The Ellesmere Port C of E College

Part of the Frank Field Education Trust

Year 10 Combined Science Biology/Chemistry
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?
We are learning how metals react and can be extracted. We are also learning how acids react with different bases and the products they form.

Where have I seen this learning before?
KS3 - Acids and Alkalis. Also builds on the ionic bonding topic from LP4.

What could I use it for?
Redox reactions and energy changes at KS5.

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 revise for and successfully complete my summative assessment; how to review my summative assessment and identify key gaps in knowledge.		Sparx Homework Task
In LP4.2, I will know: 16/03/26 - (WK 1)	**Frayer Model Words**	**Homework**
how to explain how metals and acids react with each other and the names of the different products formed; how to formulate ionic equations.	Neutralisation	Sparx Homework Task
In LP4.3, I will know: 23/03/26 - (WK 2)	**Frayer Model Words**	**Homework**
how to construct half equations that show oxidation and reduction in different species; how acids and bases react with each other and the variety of products formed; how to write the reaction between acids and bases using ionic formula. Extended Task.	Base	Sparx Homework Task
In LP4.4, I will know: 13/04/26 - (WK 1)	**Frayer Model Words**	**Homework**
how to conduct the practical - Preparation of a pure, dry sample of a soluble salt from an insoluble oxide or carbonate, using a Bunsen burner to heat dilute acid and a water bath or electric heater to evaporate the solution. how to explain the difference between strong and weak acids.	Soluble	Sparx Homework Task
In LP4.5, I will know: 20/04/26 - (WK 2)	**Frayer Model Words**	**Homework**
how to use the pH scale to describe the difference between strong and weak acids; how to explain the difference between strong and weak acids based on [H+] concentration; how to explain the process of electrolysis; how electrolysis occurs in molten compounds and in solutions.	Concentration	Sparx Homework Task
In LP4.6, I will know: 27/04/26 - (WK 1)	**Frayer Model Words**	**Homework**
how electrolysis of aluminium oxide occurs; how to conduct the required practical - Investigate what happens when aqueous solutions are electrolysed using inert electrodes. This should be an investigation involving developing a hypothesis. Extended Task.	Electrolysis	Sparx Homework Task
In LP4.7, I will know: 04/05/26 - (WK 2)	**Frayer Model Words**	**Homework**
how to explain the difference between endothermic and exothermic reactions; how to conduct the calorimetry required practical.	Exothermic	Sparx Homework Task

PRT Task 1

PRT Task 2

Resources to support learning:
Resource booklet, Knowledge organiser, BBC GCSE Bitesize, Free GCSE Science videos on YOUTUBE. COGNITO Science

FFET Award Challenge for this Learning Programme:
LP5 Year 10 Science: Create a revision resource on a topic of your choice.