The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 12 Biology FCH
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?
You are learning about how DNA replicates and how exchange systems are specialised. □

Where have I seen this learning before?
You have learnt about DNA and gas exchange systems in GCSE Biology.□

What could I use it for?
You will use this again if you pursue a career in human physiology, zoology.□

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 carry out paper and thin-layer chromatography to how to identify proteins; how to describe the structure of a nucleotide; how to describe the process of semi-conservative DNA replication.□	Chromatography	Complete a research task.
In LP2.2, I will know: 02/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to carry out a practical investigation into the purification of DNA by precipitation.□	Nucleotide	Exam question on nucleotides.
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.		Complete past paper.
In LP2.3, I will know: 16/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to describe transcription and translation of genes resulting in the synthesis of polypeptides; how to describe the role of enzymes in catalysing reactions that affect metabolism at a cellular and whole organism level; how to explain the effects of pH, temperature, enzyme concentration and substrate concentration on enzyme activity.□ Extended Task.	Transcription	Exam question on the genetic code.
In LP2.4, I will know: 23/11/26 - (WK 2)	**Key Vocabulary**	**Homework**
my strengths and areas for development for my learning so far.□	Enzyme	Review task.
In LP2.5, I will know: 30/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to explain the effects of inhibitors on the rate of enzyme controlled reactions; how to describe the need for coenzymes, cofactors, and prosthetic groups in some enzyme controlled reactions; how to explain the need for specialised exchange surfaces.□	Prosthetic groups	Task on the role of enzymes.
In LP2.6, I will know: 07/12/26 - (WK 2)	**Key Vocabulary**	**Homework**
how to describe the structures and functions of the components of mammalian gaseous exchange system.□ Extended Task.	Gaseous exchange	Short answer on gaseous exchange.
In LP2.7, I will know: 14/12/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to explain the relationship between vital capacity, tidal volume, breathing rate and oxygen uptake; my strengths and areas for development so far.□	Ventilation	Practice task on vital capacity and tidal volume.

PRT Task 1

PRT Task 2

Resources to support learning:
EPC Knowledge Organiser, Synergy, BBC Bitesize, Cognito.

FFET Award Challenge for this Learning Programme:
You have learnt about biological molecules and cell membranes. Create a poster of a cell membrane, linking your knowledge of biological molecules to its structure.□