Birches Head Academy

Part of the Frank Field Education Trust

Year 8 Science
Learning Programme 5

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

Courage - Acting with bravery and overcoming fears. I will show courage by answering a question in class even when I'm not 100% sure of the answer.
Humility - Having a modest view of oneself. I will show humility by admitting mistakes and asking for help when needed.

What will I be learning about in this Learning Programme?
Students learn how characteristics are passed from parents to offspring. They explore genes and DNA, understand how inherited and environmental factors affect variation, and look at patterns of inheritance using simple models. The topic also introduces variation within a species and why it is important for survival. Students will also learn what happens when substances react and how new substances are formed specifically looking at combustion and thermal decomposition.

Where have I seen this learning before?
At KS2, pupils learn that living things have characteristics that can be passed on from parents to their offspring, and that individuals of the same species show variation. Furthermore, students are aware that some chemical changes can be reversible or irreversible and can result in new materials being formed.

What could I use it for?
Students build on this by developing a secure understanding of inheritance and variation. At KS4 students learn how characteristics are passed from parents to offspring through genes and DNA, and how inherited and environmental factors contribute to variation within a species. Students explore patterns of inheritance using genetic diagrams, and understand why variation is important for survival and evolution.

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 LP5.1, I will know: 11/05/26 - (WK 1)	**Frayer Model Words**	**Homework**
how to extract DNA from a strawberry - IGNITION how to distinguish between inherited and environmental variation. how to distinguish between continuous and discontinuous variation.	Variation	To complete Sparx Science.
In LP5.2, I will know: 18/05/26 - (WK 2)	**Frayer Model Words**	**Homework**
how to define the term 'gene'. how to explain how genes are passed from parents to offspring. how to recognise that organisms inherit a combination of characteristics from both parents.	Gene	To complete Sparx Science.
LP5 RLW, I will: 01/06/26 - (WK 1)	**Frayer Model Words**	**Homework**
review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.	DNA	To complete Sparx Science.
In LP5.3, I will know: 08/06/26 - (WK 2)	**Frayer Model Words**	
how to describe the structure and role of chromosomes and DNA. how to describe how scientists discovered DNA. how to explain how sexual reproduction shows variation. Extended Task.	Chromosome	To complete Sparx Science.
In LP5.4, I will know: 15/06/26 - (WK 1)	**Frayer Model Words**	**Homework**
how asexual reproduction provides genetically identical offspring. how to compare the advantages and disadvantages of sexual and asexual reproduction. how to carry out and complete knowledge check and PRT.	Asexual reproduction	To complete Sparx Science.
In LP5.5, I will know: 22/06/26 - (WK 2)	**Frayer Model Words**	**Homework**
how to explain what is meant by genetic modification. how to compare genetic modification to selective breeding. how to state what is meant by combustion.	Genetic modification	To complete Sparx Science.
In LP5.6, I will know: 29/06/26 - (WK 1)	**Frayer Model Words**	**Homework**
how to carry out an investigation into the products of combustion. how to use data to show how energy changes in complete and incomplete combustion. how to state what is meant by thermal decomposition. Extended Task.	Complete Combustion	To complete Sparx Science.
In LP5.7, I will know: 06/07/26 - (WK 2)	**Frayer Model Words**	**Homework**
how to investigate thermal decomposition. how to effectively revise for LP5 knowledge check. how to carry out and complete knowledge check and PRT.	Thermal Decomposition	To complete Sparx Science.

PRT Task 1

PRT Task 2

Resources to support learning:
Sparx Science, BBC Bitesize

FFET Award Challenge for this Learning Programme:
Write a speech explaining if you believe developing GMOs is a good or a bad decision for human health and the environment.