The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 12 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?
Electrical circuits and how to use Kirchhoff's laws to explain observations in electrical circuits.

Where have I seen this learning before?
Electricity is studied at GCSE and you will have looked at the behaviour of current and potential difference in circuits.

What could I use it for?
In future, when we study the photoelectric effect and in Yr13 when you look at electric fields and capacitance.

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 and calculate the resistivity of a material; how to determine resistivity by investigating how the resistance of a wire changes with length.	Resistivity	Resistivity exam questions.
In LP2.2, I will know: 02/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to calculate electrical power using equations P=VI, P=I^2R, W = VIt; how to calculate the cost of energy using kWh.	Power	Electrical power exam questions.
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.		
In LP2.3, I will know: 16/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to describe the conservation of energy and apply Kirchhoff's first and second laws to circuits; how to calculate the resistance of resistors in both series and parallel; complete an investigation into resistance in series and parallel arrangements. Extended Task.	Kirchoff's Law	Circuits exam questions.
In LP2.4, I will know: 23/11/26 - (WK 2)	**Key Vocabulary**	**Homework**
how to analyse complex circuits using Kirchhoff's laws and V=IR; how to define internal resistance, terminal pd and lost volts.	Electromotive Force	Revision.
In LP2.5, I will know: 30/11/26 - (WK 1)	**Key Vocabulary**	**Homework**
use the internal resistance equations; my strengths and areas for developments following the LP2 summative assessment and PRT.	Internal Resistance	Internal resistance exam questions.
In LP2.6, I will know: 07/12/26 - (WK 2)	**Key Vocabulary**	**Homework**
how to use Kirchhoff's laws to explain the distribution of pds in a potential divider; calculate pds in potential dividers. Extended Task.	Potential Divider	Potential divider exam questions.
In LP2.7, I will know: 14/12/26 - (WK 1)	**Key Vocabulary**	**Homework**
how to complete LP2.2 Formative assessment; review and improve my learning through formative assessment; how to review my attainment in assessments and close gaps in my learning.	Sensing Circuits	Exam questions on potential dividers and sensing circuits.

PRT Task 1

PRT Task 2

Resources to support learning:
EPC Knowledge Organiser, Isaac Physics, Turnbull Physics YOUTUBE, physicsandmathstutor.com.

FFET Award Challenge for this Learning Programme:
Research a famous physicist of your choice and present a presentation of their accomplishments.