

Unit Title	Energy and States				
Subject group and discipline	Science – Chemistry/Physics	MYP year	7	Unit duration (hrs)	18

Inquiry: Establishing the purpose of the unit

Key concept	Related concept(s)	Global context
Change	Energy	Exploring the natural world
Statement of inquiry		
Transfer of energy within systems can bring about change in the natural world.		
Inquiry questions		
<p>Factual— What are the states of matter? What are the names of the state changes? What are the names of the energy stores? What are the names of the energy transfers? What do the flat horizontal lines on a heating/cooling curve represent? Can substance skip states of matter when heating or cooling? Can energy be created or destroyed?</p> <p>Conceptual— What would happen if you kept heating or cooling a substance forever? What is temperature? Why does tea cool down? What is energy?</p>	<p>Why do we have different units of temperature? If you mix two different temperatures of water does the water heat up or cool down?</p> <p>Debatable— Can substances only be in one state at a time? (Newtonian fluids) Do all the states of matter exist on other planets? What would happen if there was no such thing as a gas?</p>	
Objectives	Summative assessment	

<p><i>Learning objectives for the unit</i></p> <p>Aii apply scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations</p> <p>Bii outline a testable prediction using scientific reasoning</p> <p>Ci present collected and transformed data</p> <p>Cii interpret data and outline results using scientific reasoning</p> <p>Di summarize the ways in which science is applied and used to address a specific problem or issue</p>	<p>Outline of summative assessment task(s) including assessment criteria:</p> <p><u>Summary</u></p> <p>Exam Q - Students to identify energy store and transfers for a familiar situation. Students to then apply this knowledge to an unfamiliar situation.</p> <p>WS - Cooling curve practical. Make prediction and explain their prediction. Collect data from practical and transform into graph.</p> <p>GRASP – Pupils are given data/information on a rollercoaster problem. They are given a brief and need to solve the problem using knowledge learned from previous lessons.</p>	<p>Relationship between summative assessment task(s) and statement of inquiry:</p> <p>Students will demonstrate they understand the transfer of energy within systems by applying their knowledge to solve real world problems</p>
<p>Approaches to learning (ATL)</p>		
<p>Thinking</p> <p>Communication</p> <p>Social – working together to solve to problem in small groups</p> <p>Research</p> <p>Self management</p>		