The Ellesmere Port C of E College

Part of the Frank Field Education Trust

# Year 13 Biology SMR
# Learning Programme 4

The LORIC skill focus for this LP is: INITIATIVE.
The Moral Virtues focus for this LP are: INTEGRITY and GRATITUDE.

Integrity - Having strong moral principles. I will show integrity by taking responsibility for my actions.
Gratitude - Feeling and expressing thanks. I will show gratitude by saying please and thank you.

**What will I be learning about in this Learning Programme?**
You are learning about photosynthesis and respiration on a molecular level.

**Where have I seen this learning before?**
You have learnt about photosynthesis and respiration at GCSE and KS3.

**What could I use it for?**
You will use this information in any Biology or Health Care degree as well as Ecology and Environmental Science degrees.

**Literacy Non-Negotiables:**
- 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
- Vocabulary to be taught using the Frayer model

| In LP4.1, I will know: 09/03/26 - (WK 2) | Frayer Model Words | Homework |
|---|---|---|
| how to carry out an assessment to identify areas for development. | assessment | Revise for summative assessment. |

| In LP4.2, I will know: 16/03/26 - (WK 1) | Frayer Model Words | Homework |
|---|---|---|
| about the structure of chloroplasts and photosystems;<br>the light dependent stage of photosynthesis. | photosystem | Exam questions on chloroplast structure. |

| In LP4.3, I will know: 23/03/26 - (WK 2) | Frayer Model Words | Homework |
|---|---|---|
| the light independent stage of photosynthesis;<br>how to complete a practical to investigate factors that affect photosynthesis.<br><br>Extended Task. | photosynthesis | Exam questions on factors impacting photosynthesis. |

| In LP4.4, I will know: 13/04/26 - (WK 1) | Frayer Model Words | Homework |
|---|---|---|
| the structure of the mitochondria;<br>the role of glycolysis in respiration. | glycolysis | Exam questions on glycolysis. |

PRT Task 1

| In LP4.5, I will know: 20/04/26 - (WK 2) | Frayer Model Words | Homework |
|---|---|---|
| the Krebs cycle and the electron transport chain;<br>how to carry out an investigation to determine how factors impact respiration. | Krebs cycle | Exam questions on respiration. |

| In LP4.6, I will know: 27/04/26 - (WK 1) | Frayer Model Words | Homework |
|---|---|---|
| how to calculate respiratory quotient and to determine different substrates using this;<br>how to complete an investigation into different respiratory substrates.<br><br>Extended Task. | respiratory quotient | Exam questions on respiratory quotients. |

| In LP4.7, I will know: 04/05/26 - (WK 2) | Frayer Model Words | Homework |
|---|---|---|
| how to review my learning in preparation for my upcoming external assessments. | review | Exam questions to review learning. |

PRT Task 2

**Resources to support learning:**
https://studyrocket.co.uk/revision/a-level-biology-aqa/energy-transfers-in-organisms/respiration
Knowledge organisers, synergy, biology booklet.

**FFET Award Challenge for this Learning Programme:**
Write an essay to explain the importance of cycles in photosynthesis and respiration.