

**Department:** Science

**Revised:** April 2017

### **Mission Statement**

Our mission is to facilitate active learning through inquiry-based instruction in order to increase the scientific knowledge of every student and create a solid foundation of skills for their future success beyond high school.

### **How We Will Achieve Our Mission**

- relevant engagement
- formative and summative assessments
- pre and post assessments
- active learning

### **Course: Literacy**

asking questions and defining problems

developing and using models

planning and carrying out investigations

analyzing and interpreting data

using mathematics and computational thinking

constructing explanations and designing solutions

engaging in argument from evidence

obtaining, evaluating, and communication information

### **Course: Biology**

explain the processes of cell division

understand DNA replication and protein synthesis

demonstrate the ability to identify and solve different types of genetic crosses

demonstrate knowledge of anatomy and physiology

understand the interconnections of science

know the structure and function of biomolecules

explain how natural selection drives genetic expression in populations

**Course: Physical Science**

demonstrate how to use evidence and communicate scientific information (graphs, tables, data)

understand and demonstrate metric conversion and overall understanding of the metric measuring system

explain that the universe is made of matter and energy and can be converted from one form to another

create a model of atomic structure and explain how it applies to the periodic table

show how atomic bonds help form chemical reactions

understand how kinematics and dynamics use simple equations to solve problems

explain the difference between waves, how they are calculated, and how they are used

know proper use of lab equipment and how safety procedures are followed

**Course: Chemistry**

understand and use the periodic table

understand physical and chemical changes and how they are related to energy

demonstrate the properties of acids/bases and reactions then explain how to analyze them

use equations to show all reactions can be supported

write out equations and formulas to represent chemical reactions

understand the chemistry and calculations of solutions

**Course: Physics**

analyze data

use equations to prove AMV is conserved

create a model to show P.E. to K.E. or energy to work

use equations to support  $V=FX$

evaluate claims, evidence, support for wave or particle theory