The Ellesmere Port C of E College

Part of the Frank Field Education Trust

# Year 13 BTEC Applied Science SRS
# 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 features and properties of waves, how to describe and explain the laws of motion and apply electrical calculations.

**Where have I seen this learning before?**
In GCSE Physics lessons on waves, forces and electricity topics.

**What could I use it for?**
Further studies in physics based university degrees or apprenticeships.

**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 key features of a wave using the terminology: periodic time, wave speed, wavelength, frequency, amplitude, oscillation;<br>the concepts of displacement, coherence, path difference and superposition of waves as applied to diffraction gratings. | Wave | Practice questions on waves. |
| **In LP2.2, I will know: 02/11/26 - (WK 1)** | **Key Vocabulary** | **Homework** |
| how to use diffraction gratings to form line emission spectra;<br>how stationary waves are formed and apply the concepts and applications of stationary waves to musical instruments. | Diffraction | Exam questions on diffraction. |
| **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. | Review | |
| **In LP2.3, I will know: 16/11/26 - (WK 1)** | **Key Vocabulary** | **Homework** |
| the concept of refraction and total internal reflection and how total internal reflection is used in optical fibres;<br>how to use and apply the inverse square law and how electromagnetic waves are used in communication.<br><br>Extended Task. | Refraction | Practice questions on refraction. |
| **In LP2.4, I will know: 23/11/26 - (WK 2)** | **Key Vocabulary** | **Homework** |
| the calculations for speed, distance and time;<br>how to explain acceleration and draw conclusions from velocity time graphs. | Speed | Exam questions on calculating speed. |
| **In LP2.5, I will know: 30/11/26 - (WK 1)** | **Key Vocabulary** | **Homework** |
| how to use and apply the different calculations for motion;<br>how to summarise Newton's first, second and third law of motion. | Motion | Practice questions on Newtons laws of motion. |
| **In LP2.6, I will know: 07/12/26 - (WK 2)** | **Key Vocabulary** | **Homework** |
| how to draw and set up different circuits using electrical components;<br>how to measure and calculate the resistance of a circuit.<br><br>Extended Task. | Resistance | Exam questions on electrical circuits. |
| **In LP2.7, I will know: 14/12/26 - (WK 1)** | **Key Vocabulary** | **Homework** |
| how to use and apply the different electrical calculations;<br>how to explain and calculate specific heat capacity and specific latent heat. | Specific heat capacity | Practice questions on electrical calculations. |

PRT Task 1

PRT Task 2

**Resources to support learning:**
EPC Knowledge Organisers
Youtube BTEC Applied Science help.

**FFET Award Challenge for this Learning Programme:**
Support with school STEM Club.