Edexcel International GCSE Chemistry 4CH1 Learning Plan

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| **Unit: 4. Organic Chemistry** | | **Chapter: 29. Synthetic Polymers** | | **Hours: 4** |
| Content coverage | Learning outcomes | Resources | Assessment | |
| **Section 4: Organic chemistry**  (h) Synthetic polymers | Students will be assessed on their ability to:  4.44 know that an addition polymer is formed by joining up many small molecules called monomers  4.45 understand how to draw the repeat unit of an addition polymer, including poly(ethene), poly(propene), poly(chloroethene) and (poly)tetrafluroethene  4.46 understand how to deduce the structure of a monomer from the repeat unit of an addition polymer and vice versa  4.47 explain problems in the disposal of addition polymers, including:   * their inertness and inability to biodegrade * the production of toxic gases when they are burned   **4.48C know that condensation polymerisation, in which a dicarboxylic acid reacts with a diol, produces a polyester and water**  **4.49C understand how to write the structural and displayed formula of a polyester, showing the repeat unit, given the formulae of the monomers from which it is formed including the reaction of ethanedioic acid and ethanediol:**  **4.50C know that some polyesters, known as biopolyesters, are biodegradable.** | Video: Section 5 – Lesson 3 – Industrial Chemistry - Polymerization  Powerpoint: Chemistry Section 5 – Lesson 3  Textbook pages:  Page 302 – Addition polymerisation  Page 304 – How to deduce the polymerisation reaction for any alkene  Page 307 – Working out the monomer for a given addition polymer  Page 307 – Disposal of addition polymers  Page 308 – Condensation polymerisation | Pages 311 – 312 Qs. (1) to (5)  End of Unit Questions: Pages 313 – 319 Qs. (1) to (7)  Chapter 29 Answers to textbook questions  Unit 4-29 Synthetic Polymers exam question - pdf  Unit 4-29 Synthetic Polymers exam question mark scheme – pdf  Section D21 - 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)