

The PLTW Gateway to Technology Program is taught in conjunction with a rigorous academic curriculum. The hands-on project-based program is divided into six independent nine-week units. Students 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 Gateway To Technology Program create a strong foundation for further STEM learning, from nanotechnology to applied engineering.



InnovationMS Engineering for Middle School

Imagine a car that could morph its shape based on the driver's whims. What if satellites had metal like skins that could repair themselves from damage in space? What if old high-rise buildings could be turned into vertical farms to help fight world hunger? Picture a 3D cell-phone screen strapped to your wrist. How about turning pond scum into green fuel? Or rearranging the molecules of your blood to fight off deadly diseases? These and countless other life-changing innovations are taking shape in labs, in test tubes and on computer screens around the world. But they all have one thing in common. They all come from an engineer's or scientist's imagination. Right now there's a classroom in your school where you too can begin to dream up tomorrow's wonders— a remarkable space of imagination, innovation and learning that could only be called an Innovation Zone.



- ◆ PLTW classrooms are in more than 4,200 schools in all 50 states, serving more than 400,000 students. And each one of them is an Innovation Zone
- ◆ PLTW alumni study engineering and technology at colleges and universities at rates up to ten times the average of all students.
- ◆ **Design & Modeling**– This unit uses modeling software (a sophisticated mathematical technique for representing solid objects) as part of the design process. Utilizing this design approach, students understand how design influences their lives. Students also learn sketching techniques and use descriptive geometry as a component of design, measurement and computer modeling. Students brainstorm, research, develop ideas, create models, test and evaluate design ideas, and communicate solutions.
- ◆ **Automation & Robotics**– Students trace the history, development and influence of automation and robotics. They learn about mechanical systems, energy transfer, machine automation and computer control systems. Students acquire knowledge and skills in

Gateway to Technology Course Sequence

7th grade	8th grade	
	Semester 1	Semester 2
Elective	Elective	Elective
English	English	English
Science	Science	Science
*Pre-Algebra	Algebra I	Algebra I
Texas History	US History	US History
Elective	GTT 1: Design and Modeling and Automation and Robotics Units	Speech or Health

*Pre-Algebra is a pre-requisite course in order to enroll in the GTT program.

- ◆ During the students 8th grade year, a student must be enrolled in Algebra I and GTT simultaneously.