

# Stage 1 Physics: Overview Semester 1 2019

Teacher: Kathy Keenan

This program is for a cohort of students intending to continue to Physics at Stage 2. This is presented as Semester 1 of a two-semester program.

Term 1	Topic	Assessment
<p><b>Weeks 1-8</b></p>	<p><b>Linear Motion and Forces</b></p> <ul style="list-style-type: none"> <li>• SI units and conversions</li> <li>• Scientific notation</li> <li>• Vectors and scalars</li> <li>• Constant velocity</li> <li>• Speed and velocity</li> <li>• Instantaneous and average velocity</li> <li>• Acceleration</li> <li>• Motion under constant acceleration</li> <li>• Graphical Representations</li> <li>• Equations of motion</li> <li>• Acceleration due to gravity</li> <li>• Projectile Motion</li> <li>• Force</li> <li>• Newton's Laws of Motion</li> <li>• Friction</li> </ul>	<p><b>Folio 1 – Science Inquiry Skills, (Design Investigation) (25%)</b>  <b>Parachute</b>            Format: Practical report            Word length: Max 1000 words (excluding apparatus, method and results)            Class time allocated: One lesson to design and develop hypothesis, two lessons to complete practical, two lessons to analyse data and prepare a report. Students submit a draft for feedback.</p> <p><b>SAT 1 – Science Understanding (25%)</b>  <b>Motion and Forces Test</b>            Calculator allowed, Stage 1 Physics formula sheet provided.            70 minutes</p>
<p><b>Weeks 9-11</b>  <b>Term 2</b>  <b>Week 1-4</b></p>	<p><b>Energy and Momentum</b></p> <ul style="list-style-type: none"> <li>• Energy</li> <li>• Work</li> <li>• Kinetic Energy</li> <li>• Potential Energy</li> <li>• Conservation of Energy</li> <li>• Power</li> <li>• Efficiency</li> <li>• Momentum</li> <li>• Impulse</li> <li>• Conservation of Momentum</li> <li>• Elastic Collisions</li> <li>• Inelastic Collisions</li> </ul>	<p><b>Folio 2 - Science as a Human Endeavour (25%)</b>  <b>Space Flight.</b>            Format: Article, oral presentation or video.            Word length: 1000 words or 6 minutes. Students submit an outline for feedback.            Class time allocated: One week for research and support.</p>

<p><b>Weeks 5-9</b></p>	<p><b>Heat</b></p> <ul style="list-style-type: none"> <li>• Heat energy and temperature</li> <li>• Heat transfer</li> <li>• Conduction</li> <li>• Convection</li> <li>• Radiation</li> <li>• Thermal Expansion</li> <li>• Specific Heat capacity</li> <li>• Changes of state</li> <li>• Evaporation and Boiling</li> <li>• Latent heat</li> <li>• Condensation and solidification</li> <li>• Sublimation and deposition</li> </ul>	<p><b>SAT 2 Science Inquiry Skills and Science Understanding (25%)</b>  <b>Rock design, build and testing</b></p> <p>Format: Report – 5 minute screencast or slideshow presentation to the class.  Class time allocated: two weeks to design, build, test and possible redesign and test.</p> <p>Students will provide a risk assessment before any testing.</p>
<p><b>Week 10</b></p>	<p>Revision for Exam  <b>Exam on Topics from Semester 1</b>  Friday 29<sup>th</sup> March 2019  Calculator allowed, Stage 1 Physics formula sheet provided.  90 minutes</p>	

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