

Prior Learning		At KS3, students learned about energy resources, energy stores and transfers, and that energy changes are measured in joules (J) or kilojoules (kJ).			
Lesson Number	AQA Spec	Title	Lesson Objectives	Content	Assessments/Home work
1	4.1	Maths skills: Calculations using significant figures	<ul style="list-style-type: none"> Substitute numerical values into equations and use appropriate units. Change the subject of an equation. Give an answer to an appropriate number of significant figures. 		
2	4.1.1.1 4.1.3	Maths skills: Handling data	<ul style="list-style-type: none"> Recognise the difference between mean, mode and median. Explain the use of tables and frequency tables. Explain when to use scatter diagrams, bar charts and histograms. 		
3	4.1 <i>can omit if short of time</i>	Key concept: Energy transfer	<ul style="list-style-type: none"> To understand why energy is a key concept in science. To use ideas about energy stores and energy transfers to explain what energy does. To understand why accounting for energy transfers is a useful idea. 		
4	4.1.3	Using energy resources (Renewable and non-renewable resources)	<ul style="list-style-type: none"> Describe the main energy sources available for use on Earth. Distinguish between renewable and non-renewable sources. Explain the ways in which the energy resources are used. 		

5	4.1.3	Global energy supplies	<ul style="list-style-type: none"> Analyse global trends in energy use. Understand what the issues are when using energy resources. 	
6	4.1.1.3	Specific heat capacity	<ul style="list-style-type: none"> Understand what energy transfers are in the context of heating/cooling. Find out about specific heat capacity. 	
7	4.1.1.3	Required practical 1: Investigating specific heat capacity	<ul style="list-style-type: none"> Use theories to develop a hypothesis. Evaluate a method and suggest improvements. Perform calculations to support conclusions. 	Assessment 1: Teacher Assessed 15 Marks Feedback: Teacher
8	4.1.2.1	Dissipation of energy	<ul style="list-style-type: none"> Explain ways of reducing unwanted energy transfer. Understand that energy is dissipated. Calculate payback time. 	
10	4.1.1.1 4.1.1.2	Potential energy	<ul style="list-style-type: none"> Consider what happens when a spring is stretched. Describe what is meant by gravitational potential energy. Calculate the energy stored by an object raised above ground level. 	
11	4.1.1.1 4.1.1.2	Investigating kinetic energy	<ul style="list-style-type: none"> Describe how the kinetic energy store of an object changes as its velocity changes. EMPHASISE THE DIFFERENCE BETWEEN VELOCITY (VECTOR) AND SPEED (SCALAR). Calculate kinetic energy. Consider how energy is transferred. 	

12	4.1.1.1	Work done and energy transfer	<ul style="list-style-type: none"> Understand what is meant by work done. Explain the relationship between work done and force applied. Identify the transfers between energy stores when work is done against friction. <p>TRIPLE: Work Done on gas change in volume.</p>	<p>Assessment 2: Multiple choice Quiz 25 Marks</p> <p>Feedback: Auto/Self-assessed</p>
	4.5.2			
13	4.1.1.4	Understanding power	<ul style="list-style-type: none"> Define power. Compare the rate of energy transfer by various machines and electrical appliances. Calculate power. 	
14	4.1.2.2	Energy efficiency	<ul style="list-style-type: none"> Explain what is meant by energy efficiency. Calculate the efficiency of energy transfers. Find out about the conservation of energy. 	
End of Unit test Assessment: Teacher				
Where we will use these ideas again		P2 – Power and energy transfers P3 – Internal energy of particles P6 – Key concept: transferring energy		