Year 10: ASK Yourself!

Subject: Chemistry
Unit: 5 – Energy Changes

	Launching 1-2	Developing 3-4	Progressing 5-6	Mastering 7-9
Skills				
	To be able to select the apparatus needed. To be able to suggest a procedure/techniques and read measurements from different apparatus. To be able to draw simple reaction profiles (energy level diagrams) To be able to suggest hypothesis to explain given observations.	To be able to describe the procedure/technique and use the measurements to work out quantities. To be able to recognise expressions in standard form. To be able to read measurements off a scale in a practical context.	To be able to investigate variables that affects the outcome. To be able to recognise expressions in standard form. To be able to use reaction profiles to identify reactions as exothermic or endothermic. To be able to translate information between numerical and graphical form.	To be able to evaluate the technique/process To be able to suggest why the values obtained in the lab are usually (much) lower than the true values. To be able to calculate energy changes in a reaction using an energy level profile
Knowledge				
	To be able to identify exothermic and endothermic reactions from temperature changes. To be able to identify examples of exothermic reactions. To be able to describe batteries as cells connected in series to provide greater voltage.	To be able to investigate changes in temperature of different reactions. To be able to recognise that energy transfer during a reaction is due to bonds being broken and then new bonds being made. To be able to use reaction profiles	To be able to identify change in temperature. To be able to know variables that affect temperature changes in reacting solutions. To be able to describe the energy changes in bond breaking as endothermic and bond making as exothermic and	To be able to explain and evaluate the uses of exothermic and endothermic reactions. To be able to explain how the variables investigated affect temperature changes. To be able to explain the idea of activation energy.

		to identify reactions as exothermic or endothermic. To be able to explain how a voltage can be produced by metals in an electrolyte describe how a fuel cell works.	how to calculate overall energy change. To be able to evaluate the uses of cells and explain how rechargeable batteries are recharged. To be able to explain the processes in the energy conversions of a fuel cell.	To be able to calculate the energy transferred in chemical reactions using bond energies. To be able to explain that alkaline batteries are not rechargeable. To be able to evaluate the use of hydrogen fuel cells in comparison with rechargeable cells and batteries.