The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 13 Exploring Physics
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 properties and effects of electric fields.
The properties and effects of magnetic fields.
How an magnetic field can be induced and how to use the transformer equations.

Where have I seen this learning before?
Electricity from KS4 and Yr12.
Magnetic fields at KS4.

What could I use it for?
Undergraduate degrees courses in electrical and mechanical engineering, medicine and energy sector degrees.

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: 21/10/24 - (WK 2)	**Key Vocabulary**	**Homework**
How to carry out the PAG 9.1 investigation - charging and discharging a capacitor; how to carry out the PAG 9.2 investigation - Capacitors in series and parallel;	Discharge	Practical writeups
In LP2.2, I will know: 04/11/24 - (WK 1)	**Key Vocabulary**	**Homework**
how to explain electric fields are due to charges, describe electric field lines, and electric field strength; how to describe Coulomb's for the Force between 2 charges as being proportional to the product of the charge and inversely proportional to the square of their separation;	Coulomb's law	Coulomb's law exam questions
LP2 RLW, I will: 11/11/24 - (WK 2)		
review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.		
In LP2.3, I will know: 18/11/24 - (WK 1)	**Key Vocabulary**	**Homework**
how to describe uniform electric field strength and the permittivity used in dielectrics in parallel plate capacitors; how to describe the motion of charged particles in a uniform electric field. Extended Task.	Permittivity	Electric fields exam questions
In LP2.4, I will know: 25/11/24 - (WK 2)	**Key Vocabulary**	**Homework**
How to calculate electric potential and electric potential energy; how to describe the properties of basic magnetic fields; LP2 summative assessment.	Potential	Electric potential exam questions
In LP2.5, I will know: 02/12/24 - (WK 1)	**Key Vocabulary**	**Homework**
How to state and apply Fleming's Left Hand Rule and calculate the size of the force on a current carrying conductor in a magnetic field; how to find the magnitude of magnetic flux density via experiment; how to describe the motion of charged particles in magnetic fields; my strengths and areas for developments following the LP2 summative assessment and PRT.	Magnetic flux density	Magnetic fields exam questions
In LP2.6, I will know: 09/12/24 - (WK 2)	**Key Vocabulary**	**Homework**
How to define the weber, magnetic flux and magnetic flux linkage; how to calculate magnetic flux and magnetic flux linkage; how to describe Faradays Law and Lenz's Law. Extended Task.	Weber, flux linkage	Electromagnetic induction exam questions
In LP2.7, I will know: 16/12/24 - (WK 1)	**Key Vocabulary**	**Homework**
How to describe the construction of a transformer, and explain how a transformer alters potential difference; now to use the transformer equations; my strengths and areas for developments following the LP2 summative assessment and PRT.	Transformer	Transformer exam questions

PRT Task 1

PRT Task 2

Resources to support learning:
Knowledge organiser, Isaac physics, www.physicsandmathstutor.com, text book

FFET Award Challenge for this Learning Programme:
LP2 Year 13 Physics : Support with lower school STEM Club