
Gateway To Technology (GTT) Unit Descriptions

The Gateway To Technology (GTT) program addresses the interest and energy of middle school students while incorporating national standards in mathematics, science, and technology. This activity-oriented, cutting-edge program shows students how technology is used in engineering to solve everyday problems. GTT currently consists of instructional units that motivate students to become creative innovators. During the GTT experience, students will gain the skills they need to develop, produce, and use products and services.

The Gateway To Technology curriculum provides project-based learning – a hands-on approach – that is exciting and challenging for the full range of students in today’s grade 6 – 8 classrooms. The curriculum relates technology to students’ daily lives. It promotes communication and collaboration by emphasizing a teaming approach in the instructional units. This approach utilizes the strengths of each team member to accomplish the goals of the project while offering students learning challenges at all ability levels.

GTT Units

GTT currently consists of independent units that should be taught in conjunction with a rigorous academic curriculum. Each unit contains lesson’s on STEM careers that are specific to that topic. The units are designed to challenge and engage the exploratory minds of middle school students. Each unit contains performance objectives and suggested assessment methods.

GTT Foundation Units - Required

- **Design and Modeling (DM)**

In this unit, students begin to recognize the value of an engineering notebook to document and capture their ideas. They are introduced to and use the design process to solve problems and understand the influence that creative and innovative design has on our lives. Students use industry standard 3D modeling software to create a virtual image of their designs and produce a portfolio to showcase their creative solutions.

- **Automation and Robotics (AR)**

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 use a robust robotics platform to design, build, and program a solution to solve an existing problem.

Additional Information

The flexible middle school program provides schools with an opportunity to implement the eight units in a variety of ways. Project Lead The Way, Inc. recommends that the Design and Modeling unit be taught as the first GTT unit. This unit includes lessons that define engineering, teaches the proper use and importance of an engineering notebook, and expose students to the design process as a beneficial problem-solving tool. Schools are encouraged to offer the first unit in grade 6, but they may decide to spread the units through grades 6 – 8 or teach a full year of GTT in the 8th grade. All schools are required to teach the units Design and Modeling and Automation and Robotics. For maximum impact on student achievement, the GTT curriculum should be combined with a challenging academic curriculum in which:

- Students complete Algebra I successfully or pass a pre-algebra proficiency test and use algebra concepts to reason and solve problems.
- Students use laboratory and technology experiences to learn scientific concepts in physical, life, and earth/space sciences.
- Reading instruction is included in the academic core curriculum through grade eight.
- Students use language correctly and effectively to find, organize, and report information through reading, writing, speaking, and listening.
- Students describe their heritage, their government, their world, and economic principles through the study of key issues of the past, present, and future.