

Course Title: PHYSICAL SCIENCE IA	Course Description
<p>Course No. 2355 Grade level: 8-12</p> <p>Text and Resources: <i>Wonders of Science: Matter, Motion and Machines;</i> Steck-Vaughn</p>	<p>Course Value: *One Semester</p> <p>Credit Value: 1 – 5 credits</p>
<p>Course Content: Key Content Standards and Course Objectives</p>	<p>This course will focus on the foundational standards from which the 9-12 physical science and chemistry standards are based. This course, along with Physical Science IIIB, can serve as one component of the Alternative Education’s science credit requirement for graduation. Note that some exploratory activities are used, but the lack of facilities that conform to state safety guidelines for laboratories precludes many laboratory activities.</p> <p>*Open entry/open exit</p>
<p>1. Forces and Motion: The motion of objects can be observed and measured (2-1a-g), Newton’s laws predict the motion of most objects (Physics: 9/12-1e,f), the velocity of an object is the rate of change of its position (8-1a-f), unbalanced forces cause changes in velocity (8-2a-g), tools and machines are used to apply forces to make things move (2-1d).</p> <p>2. Energy: Electricity and magnetism are related effects that have many useful applications in everyday life (4-1a-g), visible light is a small band within a very broad electromagnetic spectrum (7-6a-g), light has a source and travels in a direction (3-2), sound is made by vibrating objects and can be described by its pitch and volume (2-1g), movements of thermal energy (6-3a-d).</p> <p>3. Chemistry: energy and matter have multiple forms and can be changed from one form to another (3-1a-i), elements have distinct properties and atomic structure and all matter is comprised of one or more of over 100 elements (8-3a-f), elements and their combinations account for all the varied types of matter in the world (5-1a-i).</p> <p>4. <u>Investigation and Experimentation</u></p> <p>Students will ask meaningful questions and conduct careful investigations addressing the content of the above Physical Science standards.</p>	
<p>Methods of Study</p>	<p>Evaluation of Performance Standards</p>
<p>1. Students will complete all activities assigned.</p> <p>2. Students will participate in discussion with other class members and/or teacher.</p>	<p>1. Students will complete all assignments with a minimum of 70% accuracy.</p> <p>2. The supervising teacher will be satisfied with the quality of the student’s work.</p> <p>3. The student must receive a minimum score of 70% on a teacher assigned final evaluation.</p>

PHYSICAL SCIENCE IA
Course Outline: 2355

I. Textbook Assignment:

Matter, Motion and Machines (5.0 credits)

- Read: Units 1-8
- Complete: all exercises
- Complete two of the Extension Activities listed below.

II. Extension Activity Options:

1. Research one of the sources of energy listed below using the US Department of Energy's Internet website.
 - a. Wind energy
 - b. Solar energy
 - c. Ocean energy
 - d. GeothermalWrite a 1-paragraph summary based upon your research. Use Writing Rubric S I.
2. Use the Internet to research how the laws of physics have played into the sport of skateboarding. You can use the following website to locate the science of skateboarding: www.exploratorium.edu. Discover three ways in which the science of physics has been used to improve the sport of skateboarding. Summarize your findings into a 1-paragraph essay. Use Writing Rubric SI.
3. Using a computer graphics program, such as the Microsoft WORD drawing toolbar, draw an atom of hydrogen, helium, or lithium. Label all protons, electrons, and neutrons (if any).
4. Teacher generated activity, approved by the site administrator.

III. Evaluation

- See your teacher for a unit test.
- All Writing assignments must meet the proficient level of the rubric provided by the teacher.
- All textbook work must meet 70% accuracy level for a "C" grade.