What your child will learn: Physics

Physics is the study of matter, energy, and the interaction between them. In Physics class,

The student will know and apply the laws of mechanics to explain the behavior of the physical world.

- The student will use analytical techniques appropriate to the study of physics.
- The student will use algebraic and geometric concepts to qualitatively and quantitatively describe an object's motion.
- The student will analyze and explain how Newton's Laws describe changes in an object's motion.
- The student will analyze the behavior of forces.
- The student will analyze systems with regard to the conservation laws.

The student will know and apply the laws of electricity and magnetism and explain their significant role in nature and technology.

- The student will describe the types of electric charges and the forces that exist between them.
- The student will describe the sources and effects of electric and magnetic fields.
- The student will qualitatively describe the applications of electromagnetic induction.

The student will recognize and relate the laws of thermodynamics to practical applications.

- The student will relate thermodynamics to the balance of energy in a system.

The student will explain and demonstrate how vibrations and waves provide a model for our understanding of various physical phenomena.

- The student will compare qualitatively how waves are propagated and transmit energy.
- The student will describe wave characteristics using both diagrams and calculations.
- The student will qualitatively describe the physical behaviors of waves.

The student will investigate certain topics in modern physics

- The student will cite evidence of the wave/particle duality in the nature of matter.
- The student will qualitatively explain the processes associated with nuclear energy and its applications.