The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 10 Combined Science Bio/Chem Set 2-4
Learning Programme 5

The LORIC skill focus for his LP is: COMMUNICATION.
The Moral Virtues focus for this LP are: COURAGE and HUMILITY.

Courage - Acting with bravery and overcoming fears.
Humility - Having a modest view of oneself.

What will I be learning about in this Learning Programme?
How living organisms photosynthesise and respire and how this can be manipulated as well as the energy changes that happen in chemical reactions.

Where have I seen this learning before?
You have learnt about respiration and photosynthesis in KS2 and KS3. You have learnt about exothermic and endothermic reactions in KS3.

What could I use it for?
You will use this knowledge in A-level Biology and Applied Science as well as PE and degrees in Physiotherapy and Sports Science. You will re-visit the energy changes in a chemical reaction in A-level Chemistry.

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 LP5.1, I will know: 12/05/25 - (WK 1)	Key Vocabulary	Homework
what exothermic and endothermic reactions are; how to interpret reaction profiles for exothermic and endothermic reactions.	Exothermic	Complete the weekly task on Sparx Science.
In LP5.2, I will know: 19/05/25 - (WK 2)	**Key Vocabulary**	**Homework**
how to carry out an investigation into energy changes in a reaction using a calorimeter; how to calculate bond energies in a chemical reaction.	Calorimeter	Complete the weekly task on Sparx Science.
LP5 RLW, I will: 02/06/25 - (WK 1)		
review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.		Complete the weekly task on Sparx Science.
In LP5.3, I will know: 09/05/25 - (WK 2)	**Key Vocabulary**	**Homework**
the names of plant organs and the structure and function of a leaf; how the xylem and phloem work to move substances around the plant. Extended Task.	Transport	Complete the weekly task on Sparx Science.
In LP5.4, I will know: 16/06/25 - (WK 1)	**Key Vocabulary**	**Homework**
review my learning with a summative assessment; improve my knowledge through a pupil response task.		Complete the weekly task on Sparx Science.
In LP5.5, I will know: 23/06/25 - (WK 2)	**Key Vocabulary**	**Homework**
how to carry out a practical to identify stomata on a leaf and how gas exchange is important for photosynthesis; factors that affect photosynthesis.	Gas exchange	Complete the weekly task on Sparx Science.
In LP5.6, I will know: 30/06/25 - (WK 1)	**Key Vocabulary**	**Homework**
how to carry out a practical to investigate the effect of light intensity on the rate of photosynthesis; how to analyse and evaluate the results of the photosynthesis investigation to draw conclusions on what plants use glucose for. Extended Task.	Photosynthesis	Complete the weekly task on Sparx Science.
In LP5.7, I will know: 07/06/25 - (WK 2)	**Key Vocabulary**	**Homework**
the importance of aerobic respiration and the importance of cellular respiration; the amount of energy transferred in anaerobic respiration and how this occurs in plants, animals and fungi.	Respiration	Complete the weekly task on Sparx Science.

PRT Task 1

PRT Task 2

Resources to support learning:
https://www.bbc.co.uk/bitesize/guides/zg8nrwx/revision/2
Synergy, knowledge organiser, exercise book, Sparx Science.

FFET Award Challenge for this Learning Programme:
Complete a practice paper as part of your revision.