PROJECT LEAD THE WAY
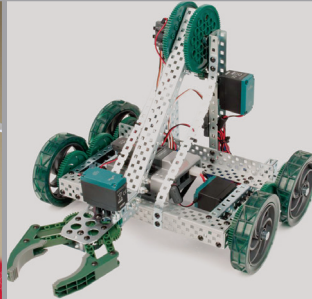# PLTW

Gateway To Technology

NASA/JPL-Caltech

Through topics like robotics, flight and space, and DNA and crime scene analysis, students will find their natural curiosity and imagination engaged in creative problem solving. PLTW's Gateway To Technology (GTT) Program is a strong foundation for further STEM learning in high school and beyond, challenging students to solve real-world challenges like cleaning oil spills and designing sustainable housing solutions. Using the same advanced software and tools as the world's leading companies, students see the application of math, science, technology, and engineering to their everyday lives.

GTT is divided into eight, nine-week independent units, assuming a 45-minute class period, and is designed to be taught in conjunction with a rigorous academic curriculum. Schools offering the program must implement both foundation units and may add any combination of the specialization units.

Foundation Units

DM — Design & Modeling
Students apply the design process to solve problems and understand the influence of creativity and innovation on their lives. They work in teams to design a playground and furniture, capturing research and ideas in their engineering notebooks. Using Autodesk® design software, students create a virtual image of their designs and produce a portfolio to showcase their innovative solutions.

AR — Automation & Robotics
Students trace the history, development, and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems. Students use the VEX Robotics® platform to design, build, and program real-world objects such as traffic lights, toll booths, and robotic arms.

Specialization Units

EE — Energy & the Environment
Students are challenged to think big and towards the future as they explore sustainable solutions to our energy needs and investigate the impact of energy on our lives and the world. They design and model alternative energy sources and evaluate options for reducing energy consumption.

FS — Flight & Space
The exciting world of aerospace comes alive through Flight and Space. Students explore the science behind aeronautics and use their knowledge to design, build, and test an airfoil. Custom-built simulation software allows students to experience space travel.

ST — Science of Technology
Science impacts the technology of yesterday, today, and the future. Students apply the concepts of physics, chemistry, and nanotechnology to STEM activities and projects including making ice cream, cleaning up an oil spill, and discovering the properties of nano-materials.

ME — Magic of Electrons
Through hands-on projects, students explore electricity, the behavior and parts of atoms, and sensing devices. They learn knowledge and skills in basic circuitry design and examine the impact of electricity in the world around them.

GA — Green Architecture
Today's students have grown up in an age of "green" choices. In this unit, students learn how to apply this concept to the fields of architecture and construction by exploring dimensioning, measuring, and architectural sustainability as they design affordable housing units using Autodesk's® 3D architectural design software.

MD — Medical Detectives
Students play the role of real-life medical detectives as they analyze genetic testing results to diagnose disease and study DNA evidence found at a "crime scene". They solve medical mysteries through hands-on projects and labs, investigate how to measure and interpret vital signs, and learn how the systems of the human body work together to maintain health.

Preparing Students for the Global Economy

Project Lead The Way (PLTW) is a 501(c)(3) non-profit organization and the nation's leading provider of in-school STEM curriculum. Through world-class, activity-, project-, and problem-based curriculum, a high-quality teacher professional development model, and an engaged network of educators and corporate partners, PLTW helps students develop the skills needed to succeed in our global economy.

PLTW courses are aligned with Common Core State Standards for Math and English Language Arts, Next Generation Science Standards, and other national and state standards. Courses and units are designed to complement math and science courses and in some instances are used as the core curriculum.

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