

Subject	Year	Term
Chemistry	13	1
Topic		
6.2.1 Amines & 6.2.3 Polyesters and Polyamides		
Content (Intent)		
<p>Prior Learning (Topic) 1. Practical skills, 2.1, Atoms and reactions, 2.2.2 Bonding and structure (hydrogen bonding), 4.1.1 Basic concepts, 4.2.1 Alcohols, 4.1.3 Alkenes, 4.2.2 Haloalkanes, 4.2.3 Practical skills and synthesis, 6.1.1 Aromatics, 6.1.3 Carboxylic acids and esters</p>		
<p>Basicity and preparation of amines (a) the basicity of amines in terms of proton acceptance by the nitrogen lone pair and the reactions of amines with dilute acids, e.g. HCl (aq), to form salts (b) the preparation of: (i) aliphatic amines by substitution of haloalkanes with excess ethanolic ammonia and amines (ii) aromatic amines by reduction of nitroarenes using tin and concentrated hydrochloric acid.</p> <p>Condensation polymers (a) condensation polymerisation to form: (i) polyesters (ii) polyamides (b) the acid and base hydrolysis of: (i) the ester groups in polyesters (ii) the amide groups in polyamides (c) prediction from addition and condensation polymerisation of: (i) the repeat unit from a given monomer(s) (ii) the monomer(s) required for a given section of a polymer molecule (iii) the type of polymerisation.</p>		
<p>Future Learning (Topic) 6.2.2 Amino acids, amides and chirality, 6.2.4 Carbon-carbon bond formation, 6.2.5 Organic synthesis, 6.3.2 Spectroscopy</p>		
How will knowledge and skills be taught? (Implementation)	How will your understanding be assessed & recorded (Impact)	
<p>Demos Making nylon</p> <p>Practical work Reactions of amines</p> <p>Written Presentations Past paper question examples and answers Modelled answers with key points/terms Explanation of the basicity of amines.</p>	<p>- 2 x standard homework (Grade given. Written feedback. Response expected.) -1 x end of topic test (Grade given. Verbal feedback to class and individuals.)</p>	

How to identify monomers and determine a repeat unit.

How can parents help at home?

Look at the topic specific resources on the VLE

Use appropriate websites: MachemGuy, Allery Chemistry, Chemistry World – by Royal Society of Chemistry, ChemGuide.

Take an interest! Ask your children what they have learnt and be curious about their learning.

Helpful further reading/discussion

Reading

Text book: A level chemistry for OCR by Rob Ritchie and Dave Gent. Chapter 27 p.474-477 and p.483-489

The Science of Everyday Life by Marty Jopson
Why Chemical Reactions Happen by Keeler and Wothers

Vocabulary Lists

nitrogen lone pair
base
proton acceptor
repeat unit
monomer
polymer
amide
ester

Careers Links

Medicine
Veterinary science
Material science
Biomedical sciences
Environmental science
Toxicologist
Pharmacist
Dentist
Patent law
Forensic science