

MINUTEMAN HIGH SCHOOL AND IN-DISTRICT MIDDLE SCHOOL PARTNERSHIPS

PARTNERING DISTRICTS

Acton/Boxborough Regional District

R. J. Grey, Acton/Boxborough

Nashoba District

Florence Sawyer M. S., Bolton

Hale M. S., Stow (*PLTW)

Luther Burbank School, Lancaster

COURSE CONTENT

- Hand and Power Tool Safety
- Transportation Systems
- Construction Technology
- Manufacturing Technology
- Communication Technology
- Biotechnology Engineering
- Power and Energy Technology

*PLTW COURSE CONTENT

- **Design and Modeling, Grade 7**
Autocad Design Software, Principles of Design, Engineering Notebooks
- **Robotics & Automation, Grade 8**
Mechanical Systems, Energy Transfer, Machine Automation, Computer Control Systems

CAREER PATHWAYS

Middle School to
Minuteman High School
Engineering
Robotics and Automation
Bio Sciences
Environmental Technology Sciences
Construction Technology
Advanced Manufacturing Technology

COLLEGE PARTNERS

Rochester Institute of Technology
UMass Amherst
UMass Lowell
Wentworth Institute of Technology
Worcester Polytechnic Institute
Worcester State University



Middle School Outreach Partnerships

PROGRAM DESCRIPTION

The Minuteman Regional Vocational School District in Lexington, Massachusetts has been partnered with In-District Middle Schools since 1991 which began with Luther Burbank Middle School in Lancaster, Massachusetts. Today we partner with all three Middle Schools in the Nashoba District as well as Acton/Boxborough Regional School District. The purpose of the program is to provide a bridge to Minuteman and surrounding communities with the faculty, equipment, tools, and talent for enriching the minds and technical skills of their students. This partnership provides access to a wide array of experts in many areas of technology and an equally wide range of STEM equipment.

Minuteman Regional High School and the partnered middle schools share the responsibility to expose students to the many options available in STEM careers through project-based learning. These experiential classrooms enhances a student's ability to think critically about real world engineering problems in transportation, construction, manufacturing, communication, biotechnology, power, and energy. This outreach program provides interaction and access for middle school children to Minuteman's many STEM programs, including Engineering, Programming & Web Development, and Design & Visual Communications. The strong curriculum varies within each community, however, there is a strong emphasis on problem solving and engineering skills required to design and prototype devices in response to a particular need.

STUDENT TO STUDENT OUTREACH ACTIVITIES

Women in Engineering Student Presentations, Shadow Days, Field Trips to Minuteman, High School Student Career Presentation Days, High School Faculty Guest Presenters, Open Houses.

FUNDING FUN FACTS

Individual partnered towns are assessed 100% for the program.
Middle school teachers are hired by Minuteman Regional School District.
Minuteman has five Outreach Teachers working in four In-District Towns.
Each individual program receives a budget for supplies and professional development.

PROJECTS INCLUDE

Co2 Powered Car Engineering, Rocket Design, Balsa Wood Gliders, Solar Powered Vehicles, Magnetic Levitation Vehicles, Monster Trucks, Boat and Bobsled Technology, Catapults, Bridges and Structure Design, Wind Power, Adaptive Device Design, Speaker Design, Dream House Design.

PROJECT LEAD THE WAY PLTW

***Currently available only at Hale Middle School in Stow, Massachusetts.**

Project Lead The Way is the nation's leading provider of science, technology, engineering, and math (STEM) programs. Through topics like robotics, flight and space, DNA and crime scene analysis, middle school students engage their natural curiosity and imagination in creative problem solving. PLTW's Gateway courses are a strong foundation for further STEM learning at Minuteman and beyond!