



## Programme of Study – Grade 9 (Year 10) Physics

	Theme	Overview of key learning to take place	How learning will be assessed
Term 2	Topic 3 Forces and Pressure	<p><b>3.01-02: Forces, turning effects and centre of mass</b></p> <ul style="list-style-type: none"> <li>I can describe the moment of a force as a measure of its turning effect</li> <li>I can calculate moment using the product force <math>\times</math> perpendicular distance from the pivot</li> <li>I can describe qualitatively the effect of the position of the center of mass on the stability of simple objects</li> </ul> <p><b>3.03: More about moments</b></p> <ul style="list-style-type: none"> <li>I can apply the principle of moments to the balancing of a beam about a pivot</li> </ul> <p><b>3.04: Stretching and compressing</b></p> <ul style="list-style-type: none"> <li>I can plot and interpret extension–load graphs and describe the associated experimental procedure</li> <li>I can state Hooke’s Law and recall and use the expression <math>F = kx</math>, where <math>k</math> is the spring constant</li> </ul> <p><b>3.05 – 10: Pressure</b></p> <ul style="list-style-type: none"> <li>I can recall and use the equation <math>p = F / A</math></li> <li>I can relate (without calculation) the pressure beneath a liquid surface to depth and to density, using appropriate examples</li> <li>I can describe the simple mercury barometer and its use in measuring atmospheric pressure</li> </ul>	<p><b>Summative assessment:</b> Homework 2 x 60 minute tasks</p> <ol style="list-style-type: none"> <li>Exam questions set as homework</li> <li>Homework assignments with recall tasks</li> <li>Worksheet</li> <li>Project</li> </ol> <p><b>Summative assessment:</b> Topic 3 end of unit exam paper (Multiple choice and long answer questions)</p>
Term 2	Topic 4 – Forces and energy	<p><b>4.1: Work</b></p> <ul style="list-style-type: none"> <li>I can state demonstrate understanding that work done = energy transferred</li> <li>I can relate (without calculation) work done to the magnitude of a force and the distance moved in the direction of the force</li> </ul>	<p><b>Summative assessment:</b> Homework 2 x 60 minute tasks</p> <ol style="list-style-type: none"> <li>Exam questions set as homework</li> <li>Homework assignments with recall tasks</li> <li>Worksheet</li> <li>Project</li> </ol>

		<p><b>4.02 – 03: Energy</b></p> <ul style="list-style-type: none"> <li>• I can identify changes in kinetic, gravitational potential, chemical, elastic (strain), nuclear and internal energy that have occurred as a result of an event or process</li> <li>• I can apply the principle of conservation of energy to simple examples</li> </ul> <p><b>4.04 : Efficiency, power</b></p> <ul style="list-style-type: none"> <li>• I can relate (without calculation) power to work done and time taken, using appropriate examples</li> <li>• I can recall and use the equations for efficiency.</li> </ul> <p><b>4.05 – 4.08 Energy and resources</b></p> <ul style="list-style-type: none"> <li>• I can describe how electricity or other useful forms of energy may be obtained</li> </ul>	<p><b>Summative assessment:</b>  Topic 4 end of unit exam paper (Multiple choice and long answer questions)</p>
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