Birches Head Academy

Part of the Frank Field Education Trust

Year 9 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 will learn that individuals show variation, which can be caused by inherited and environmental factors. They explore how characteristics are passed from parents to offspring through genes and DNA, and how useful variations help some organisms survive and reproduce. Over time, this process leads to evolution through natural selection.

Where have I seen this learning before?
At KS2, students will have met these ideas as they learn that living things have offspring that are similar to their parents but not identical, and that individuals within a species show variation. Students also learn that some characteristics are inherited, some are influenced by the environment, and that variation can help living things survive in their habitats.

What could I use it for?
At KS4, students learn this content in greater depth, across the Inheritance, Variation and Evolution topic. They develop a detailed understanding of how characteristics are inherited through genes and DNA, how variation arises from both genetic and environmental factors, and how variation provides the basis for natural selection. Students learn how these processes lead to evolution over time.

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 'adaptation'. how to explain how adaptations help organisms to survive and reproduce. how to distinguish between continuous and discontinuous variation.		Adaptation	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 and explain the process of natural selection. how to explain how Charles Darwin provides evidence for evolution. how fossils are used to provide evidence for evolution. Extended Task.		Evolution	To complete Sparx Science.
In LP5.4, I will know: **15/06/26 - (WK 1)**		**Frayer Model Words**	**Homework**
how to describe the causes of extinction. how to describe what is meant by an endangered species. how humans use a variety of techniques to preserve biodiversity.		Extinction	To complete Sparx Science.
In LP5.5, I will know: **22/06/26 - (WK 2)**		**Frayer Model Words**	**Homework**
how to explain how genes are passed from parents to offspring. how to describe the structure of DNA and chromosomes. how to carry out and complete knowledge check and PRT.		Gene	To complete Sparx Science.
In LP5.6, I will know: **29/06/26 - (WK 1)**		**Frayer Model Words**	**Homework**
how to explain the role of DNA in cells. how to describe how scientists discovered DNA. how to explain how sexual reproduction shows variation. Extended Task.		Sexual Reproduction	To complete Sparx Science.
In LP5.7, I will know: **06/07/26 - (WK 2)**		**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.

PRT Task 1

PRT Task 2

Resources to support learning:
Sparx Science, BBC Bitesize

FFET Award Challenge for this Learning Programme:
Design a leaflet to promote the preservation of endangered species within the area of Stoke-On-Trent.