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| Lesson | Aiming for 4 | Aiming for 6 | Aiming for 8 |
| C11.1 Addition polymerisation | I can define a monomer and polymer. |  | I can describe how monomers become polymers. |  | I can explain why monomers for addition polymers must be unsaturated. |  |
| I can state some uses of poly(ethene) and poly(propene). |  | I can draw the monomer for an addition polymer when the structure of the polymer is given. |  | I can explain the process of addition polymerisation in detail including using balanced symbol equations and the concept of atom economy. |  |
| I can write a word equation for the formation of poly(ethene) and poly(propene). |  | I can draw an addition polymer structure when the structure of the monomer is given. |  | I can explain how the repeating unit of a polymer relates to the monomer. |  |
| C11.2 Condensation polymerisation |  | I can describe condensation polymerisation. |  | I can predict the products of condensation polymerisation. |  |
| I can draw a simplified structure of the monomers for a condensation polymer when the structure of the polymer is given. |  | I can explain the process of condensation polymerisation in detail, including using equations. |  |
| I can draw a simplified structure of a condensation polymer when the structure of the monomers are given. |  | I can compare and contrast in detail, giving appropriate examples, the two methods of polymerisation. |  |
| C11.3 Natural polymers | I can state an example of a natural polymer. |  | I can identify the monomer from the structural formula of a polymer. |  | I can predict the products of condensation polymerisation using natural monomers. |  |
| I can describe the relationship between sugar as a monomer and starch or cellulose as a polymer. |  | I can describe the structure of an amino acid. |  | I can explain in detail the process of condensation polymerisation with natural monomers, including using equations. |  |
| I can describe the relationship between amino acids as a monomer and protein as a polymer. |  |  |  | I can explain how amino acids react together in an acid-base reaction. |  |

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| Lesson | Aiming for 4 | Aiming for 6 | Aiming for 8 |
| C11.4 DNA | I can state that DNA is an example of a natural polymer. |  | I can describe the main structure of DNA. |  | I can explain the shape of the DNA polymer. |  |
| I can state what DNA stands for. |  | I can describe the importance of DNA for living systems. |  | I can explain how nucleotides form DNA. |  |
| I can name the type of monomers used to make DNA. |  | I can sketch the shape of a DNA strand. |  | I can explain the purpose of DNA. |  |