Year 9: ASK Yourself!

Subject: Physics
Unit: 1 – Energy

	Launching 1-2	Developing 3-4	Progressing 5-6	Mastering 7-9
Skills				
	To be able to draw Sankey diagrams. To be able to safely carry out thermal conductivity practical. To be able to use SI units correctly.	To recall and use equations for power, work done and efficiency. To know that science can be used to identify global energy resource issues. To outline simple ethical arguments about the rights and wrongs of a new technology.	To be able to manipulate equations and calculate work done, power and efficiency values as a decimal or as a percentage. To be able to explain how scientific advances can have a global impact.	To be able to describe and evaluate with the help of data, methods that can be used to tackle problems caused by human impact on the environment. To know that energy resource issues cannot always be resolved due to political, social, ethical or economic considerations.
Knowledge				
	To know types of energy and be able to describe energy changes. To know energy is measure in Joules. To be able to describe ways of reducing energy waste. To know the main energy resources available for use on Earth.	To know the 1st law of thermodynamics. To be able to describe changes in energy. To be able to explain specific heat capacity. To know the definition of power and work done. To be able to describe advantages and disadvantages of global energy resources.	To be able to explain energy changes mathematically. To be able to determine changes in thermal energy through practical. To be able to calculate the efficiency for any energy transfer. To be able to describe the environmental impact arising from use of different energy resources.	To be able to link thermal conductivity of material with rate of energy transfer by conduction. To be able to describe ways of increasing the efficiency of energy transfer. To explain patterns and trends in the use of energy resources.