

## Year 9

Timing	Unit Title	Key Question	Knowledge	Assessing understanding
Autumn	<p><b>Changes of State and the Particle Model</b></p> <p><b>Conservation and Dissipation of Energy</b></p> <p><b>Energy Changes in Systems</b></p>	<p><b>How are particles arranged in matter and how do they behave?</b></p> <p><b>How does heat energy transfer?</b></p> <p><b>What is the Specific Heat Capacity of a substance and how do we measure it?</b></p>	<ul style="list-style-type: none"> <li>● Introduction to kinetic theory - particles</li> <li>● Solids, Liquids and Gases</li> <li>● Density theory</li> <li>● How do we measure Density (RP5)</li> <li>● Internal energy, conduction and Insulation</li> <li>● Insulation experiment - RP2</li> <li>● Radiation - absorption, emission and reflection</li> <li>● SHC Theory</li> <li>● SHC Practical</li> <li>● Changes of State</li> </ul>	<p><b>How understanding is assessed</b></p> <p>Students will be assessed on their ability to:</p> <ul style="list-style-type: none"> <li>● Recall the knowledge covered</li> <li>● Explain the Physical processes covered.</li> <li>● Interpret graphical and experimental data</li> <li>● Plan and describe valid experiments</li> <li>● Evaluate experimental procedures and results</li> </ul> <p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● Description</li> <li>● Explanation</li> <li>● Evaluation</li> <li>● Comparison</li> <li>● Planning and carrying out investigations</li> <li>● Manipulating Mathematical Formulae</li> </ul> <p><b>Assessment point information</b></p> <p>Based on:</p> <ul style="list-style-type: none"> <li>● Home works during the term</li> <li>● Test on Solids, Liquids, Gases and Heat Transfer</li> </ul>
Spring	<p><b>Energy Changes in Systems</b></p>		<ul style="list-style-type: none"> <li>● Specific Latent heat</li> <li>● Evaporation</li> <li>● Brownian Motion and pressure in gases</li> </ul>	<p><b>How understanding is assessed</b></p> <p>Students will be assessed on their ability to:</p> <ul style="list-style-type: none"> <li>● Recall the knowledge covered</li> <li>● Explain the Physical processes covered.</li> <li>● Interpret graphical and experimental data</li> <li>● Plan and describe valid experiments</li> <li>● Evaluate experimental procedures and results</li> </ul> <p><b>Skills</b></p>

	<p><b>Pressure in gases</b></p> <p><b>Further Energy Changes</b></p>	<p><b>What does the pressure of a gas depend on?</b></p> <p><b>How does Energy transfer?</b></p>	<ul style="list-style-type: none"> <li>● Pressure and Temperature in gases</li> <li>● Pressure and volume in gases experiment</li> <li>● Pressure and volume in gases Boyle's law</li> <li>● Energy stores and pathways introduction</li> <li>● Kinetic Energy</li> <li>● GPE and converting from it to KE and back</li> </ul>	<ul style="list-style-type: none"> <li>● Description</li> <li>● Explanation</li> <li>● Evaluation</li> <li>● Comparison</li> <li>● Planning and carrying out investigations</li> <li>● Manipulating Mathematical Formulae</li> </ul> <p><b>Assessment point information</b> Based on:</p> <ul style="list-style-type: none"> <li>● Home works during the term</li> <li>● Test on Specific Heat Capacity, Latent Heat, Evaporation and Pressure</li> </ul>
Summer	<b>Further Energy Changes</b>	<b>How does Energy transfer?</b>	<ul style="list-style-type: none"> <li>● Power</li> <li>● Efficiency</li> <li>● Stretching a spring and elastic energy</li> <li>● Hooke's Law Required Practical</li> <li>● More about elastic energy</li> </ul>	<p>How understanding is assessed</p> <p><b>Students will be assessed on their ability to:</b></p> <ul style="list-style-type: none"> <li>● Recall the knowledge covered</li> <li>● Explain the Physical processes covered.</li> <li>● Interpret graphical and experimental data,</li> <li>● Make connections between different areas of understanding.</li> </ul> <p><b>Skills :</b></p> <ul style="list-style-type: none"> <li>● Description</li> <li>● Explanation</li> <li>● Evaluation</li> <li>● Comparison</li> <li>● Planning and carrying out investigations</li> <li>● Carrying out statistical tests and applying maths formulae</li> </ul>

				<p><b>Assessment point information</b></p> <p>Based on:</p> <ul style="list-style-type: none"><li>● Home works during the term</li><li>● End of Year Exam on all topics studied so far.</li></ul>
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