

<b>Course Title: PHYSICAL SCIENCE IIIA</b>		<b>Course Description</b>
<b>Course No.</b> 3355	<b>Grade level:</b> 8-12	<b>Course Value:</b> *One Semester
<b>Text and Resource Options:</b> A. <i>Globe Physical Science</i> , Part I; Globe Fearon B. <i>Science Explorer: Physical Science</i> , Part I; Prentice Hall C. <i>Science Explorer: Chemical Interactions</i> ; Prentice Hall D. <i>Science Explorer: Chemical Building Blocks</i> ; Prentice Hall E. <i>Holt Science and Technology: Physical Science</i> , Part I; Holt, Rinehart, Winston		<b>Credit Value:</b> 1 – 5 credits
<b>Course Content: Key Content Standards and Course Objectives</b>		
This course is based on a combination of the following physics, chemistry and physical science standards: <ol style="list-style-type: none"> <li><b>Forces and Motion:</b> 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).</li> <li><b>Energy:</b> Electric and magnetic phenomena are related and have many practical applications (Physics: 9/12-5), the laws of conservation of energy and momentum provide a way to predict and describe the movement of objects (Physics: 9/12-2), radiation and convection currents (6-4a-e), energy and matter have multiple forms and can be changed from one form to another (3-1a-i), 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), how to identify the characteristic properties of waves (9/12-4f).</li> <li><b>Chemistry:</b> Structure of matter: elements (8-3, 8-7), the periodic table displays the elements in increasing atomic number (Chemistry: 9/12-1a-d), elements and their combinations account for all the varied types of matter in the world (5-1a-i), chemical reactions are processes in which atoms are rearranged into different combinations of molecules (8-5a-e), density and buoyancy (8-8a-d).</li> <li><b>Investigation and Experimentation</b>  Students will ask meaningful questions and conduct careful investigations addressing the content of the above Physical Science standards.</li> </ol>		This course will focus on the science strands that closely parallel the Grade 9-12 Chemistry and Physics standards.  This course, along with Physical Science IB, can fulfill the Alternative Education’s physical science requirement for the high school diploma. Note that some exploratory activities are used, but lack of facilities that conform to state safety guidelines for laboratories precludes many laboratory activities.  *Open entry/open exit
<b>Methods of Study</b>		<b>Evaluation of Performance Standards</b>
<ol style="list-style-type: none"> <li>Students will complete all activities assigned.</li> <li>Students will participate in discussion with other class members and/or teacher.</li> </ol>		<ol style="list-style-type: none"> <li>Students will complete all assignments with a minimum of 70% accuracy.</li> <li>The supervising teacher will be satisfied with the quality of the student’s work.</li> <li>The student must receive a minimum score of 70% on a teacher assigned final evaluation.</li> </ol>

PHYSICAL SCIENCE IIIA  
Course Outline: 3355

**I. Textbook Assignment Options:**

A. *Globe Physical Science, Part I (5.0 credits)*

- Read: Units 1-5.
- Complete: all lesson “Review” exercises.
- Complete: all unit “Review What You Know” sections.
- Complete one of the Extension Activities listed below.

B. *Science Explorer: Physical Science, Part II (5.0 credits)*

- Read: Chapters 1-11.
- Complete: all “Section Review” exercises.
- Complete: “Reviewing Content” and “Checking Concepts” sections.
- Complete one of the Extension Activities listed below.

C. *Science Explorer: Chemical Interactions (2.5 credits)*

- Read: Chapters 1-4.
- Complete: all “Section Review” exercises.
- Complete: all “Reviewing Content” and “Checking Concepts” sections.
- Complete one of the Extension Activities listed below.

D. *Science Explorer: Chemical Building Blocks (2.5 credits)*

- Read: Chapters 1-4.
- Complete: all “Section Review” exercises.
- Complete: all “Reviewing Content” and “Checking Concepts” sections.
- Complete one of the Extension Activities listed below.

E. *Holt Science and Technology: Physical Science, Part I (5.0 credits)*

- Read: Units 1-4.
- Complete: “Section Review” exercises.
- Complete: “Chapter Review” activities (**Omit:** “Concept Mapping”).
- Complete one of the Extension Activities listed below.

**II. Extension Activity Options:**

1. Using the Internet, and the search term “Newton’s laws of motion,” conduct research on one of Sir Isaac Newton’s laws of gravity. Use at least two different web sites for your information, and write a 4-paragraph essay based upon your research. Include a graphic depicting the law of motion that you are writing about. The graphic can either be imported from the Internet, or hand-drawn. Use Writing Rubric Exp. III.

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2. Create a computer drawing with Microsoft Word showing how an inclined plane, wheel and axle, screw, and pulley can be used together to unload a transatlantic container ship
3. Create a PowerPoint presentation illustrating at least three types of simple machines and how they work. Your presentation must include at least 10 slides with labeled simple machines. Include a Title/Cover page in your presentation.
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.