**Advanced Algebra Prep**

**Strongly Recommend a passing grade of C or above in Beginning Algebra and/or Geometry**

This intensive workshop summarizes the basic topics and skills required to be successful in high school Advanced Algebra (Algebra 2) class. The class will cover: Linear equations, polynomials, rational functions, quadratic equations and more.

**California Electrician I** - *class is open to incoming 6th graders through high school*

This workshop is intended for students who want to understand how light switches work. The workshop covers ohms law, power equations (watts), one light controlled by one light switch, one light controlled by two light switches and one light controlled by three light switches.

**California Electrician II** - *class is open to incoming 6th graders through high school*

Students will learn how to troubleshoot household electric appliances and learn how to use a VOM meter.

**Chemistry**

In this intensive workshop students will learn the concepts and skills necessary to be successful in a high school chemistry class. The workshop will cover the periodic table, atomic structure, isotopes, the mole, molecule naming conventions, ionic and covalent bonding, chemical equations, chemical reaction types, stoichiometry, percent yield, and more. Conceptual understanding and mathematical skill-building will be emphasized.

**Geometry – class is open to incoming 6th graders through high school**

**Strongly Recommend a passing grade of C or above in Beginning Algebra**

This intensive workshop summarizes the basic topics and skills required to be successful in high school geometry class. Topics covered will include: Angles, shape-classification, proof-basics, perpendicular and parallel lines, triangles and more.

**Introduction to Astronomy**

This workshop is for students interested in understanding the basic principles of the physical universe and aviation – learning how things work in the cosmos. Students will learn about matter; motion; energy; density; mass; scientific methodology; gravity; light years; solar system; planetary bodies; galaxies; constellations; how astronomers map the sky; airplanes and rocket flights; and the search for extraterrestrial life.

**Jr. Engineer – class is open to incoming 6th graders through high school**

Students will learn how to design and create a bridge as a Civil/Structural Engineer. The workshop will cover virtual design and testing via a bridge design software program; technical sketching; constructing a bridge prototype; performance testing of his/her bridge via Universal Testing Machine; and digital documentation and presentation.

**Physics Prep**

This intensive workshop summarizes the basic topics and skills required to be successful in high school physics classes. Physics topics covered will include motion, forces, energy, thermal physics, waves, electricity and selected topics in modern physics. Students will learn their mathematical methods and develop their mathematical skills, but the main focus of the class will be developing a conceptual understanding of the physics topics. Homework will be assigned daily to give the students a chance to practice the skills they learn in class.

**Pre-Calculus Prep**

**Strongly Recommend a passing grade of C or above in Advanced Algebra (Algebra 2)**

This intensive workshop summarizes the basic topics and skills required to be successful in high school pre-calculus class. Topics covered will include: Trigonometric Functions, Logarithmic Functions, Exponential Functions, Functions in General and more.

**Renewable and Sustainable Energy - class is open to incoming 6th graders through high school**

Students will learn different types of alternative energy, their application, and the science behind them. They will apply this knowledge to design and build their own hydro-electric generator that will harness energy of moving water to create electricity. By designing and building their generator, students will learn: how to safely use power and shop tools, dimensional sketching, and the applied physics of how the generator functions. Students will also test their completed generator and compare its scale performance.
SAT Prep

Colleges use SAT scores, combined with grades and high school course selections, as an objective way to evaluate a student's potential to succeed in college. This intensive workshop prepares students for the SAT. The workshop covers the three sections of the SAT: Critical Reading, Mathematics and Writing. Specific strategies for every type of problem in each section will be covered as well as important test strategies, such as time management, guessing strategy, process of elimination, and test-day endurance. Practice problems and reading will be assigned as homework daily.