



U.S. Army Research Institute of Environmental Medicine Gains in the Education of Mathematics and Science (GEMS) 2024



GEMS is a U.S. Army-sponsored, summer Science, Technology, Engineering and Mathematics (STEM) enrichment program for middle and high school students that takes place in participating U.S. Army research laboratories and engineering centers. The GEMS mission is to interest young people, who might not otherwise give serious thought to becoming scientists or engineers, in STEM careers early enough that they have the time to attain the appropriate academic training.

The program is based on a multi-disciplinary educational curriculum, and is focused on age and grade-appropriate hands-on activities, in areas such as science, engineering, mathematics, computational sciences, computational biology, biomedical sciences, chemistry and biology.

Six Weeks of GEMS July through August 2024

228 STUDENTS

27 NEAR-PEER MENTORS

60+ CITIES & TOWNS ACROSS MA, RI, CT & NY

33% MILITARY- CONNECTED STUDENTS

32% UNDERSERVED & UNDERREPRESENTED IN STEM

43% FEMALE STUDENTS

Students attend one session per summer.

59 students and 10 near-peer mentors returned this year to participate in GEMS I, GEMS II, and GEMS III.

GEMS I: 5th-7th grade

- Soldering
- Egg Drop
- Coding with Sphero Robots
- DNA Isolation
- Constructing Bridges & boats
- Forensic Science Lab
- Simple Machines

GEMS II: 6th-8th grade

- Making Solar Ovens
- 3D Printing
- Pig Heart Dissection
- Coding with Software & Robots
- Soldering
- Learning About Oil Spills
- Flagpole Math
- Constructing Roller Coasters
- Learning to Use Pipettes

GEMS III: 7th-9th grade

- M&M Statistics
- Rollercoaster Construction
- Making Oobleck
- Muscle Lab
- Coding with Sphero Robots
- Fitness Combine
- Egg Drop Concussion Awareness
- Catapults
- First aid

Coordinated by the U.S. Army Research Institute of Environmental Medicine Team at the Natick Soldier Systems Center in Natick, Massachusetts.

GEMS is run by Lab Coordinators

Officers in Charge : LTC Bridget Owens
MAJ Abe Dummar

Non-commissioned Officers in Charge : SSG Michelle Ott
SSG Vincent Smith

With ~40 USARIEM team members partnered with DEVCOM Soldier Center team members to market GEMS, hire resource teachers & near-peer mentors, register students, order materials and coordinate space & tours of their labs for GEMS students to gain exposure to DoD scientists and engineers.

<https://www.usaeop.com/program/natick/>

