Edexcel International GCSE Chemistry 4CH1 Learning Plan

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|  **Unit: 3. Physical Chemistry** | **Chapter: 20. Rates of Reaction** | **Hours: 4** |
| Content coverage | Learning outcomes | Resources | Assessment |
| **Section 3: Physical chemistry**(b) Rates of reaction  | Students will be assessed on their ability to:3.9 describe experiments to investigate the effects of changes in surface area of a solid, concentration of a solution, temperature and the use of a catalyst on the rate of a reaction3.10 describe the effects of changes in surface area of a solid, concentration of a solution, pressure of a gas, temperature and the use of a catalyst on the rate of a reaction3.11 explain the effects of changes in surface area of a solid, concentration of a solution, pressure of a gas and temperature on the rate of a reaction in terms of particle collision theory3.15 *practical: investigate the effect of changing the surface area of marble chips and of changing the concentration of hydrochloric acid on the rate of reaction between marble chips and dilute hydrochloric acid.*3.12 know that a catalyst is a substance that increases the rate of a reaction, but is chemically unchanged at the end of the reaction 3.13 know that a catalyst works by providing an alternative pathway with lower activation energy**3.14C draw and explain reaction profile diagrams showing ΔH and activation energy**3.16 *practical: investigate the effect of different solids on the catalytic decomposition of hydrogen peroxide solution.* | Video: Section 4 Lesson 3Powerpoint: Section 4 Lesson 3 Textbook pages:Page 227 – Experiments to measure the rate of reactionPage 231 – Changing the surface area of the reactantsPage 232 – Changing the concentration of the reactantsPage 234 – Changing the temperature of the reactionPage 234 – Changing the pressure on the reactionPage 235 – CatalystsPage 237 – How does a catalyst work? | Pages 238 – 239 Qs (1) to (3)Chapter 20 Answers to textbook questionsUnit 3-20 Rates of Reaction exam question - pdfUnit 3-20 Rates of Reaction exam question mark scheme – pdfSection A6 - 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)