The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 13 Chemistry T1
Learning Programme 2

The LORIC skill focus for his LP is: ORGANISATION

The Moral Virtues focus for this LP are: COMPASSION and HONESTY

Compassion - the quality of feeling pity and concern for the sufferings or misfortunes of others.
Honesty - the quality of being truthful.

What will I be learning about in this Learning Programme?
The structure and reactions of amides and amino acids. How condensation polymers are formed. How to use quick fit apparatus to prepare organic substances. How to test and identify different organic functional groups. How to plan an organic multistep organic synthesis route. How to interpret NMR spectra.

Where have I seen this learning before?
Yr12 organic synthesis, you have used the quick fit apparatus to synthesise an organic liquid.

What could I use it for?
Degree level study in analytical chemistry. Careers in analytical chemistry.

Literacy:
- Capital letters must be used at the start of sentences and for the first letter of proper nouns
- Full stops must be used at the end of a sentence
- Question marks must be used at the end of a question
- Apostrophes should only be used for possession or omission
- Days of the week and months must be spelled correctly
- Key words must be spelled correctly

In LP2.1, I will know: 19/10/26 - (WK 2)	Key Vocabulary	Homework
how to describe 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; the general formula for an α-amino acid as RCH(NH2)COOH.	Amines	Amines PPQ
In LP2.2, I will know: 02/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to identify chiral centres in a molecule of any organic compound; how to describe condensation polymerisation to form polyesters and polyamides.	Polymers	Polymers PPQ
LP2 RLW, I will: 09/11/26 - (WK 2)		
review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.		Revision
In LP2.3, I will know: 16/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to describe the use of C–C bond formation in synthesis to increase the length of a carbon chain; how to describe the reactions of nitriles. Extended Task.	Nitriles	Nitriles PPQ
In LP2.4, I will know: 23/11/26 - (WK 2)	**Key Vocabulary**	**Homework**
how to describe organic preparation using Quick fit apparatus and distillation and heating under reflux; how to describe the purification of an organic solid by filtration under reduced pressure, recrystallization, measurement of melting points.	Organic synthesis	Organic synthesis PPQ
In LP2.5, I will know: 30/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to describe multi-stage synthetic routes for preparing organic compounds; the test and positive result for various organic functional groups.	Synthetic route	Synthetic route PPQ
In LP2.6, I will know: 07/12/26 - (WK 2)	**Key Vocabulary**	**Homework**
how to interpret once way TLC and gas chromatograms; how to use a carbon-13 NMR to make predictions about possible structures for the molecule. Extended Task.	Carbon NMR	Carbon NMR PPQ
In LP2.7, I will know: 14/12/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to use a high resolution proton NMR spectrum to make predictions about the different types of proton environment present, from chemical shift values; predict a carbon-13 or proton NMR spectrum for a given molecule.	Proton NMR	Proton NMR PPQ

PRT Task 1

PRT Task 2

Resources to support learning:
EPC knowledge organiser, synergy, YouTube search: MaChemGuy.

FFET Award Challenge for this Learning Programme:
Complete a full past paper for revision.