

Curriculum at a Glance

Project Lead The Way - Gateway

Grade 8

The middle school technology education curriculum is Gateway To Technology. This Project Lead The Way curriculum is designed to challenge and engage the exploratory minds of middle school students. Each unit contains performance objectives and suggested assessment methods. The units offered include Design & Modeling and Automation and Robotics.

Unit Description	Content and/or Skills
Design & Modeling	<ul style="list-style-type: none">● What is Technology and Engineering? In this lesson students will learn about STEM careers and how they impact the past, present, and future. Students will learn how to use an engineering notebook and develop a portfolio of their own work.● Measurement In this lesson students will experience opportunities to use measurement when sketching, or making a prototype and when using computer modeling systems.● Sketching and Dimensioning In this lesson students will practice orthographic and isometric sketching, methods widely used to communicate ideas. In addition they will learn the basics of dimensioning and annotating drawings.● Designing for Production In this lesson students will learn how to transfer a simple hand sketch to a three-dimensional (3D) model on a computer.
Automation and Robotics	<ul style="list-style-type: none">● What is Automation and Robotics? In this lesson students will learn how automation and robotics affect everyday life both positively and negatively, including safety, comfort, choices, and attitudes about a technology's development and use.● Mechanical Systems In this lesson students will be introduced to several mechanisms that are used to change speed, torque, force, type of movement, and direction of movement.● Automated Systems In this this lesson, students will gain a better understanding of the necessary components of a flexible manufacturing system and the programming necessary for communication between the sensors, motors and building components.