

**Barnsley Academy – Year 7 Science Energy Curriculum**  
**Scheme of Work – 2023-24**

Term 1 Week 1				
	1	2	3	4
<b>Lesson Focus</b>	Energy Stores	Investigating Energy Transfers	Efficiency	Conduction (Part 1)
<b>Prerequisite Knowledge</b>		Energy Stores Energy Pathways	Energy Stores	Solids, liquids, gases Energy transfers
<b>Core Knowledge</b>	<ul style="list-style-type: none"> <li>• Name the main energy stores and give examples</li> <li>• State what is meant by an energy pathway and name the 4 types</li> <li>• Use energy stores and energy pathways to describe an energy transfer</li> <li>• State what is meant by the conservation of energy and show this in energy transfers</li> </ul>	<ul style="list-style-type: none"> <li>▪ Identify variables from the aim of an investigation</li> <li>▪ Investigate how the type of flame on a Bunsen Burner will affect how much energy is transferred and write a conclusion</li> </ul>	<ul style="list-style-type: none"> <li>▪ Understand what is meant by 'efficiency'</li> <li>▪ Calculate efficiency of energy transfers</li> <li>▪ Draw and interpret Sankey diagrams</li> </ul>	<ul style="list-style-type: none"> <li>▪ Describe the difference between energy and temperature</li> <li>▪ Draw a table for results, including units</li> <li>▪ Identify hazards, risks and safety precautions then safely carryout the practical work</li> <li>▪ Describe patterns, using data to back them up</li> <li>▪ Explain how conduction occurs and say in which materials it happens most effectively</li> </ul>
<b>Expert Model /Guided Practice/Agreed Approach</b> (Procedural Knowledge)	Expert model – Describe an energy change	Model used to explain the hypothesis of the experiment	<ul style="list-style-type: none"> <li>• Equation Model for calculations</li> <li>• Model for producing Sankey diagrams</li> </ul>	<ul style="list-style-type: none"> <li>• Teacher demonstration for the practical</li> <li>• Model for drawing results tables</li> <li>• Variables explained</li> </ul>
<b>Independent Practice</b>	Name energy stores and energy pathways Describe energy transfers Energy circus	<ol style="list-style-type: none"> <li>1. Identifying variables</li> <li>2. Practical work</li> <li>3. Writing a conclusion</li> </ol>	<ol style="list-style-type: none"> <li>1. Describe efficiency.</li> <li>2. Calculate efficiency.</li> <li>3. Sankey diagrams worksheet</li> </ol>	<ul style="list-style-type: none"> <li>• Correct thermal energy statements</li> <li>• Drawing results tables</li> <li>• Risk assessment</li> <li>• Conduction practical</li> <li>• Conclusion</li> </ul>

				<ul style="list-style-type: none"> <li>Explaining conduction</li> </ul>
<b>Assessment</b> (Informal/Formal)	Independent practice tasks – exam question incorporated. Learning checks on WB Students to self- assess all tasks. Teacher to circulate and check for misconceptions.	Independent practice tasks – exam question incorporated. Learning checks on WB Students to self- assess all tasks. Teacher to circulate and check for misconceptions.	Independent practice tasks – exam question incorporated. Learning checks on WB Students to self- assess all tasks. Teacher to circulate and check for misconceptions.	Independent practice tasks – exam question incorporated. Learning checks on WB Students to self- assess all tasks. Teacher to circulate and check for misconceptions.
<b>Resources</b>				
<b>Specific SEN(D)/EAL support</b>	Expert Model – energy transfers Use of visualiser to support independent task	Scaffolding that can be used when writing a conclusion to the investigation		Scaffold provided for some tasks