ Y-Space

Harvard MEDScience immerses students in simulated medical emergencies, which motivates them to think critically, communicate effectively, and work in teams. Learn clinical skills like suturing and intubations, and train at Harvard Medical School's state-of-the-art simulation lab in Cambridge, MA. * There is a \$130 charge for transportation and lab materials associated with Harvard MED.



SESSION II

July 10th - July 14th

STEM Mash Up - (Grades 5 - 8)

Students will use the engineering design process to complete fun challenges like a Shark Tank escape, Paper Airplane Challenge, Popsicle Bridge, and more!

Robotics - (Grades 7 - 10)

Build Lego robotics to overcome obstacles and find their way through mazes.

Coding with Spheros - (Grades 7 - 10)

Learn how to use code.org and program a Sphero (a spherical mini-robot). Students will build an obstacle course and complete different challenges.

The Art of Being Present - (Grades 7 - 10)

Explore the connections between art and mindfulness using different mediums and techniques to bridge artistic expression and mindfulness practices.

Sea Perch - (Grades 8 - 11)

Students will build and program an Underwater Robot to navigate through obstacles. There will be a field trip to the Merrimack River to launch the sea mobiles.

Recycling and Upcycling - (Grades 9 - 12)

Learn how to upcycle everyday items like water bottles, plastic bags, and newspaper to make art, upcycled tote bags, baskets, and more!

Game Makers - (Grades 9 - 12)

Students will learn the basics of 2-D game design (similar to Space Invaders and Pacman) using drag-and-drop programming. * This workshop requires a computer with: Windows 7 or Mac Mojave and 2 GB ram.

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SESSION III

July 17th - July 21st

Carnival Contraptions - (Grades 5 & 6)

Students will design and build awesome carnival inventions, spin art machines, launchers, and electric carnival games.

Mind-Body Wellness - (Grades 5 - 8) @ Y-Space

Practice and learn about the benefits of meditation, journaling, yoga, stretching, and movement on the brain and body.

Farm to Table - (Grades 5 - 10) @ Stoklosa Middle School

Students will learn the basics of gardening and the importance of locally grown food through a partnership with Mill City Grows and their local CSA. Students will explore using fresh local ingredients to create healthy snacks.

Kinetic Sculptures - (Grades 6 - 10)

Students will work to design and build a kinetic sculpture for the annual kinetic sculpture race in Fall 2023.

Architecture - (Grades 7 - 10)

Imagine having an unlimited amount of money to design and build your dream home anywhere in the world. What would your dream home look like, and where would it be? Using a design kit, students will let their creativity fly to build their scale model dream home.

Flight School and Drones - (Grades 8 - 11)

In this course, students will learn about the science of flight by using "white wing" airplanes, creating hot air balloons and rockets, and finally learning how to build drones. Students will also have the chance to practice coding the drone.

