



Center for  
STEM Education

STEMQUEST

West Point®

The United States Military Academy

MIDDLE SCHOOL  
STEM  
WORKSHOP

SCIENCE | TECHNOLOGY | ENGINEERING | MATHEMATICS

The West Point Center for STEM Education and the Office of Admissions are excited to bring you STEM at West Point.

This unique middle school program offers students the opportunity to participate in hands-on science, technology, engineering and mathematics activities taught by Academy faculty, cadet mentors and a team from the National Science Center.

Join us and experience fun and high-technology learning at the Nation's first school of engineering.

For more information and this year's dates and activities see our website at

<http://cse.usma.edu>

Supported by the National Science Center and the National Defense Education Program



West Point Admissions  
606 Thayer Road  
West Point, NY 10996-1797  
Telephone: (845) 938-4041

<http://www.admissions.usma.edu>



## Experience robo-math!

### STEMQUEST #1

#### MATHEMATICS

Did you know you can use math to design, construct and program a robot? In this **STEM Quest**, build a robotic system and program software that enables a robot to perform a task.



## Generate some excitement!

### STEMQUEST #3

#### PHYSICS

Have you ever wondered how a motor works? Would you like to generate electricity? Learn all about electricity and electrical devices in this **STEM Quest**.



## Take flight!

### STEMQUEST #4

#### MECHANICAL ENGINEERING

Have you ever wanted to fly an airplane? During this **STEM Quest** examine the physics of flight and the engineering of machines that fly. Use a flight simulator, experience a wind tunnel and make your own powered glider.



## Have an explosive experience!

### STEMQUEST #2

#### CHEMISTRY

Did you know that you can make a working battery from the fruits and vegetables in your kitchen? You'll do it in this **STEM Quest**—and you won't even get in trouble for playing with your food. Cook up a batch of rocket fuel and use a potato gun to learn about propulsion and combustion.



## Get wired!

### STEMQUEST #5

#### ELECTRICAL ENGINEERING

Have you ever wondered how an iPod is built, how lasers work, or how hackers break into computer systems? During this **STEM Quest**, learn about electronics and sensors, and build and test your own electronic device.



## Be a master builder!

### STEMQUEST #6

#### CIVIL ENGINEERING

Have you ever wondered what makes a bridge strong enough to hold the thousands of cars and trucks that drive across it every day? In this **STEM Quest**, use computer software to predict the strength of a bridge; build a K'nex model of that bridge and test it until it collapses.



## Get virtually real!

### STEMQUEST #7

#### SYSTEMS ENGINEERING

Did you know that you can design and test complex systems without even building them? This **STEM Quest** will introduce you to 3-D modeling and simulation. Learn how robotic airplanes are designed, and then see them in action in a military simulation called Virtual Battlespace 2.



## Experience Science to Go!



Participate in hands-on science demonstrations in the world's coolest 18 wheeler—the National Science Center Mobile Discovery Center.