Subject	Year	Term
Chemistry	13	1

Topic

6.2.2 Amino acids, amides and chirality

Content (Intent)

Prior Learning (Topic) 1. Practical skills, 2.1, Atoms and reactions, 2.2.2 Bonding and structure (hydrogen bonding), 4.1.1 Basic concepts, 4.1.3 Alkenes, 4.2.1 Alcohols, 4.2.3 Practical skills and synthesis, 6.1.1 Aromatics, 6.1.3 Carboxylic acids and esters, 6.2.1 amines

Reactions of amino acids

(a) the general formula for an α-amino acid as $RCH(NH_2)COOH$ and the following reactions of amino acids:

(i) reaction of the carboxylic acid group with alkalis and in the formation of esters **(see also 6.1.3 c)**

(ii) reaction of the amine group with acids

Amides

(b) structures of primary and secondary amides **(see also 6.1.3 f, 6.2.3 a–b)**

Chirality

(c) optical isomerism (an example of stereoisomerism, in terms of nonsuperimposable mirror images about a chiral centre) **(see also 4.1.3 c–d)**

(d) identification of chiral centres in a molecule of any organic compound

Future Learning (Topic) 6.2.4 Carbon-carbon bond formation, 6.2.3 Polyesters and polyamides, 6.3.2 Spectroscopy

How will knowledge and skills be taught? (Implementation)	How will your understanding be assessed & recorded (Impact)
Practical work Acid/base nature of amino acids **Written** Drawing optical isomers Identification of optical isomers	- 1 x standard homework (Grade given. Written feedback. Response expected.) -1 x paper 2 (Grade given. Verbal feedback to class and individuals.)

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	Vocabulary Lists	Careers Links
Text book: A level chemistry for OCR by Rob Ritchie and	general formula α-amino acid	Medicine Veterinary science

Dave Gent. Chapter 27 p.474-482 The Science of Everyday Life by Marty Jopson Why Chemical Reactions Happen by Keeler and Wothers	primary amide secondary amide optical isomer stereoisomerism nonsuperimposable mirror images about achiral centre	Material science Biomedical sciences Environmental science Toxicologist Pharmacist Dentist Patent law Forensic science