Physical Science Concepts

Mehlville School District
Science
Grades 11 - 12, Duration 1 Year, 1 Credit

Rationale

Chemical elements and compounds surround us everywhere we look--in our clothes, our food, even our bodies. Chemical reactions are used in burning fuels, cooking, and shaping the world around us. By studying these chemicals and their reactions, the student gains a better understanding of how and why the world works the way it does.

Knowledge of physics is important for the student to understand the laws and principles that make up how the universe works. In physics, the student must measure, graph, analyze, conclude, interpret and reason about the data they have collected while studying aspects of the physical world.

This course proceeds at a pace and level which is appropriate for the student who has difficulty learning scientific principles.

Course Description

This course provides the student with a study of chemistry and physics topics at a pace and level appropriate for the student who has difficultly learning scientific principles. The class involves the study of the laws, concepts and principles governing the composition and changes of matter. This course will also provide the student with an understanding of the basic scientific principles of physics.

Prerequisites

Both semesters of Biology Concepts with a passing grade and current teacher approval.

Course Objectives

1. The student will discuss and describe the molecular, atomic, and ionic make-up of different complex substances including appropriate formulas and names of these substances in conjunction with the Periodic Table to predict properties of elements that make up these substances. Locally assessed. (A+: Speaking and Listening)

2. The student will describe and determine bonds, reaction, and energy in different types of chemical and nuclear reactions. Locally assessed. (A+: Writing)

3. The student will read scientific articles which includes analyzing graphs, tables, patterns and relationships in support of a meaningful conclusion. Locally assessed. (A+: Reading)

4. The student will research the concepts of nuclear chemistry and the risks and benefits of using nuclear energy. (A+: Research)

5 The student will write about how some technological devices use the principles of wave behavior to transmit and capture information and energy.

6. The student will predict and describe the outcome of forces acting on an object.

7. The student will develop and use models to demonstrate that energy is conserved.

BOE 11-19-15