Edexcel International GCSE Chemistry 4CH1 Learning Plan

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|  **Unit: 3.Physical Chemistry** | **Chapter: 19. Energetics** | **Hours: 4** |
| Content coverage | Learning outcomes | Resources | Assessment |
| **Section 3: Physical chemistry**(a) Energetics | Students will be assessed on their ability to:3.1 know that chemical reactions in which heat energy is given out are described as exothermic, and those in which heat energy is taken in are described as endothermic3.2 describe simple calorimetry experiments for reactions such as combustion, displacement, dissolving and neutralisation3.3 calculate the heat energy change from a measured temperature change using the expression *Q* = *m*cΔ*T* 3.4 calculate the molar enthalpy change (Δ*H*) from the heat energy change, *Q.**3.8 practical: investigate temperature changes accompanying some of the following types of change:** *salts dissolving in water*
* *neutralisation reactions*
* *displacement reactions*
* *combustion reactions .*
 | Video: Section 4 – Lesson 2 – Energy in ReactionsPowerpoint: Section 4 Lesson 2 EnergeticsTextbook pages:Page 207 – Exothermic reactionsPage 209 – Showing an exothermic change on an energy level diagramPage 209 – Endothermic reactionsPage 210 – Showing an endothermic change on an energy level diagramPage 210 – Measuring enthalpy changes of reactionsPage 211 – Calorimetry experiments for determining the enthalpy changes of reactionsPage 214 – Working out enthalpy changes for reactions involving solutions using calorimetry experimentsPage 219 – Why do reactions either give out or absorb heat?Page 220 – Calculations of enthalpy changes of reaction using bond energies | Pages 224 – 226 Qs (1) to (8)Chapter 19 Answers to textbook questionsUnit 3-19 Energetics exam question - pdfUnit 3-19 Energetics exam question mark scheme – pdfSection B14 - Talking paper video  |

Videos – [www.igcsesciencecourses.com](http://www.igcsesciencecourses.com)

Textbook Ref: Edexcel International GCSE (9-1) Chemistry Student Book - Pearson (Clark, Owen and Yu)