


<b>Planned Course: Physical Science</b>	<b>Course Number: 400</b>	<b>Department: Science</b>	
<b>Unit 3: Newton's Laws of Motion</b>	<b>Grade Level: 9th</b>		
<b>Estimated Time: 3 weeks</b>	<b>Level/Track: General</b>	<b>Date Approved: 9/25/2014</b>	
<b>PA Academic Standards</b>	<b>Core Concepts (in question format)</b> • Skills/Knowledge	<b>Activities/Strategies/Study Skills</b> (identify some activities as remedial or enrichment activities)	<b>Assessments</b> (include types and topics)

<p>3.2 Physical Sciences: Chemistry and Physics</p> <p>3.2.10.B1</p> <ul style="list-style-type: none"> <li>Analyze the relationships among the net forces acting on a body, the mass of the body, and the resulting acceleration using Newton's Second Law of Motion</li> <li>Apply Newton's Law of Universal Gravitation to the forces between two objects.</li> <li>Use Newton's Third Law to explain forces as interactions between bodies.</li> <li>Describe how interactions between objects conserve momentum.</li> </ul>	<p>How do the Laws of Newton apply to the world around us?</p> <ul style="list-style-type: none"> <li>The student will be able to state Newton's three laws of motion and give examples of each</li> <li>The student will be able to recall the acceleration of gravity on a falling object</li> <li>The student will be able to demonstrate centripetal force</li> <li>The student will be able to describe an object in freefall as weightless</li> <li>The student will be able to calculate the velocity of a falling object</li> <li>The student will be able to explain the path of a projectile and identify the forces that produce projectile motion</li> <li>The student will be able to describe</li> </ul>	<ul style="list-style-type: none"> <li>Lab, "Calculating the rate of deceleration in toy cars."</li> <li>Resting inertia lab</li> <li>Action/reaction lab with balloons</li> <li>Centripetal force lab</li> <li>Falling objects worksheet</li> <li>Falling objects activity</li> <li>Projectile Motion Simulation</li> <li>Review game</li> </ul>	<ul style="list-style-type: none"> <li>Hands on Lab Assessment (Toy Car Lab, Action/Reaction Lab, etc.)</li> <li>Lab Simulations Assessment (Projection Motion Simulation, etc.)</li> <li>Quizzes on major concepts</li> <li>Homework to reinforce major concepts</li> <li>Unit Test</li> </ul>
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	<p>Newton's laws of motion</p> <ul style="list-style-type: none"> <li>The student will be able to explain how action-reaction forces are related according to Newton's third law of motion</li> </ul>				
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