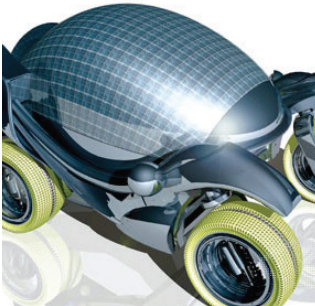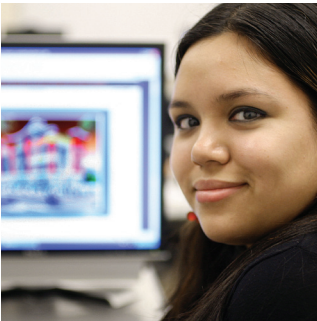# Engineering

InnovationMS
Engineering for Middle Schools

PROJECT LEAD THE WAY
PLTW

The PLTW Gateway To Technology (GTT) program features a project-based curriculum designed to challenge and engage the natural curiosity and imagination of middle school students. They envision, design and test their ideas with the same advanced modeling software used by companies like Lockheed Martin, Intel and Sprint. They study mechanical and computer control systems; think robotics and animation. Students also explore the importance of energy, including innovative ways to reduce, conserve and produce it using solar, thermal and wind power. The knowledge that students gain and the skills they build from the GTT program create a strong foundation for further STEM learning in high school and beyond.
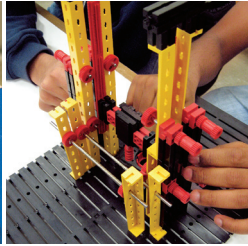
Foundation Courses

DM **Design & Modeling**
Students are introduced to and use the design process to solve problems and understand the influence that creative and innovative design has on our lives.

AR **Automation & Robotics**
Students use a robust robotics platform to design, build and program a solution to solve an existing problem.

Specialization Courses

EE **Energy & the Environment**
Students investigate the impact of energy on our lives and the environment and design and model alternative energy sources.

FS **Flight & Space**
Students explore the science behind aeronautics and use their knowledge to design, build and test an airfoil.

GA **Green Architecture**
Students use a 3D architectural software program to create an environmentally friendly home using shipping containers.

ME **Magic of Electrons**
Through hands-on projects, students explore the science of electricity, behavior and parts of atoms and sensing devices.

ST **Science of Technology**
Students apply the concepts in physics, chemistry and nanotechnology to STEM activities and projects.

Igniting Innovation through
imagination and learning.

PLTW is the leading provider of rigorous and innovative Science, Technology, Engineering, Mathematics (STEM) education curricular programs used in middle and high schools across the U.S. Students in PLTW programs create, design, build, discover, collaborate and solve problems while applying what they learn in math and science. The hands-on, project-based engineering and biomedical sciences courses engage students on multiple levels, expose them to areas of study that they typically do not pursue and provide them with a foundation and proven path to college and career success. The PLTW curriculum is founded in the fundamental problem-solving and critical-thinking skills taught in traditional career and technical education, but at the same time integrates national academic standards and STEM principles to create a model for 21st century learning.

www.pltw.org