



# Years 12 & 13 Curriculum

## A Level: Physics



Year 12	Term 1 (Autumn)		Term 2 (Spring)		Term 3 (Summer)	
	Autumn Term 1 & 2		Spring Term 1 & 2		Summer Term 1 & 2	
Topic	Forces & Motion	Electricity	Work, Energy & Power	Waves	Quantum Physics	Particles & Medical Physics
Key Concepts	<ul style="list-style-type: none"> <li>Scalars &amp; vectors</li> <li>Kinematics</li> <li>Linear motion</li> <li>Projectile motion</li> <li>Dynamics</li> <li>Motion with non-uniform acceleration</li> <li>Equilibrium</li> <li>Density &amp; pressure</li> </ul>	<ul style="list-style-type: none"> <li>Charge and current</li> <li>Mean drift velocity</li> <li>Circuit symbols</li> <li>e.m.f. and p.d.</li> <li>Resistance</li> <li>Resistivity</li> <li>Power</li> <li>Series &amp; parallel circuits</li> <li>Internal resistance</li> <li>Potential dividers</li> </ul>	<ul style="list-style-type: none"> <li>Work and conservation of energy</li> <li>Kinetic and potential energies</li> <li>Power</li> <li>Springs</li> <li>Mechanical properties of matter</li> <li>Newton's laws of motion</li> <li>Collisions</li> </ul>	<ul style="list-style-type: none"> <li>Wave motion</li> <li>Superposition</li> <li>Stationary waves</li> <li>Electromagnetic waves</li> </ul>	<ul style="list-style-type: none"> <li>Photons</li> <li>The photoelectric effect</li> <li>Wave-particle duality</li> <li>Circular motion</li> <li>Oscillations</li> </ul>	<ul style="list-style-type: none"> <li>Particle physics</li> <li>Medical imaging</li> </ul>

Year 13	Term 1 (Autumn)		Term 2 (Spring)		Term 3 (Summer)	
	Autumn Term 1 & 2		Spring Term 1 & 2		Summer Term 1 & 2	
Topic	Thermal & Ideal Gases	Astrophysics & Gravitational Fields	Fields	Radioactivity	Revision	
Key Concepts	<ul style="list-style-type: none"> <li>Thermal Physics</li> <li>Ideal Gases</li> </ul>	<ul style="list-style-type: none"> <li>Stars               <ul style="list-style-type: none"> <li>Cosmology</li> <li>Electric fields</li> </ul> </li> <li>Gravitational Fields</li> </ul>	<ul style="list-style-type: none"> <li>Electric fields</li> <li>Capacitance</li> <li>Magnetic fields</li> <li>Revision</li> </ul>	<ul style="list-style-type: none"> <li>Radioactivity</li> <li>Nuclear physics</li> <li>Revision</li> </ul>	<ul style="list-style-type: none"> <li>Revision</li> </ul>	



# Years 12 & 13 Assessment

## A Level: Physics



All students will sit an assessment and a mock examination in Year 12 and two mock examinations in Year 13.

	Year 12		Year 13		Revision Resources
	Assessment	Mock Exam	Mock Exam	Mock Exam	
	Autumn Term	Summer Term	Autumn Term	Spring Term	
Style of Assessment	A mixture of short, long answers and multiple-choice questions	A mixture of short, long answers and multiple-choice questions	A mixture of short, long answers and multiple-choice questions	A mixture of short, long answers and multiple-choice questions	<i>Kennet Resources</i> <ul style="list-style-type: none"> <li>• Core Questions</li> <li>• Knowledge Organisers</li> <li>• Learning Habits</li> </ul> <i>External Resources</i> <ul style="list-style-type: none"> <li>• <a href="http://www.physicsandmathstutor.com">www.physicsandmathstutor.com</a></li> <li>• <a href="http://www.kerboodle.com">www.kerboodle.com</a></li> </ul>
Topics Assessed	<ul style="list-style-type: none"> <li>• Foundations of physics</li> </ul>	<ul style="list-style-type: none"> <li>• Forces and Motion</li> <li>• Electricity</li> <li>• Energy, Work and Power</li> <li>• Waves</li> </ul>	<ul style="list-style-type: none"> <li>• Forces &amp; Motion</li> <li>• Electricity</li> <li>• Work, Energy &amp; Power</li> <li>• Waves</li> <li>• Quantum Physics</li> <li>• Circular motion</li> <li>• Oscillations</li> <li>• Particle physics</li> <li>• Medical physics</li> </ul>	<ul style="list-style-type: none"> <li>• Forces &amp; Motion</li> <li>• Electricity</li> <li>• Work, Energy &amp; Power</li> <li>• Waves</li> <li>• Quantum Physics</li> <li>• Circular Motion</li> <li>• Oscillations</li> <li>• Thermal Physics and Ideal Gases</li> <li>• Gravitational Fields</li> <li>• Electric Fields</li> <li>• Capacitors</li> <li>• Magnetic Fields</li> <li>• Astrophysics</li> <li>• Particles</li> <li>• Nuclear Physics</li> <li>• Radioactivity</li> <li>• Medical Physics</li> </ul>	