

14.8.1 Polymers

14.8.2 Synthetic polymers

14.8.3 Natural polymers

- Define polymers as large molecules built up from small units (monomers).
- Understand that different polymers have different units and/or different linkages.

- Name some typical uses of plastics and of man-made fibres such as nylon and Terylene
- Describe the pollution problems caused by non-biodegradable plastics.
- Explain the differences between condensation and addition polymerisation
- Deduce the structure of the polymer product from a given alkene and vice versa
- Describe the formation of nylon (a polyamide) and Terylene (a polyester) by condensation polymerisation, the structure of nylon being represented as;

- Name proteins and carbohydrates as constituents of food.
- Describe proteins as possessing the same (amide) linkages as nylon but with different units
- Describe the structure of proteins

- Describe the hydrolysis of proteins to amino acids (Structures and names are not required.)
- Describe complex carbohydrates in terms of a large number of sugar units, joined together by condensation polymerisation.
- Describe the hydrolysis of complex carbohydrates (e.g. starch), by acids or enzymes to give simple sugars.
- Describe the fermentation of simple sugars to produce ethanol (and carbon dioxide) (Candidates will not be expected to give the molecular formulae of sugars.)
- Describe, in outline, the usefulness of chromatography in separating and identifying the products of hydrolysis of carbohydrates and proteins

YEAR11- Chemistry Term 3 plan 2016-2017

<i>Week</i>	<i>Topic</i>	<i>Learning outcomes</i>
1 & 2	10.3 (a) Extraction of metals 10.3 (b) Uses of metals	<ul style="list-style-type: none">• Describe the essential reactions in the extraction of iron from hematite• Describe the conversion of iron into steel using basic oxides and oxygen.• Describe in outline, the extraction of zinc from zinc blende • Name the uses of aluminium:<ul style="list-style-type: none">○ in the manufacture of aircraft because of its strength and low density○ in food containers because of its resistance to corrosion • Describe the idea of changing the properties of iron by the controlled use of additives to form steel alloys. • Name the uses of mild steel (car bodies and machinery) and stainless steel (chemical plant and cutlery)• Name the uses of zinc for galvanising and for making brass • Name the uses of copper related to its properties (electrical wiring and in cooking utensils)
3 – 5	Revision - Year 10 topics	