

### **PLTW GATEWAY TO TECHNOLOGY**

These courses introduce the basics of design and modeling, electronic theory, the science of technology, and automation and robotics.

#### **\*Automation & Robotics (8<sup>th</sup> Graders ONLY)**

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 design and build automated systems that incorporate the principles of electrons, physics, and robotics to gain an enriched understanding of the contemporary mechanical world.

#### **\*Science of Technology (8<sup>th</sup> Graders ONLY)**

Science impacts the technology of yesterday, today, and the future. In this course, Students apply the concepts of physics, chemistry, and nanotechnology to STEM activities and projects to solve real-world problems.

### **MARIACHI**

This course includes study in scales, chords and other technical skills required for mariachi. Must be able to read music. Must have at least 1 semester of beginning guitar, beginning violin, or beginning band or the approval of the instructor. Open to violin, trumpet and guitar.

### **GUITAR**

This course is designed to provide the learner with fundamentals for playing the guitar and demonstrating the skills by performing. Students will need to provide their own guitar and method book.

### **CRAFTS**

This course provides students with the knowledge and opportunity to explore various forms of art and to create individual works of art.

### **METALWORKING**

Students will learn about metals and the types and methods of welding. They will gain hands on experience through various projects. Use of different types of machines will be learned.

### **WOODWORKING**

This course introduce students to the various kinds of woods used in industry and offers experience in using selected woodworking tools. Students design and construct one or more projects and may prepare a bill of materials. Correct and safe use of tools and equipment is emphasized.



**2022-2023**  
**7<sup>th</sup> & 8<sup>th</sup> Grade**  
**Electives**

### **AGRI-SCIENCE**

Surveys a wide array of topics within the agricultural industry, exposing students to the main and varied types of agricultural career opportunities and to those in related fields. This course serves as a stage two, building upon the seventh-grade class.

### **DRAWING**

This course is designed to introduce the fundamentals of drawing. The students will explore techniques in realistic drawing. They will study composition, contour, shading and perspective in graphite and colored pencils. They will also do cartooning, computer graphics, calligraphy and more.

### **CHORUS**

Students will be expected to produce good vocal sound, know the basics of music theory, and develop music reading skills, ensemble techniques and many of the facets of musicianship. Students are expected to achieve sufficient mastery in vocal music to enable them to participate in concerts and contests. Note: Participation in concerts is part of the class work and is, therefore, required.

### **CONCERT BAND Beg. Or Adv.**

This course is designed to promote student's technique for playing brass, woodwind, and percussion instruments, and cover a variety of band literature styles, primarily for concert performances

### **PHYSICAL EDUCATION**

The physical education program involves students in a variety of activities aimed at developing basic knowledge and skills. Activities include: badminton, basketball, conditioning, pillow polo, flag football, physical fitness, softball, tennis, track & field & volleyball. The program endeavors to arouse student's interest in sport activities and to enable them to become lifetime participants, as well as spectators.

### **BUSINESS OFFICE MANAGEMENT**

This course is designed to develop the student's computer technology skills as they prepare for a career in the world of business. Student will produce business documents using word processing, spreadsheet, database and presentation skills to be an effective employee, apply office management procedures, learn communication etiquette, manage time and projects, develop interpersonal skills, examine employer/employee interactions, and develop job preparation skills.

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#### **\*Design and Modeling (7<sup>th</sup> Graders ONLY)**

This course introduces the basics of design and modeling, electronic theory, the science of technology, and automation and robotics. Teamwork and project management skills will also be implemented to design and develop product prototypes.

#### **\*Green Architecture (7<sup>th</sup> Graders ONLY)**

In this unit, students learn how to apply green concepts to the fields of architecture and construction. They explore dimensioning, measuring, and architectural sustainability and apply what they have learned to design affordable housing units using Autodesk's® 3D architectural design software.