The Ellesmere Port C of E College

Part of the Frank Field Education Trust

# Year 12 Biology SMR
# 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 the structure of the cell surface membrane and how this controls the permeability of the cell. □

**Where have I seen this learning before?**
You will have learnt about cell membranes and transport across them in GCSE Biology. □

**What could I use it for?**
You will use this again if you study a BSc (Hons) in Pharmacology. □

**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** |
|---|---|---|
| lipid structure to link to formation of a membrane;<br>the roles of membranes within the cells and at the surface of cells.□ | bilayer | Exam questions on lipids. |
| **In LP2.2, I will know:** 02/11/26 - (WK 1) | **Key Vocabulary** | **Homework** |
| the fluid mosaic model of membrane structure and the roles of its components;<br>factors affecting membrane structure and permeability. □ | permeability | Exam questions on cell membranes. |
| **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. | | Exam questions on factors affecting the membrane. |
| **In LP2.3, I will know:** 16/11/26 - (WK 1) | **Key Vocabulary** | **Homework** |
| how to carry out practical investigations into membrane permeability using beetroot and colorimetry;<br>diffusion as the passive movement of molecules across membranes.□<br><br>Extended Task. | passive | Revision in preparation for assessment. |
| **In LP2.4, I will know:** 23/11/26 - (WK 2) | **Key Vocabulary** | **Homework** |
| how to carry out practical investigations into the factors affecting diffusion rates in model cells made from agar;<br>about active transport of molecules across membranes. □ | diffusion | Exam questions on diffusion. |
| **In LP2.5, I will know:** 30/11/26 - (WK 1) | **Key Vocabulary** | **Homework** |
| how to plan practical investigations into the effects of solutions of different water potential on plant and animal cells;<br>how to evaluate and analyse the osmosis practical.□ | osmosis | Exam questions on active transport. |
| **In LP2.6, I will know:** 07/12/26 - (WK 2) | **Key Vocabulary** | **Homework** |
| the sections of the cell cycle and the control of the cell cycle;<br>the significance of mitosis and meiosis in life cycles.□<br><br>Extended Task. | cell cycle | Exam questions on osmosis. |
| **In LP2.7, I will know:** 14/12/26 - (WK 1) | **Key Vocabulary** | **Homework** |
| how to investigate mitosis- root tip squash (PAG1), examine microscopic sections of plant tissue showing the cell cycle and stages of mitosis;<br>how cells of multicellular organisms are specialised.□ | differentiation | Exam questions on required practical. |

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. □