

Year 9 Science

Learning Programme 4

The LORIC skill focus for this LP is: INITIATIVE.

The Moral Values foci 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?

Students will know how to compare and contrast animal and plant cells. Students will then be able to identify and explain adaptations in specialised animal and plant cells, whilst describing the movement of substances through cells through Active Transport, Osmosis and Diffusion. Students will also learn how to investigate exothermic and endothermic reactions using a laboratory method.

Where have I seen this learning before?

At KS2 students look at the concept of living organisms in their environment and look at the human body (e.g. skeleton, muscles, digestive system). Furthermore, students in KS2 also look at the concepts of materials and their properties. Pupils would have looked at the idea of burning, rusting and cooking food linking this to reversible and irreversible reactions.

What could I use it for?

Learning about cells helps you understand how the body works, how diseases happen, and how treatments like vaccines and medicines are developed. This links to future study or careers in health, sports science, and biology. Understanding chemical reactions helps you make sense of everyday processes—like fuels burning, metals corroding, and acids reacting. It links to chemistry topics at GCSE and careers in engineering, manufacturing, environmental work, and lab science.

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 observe and draw different cells - IGNITION how to draw and label animal and plant cells. how to state the functions of specialised animal cells.		Nucleus	Complete homework on Spax Science
In LP4.2, I will know:	16/03/26 - (WK 1)	Frayer Model Words	Homework
how to state the functions of specialised plant cells. how to calculate magnification. how to identify key structures of the microscope.		Resolution	Complete homework on Spax Science
In LP4.3, I will know:	23/03/26 - (WK 2)	Frayer Model Words	Homework
how to use the microscope to investigate plant and unicellular organisms. how to describe what is meant by diffusion. how to describe what is meant by active transport. Extended Task.		Diffusion	Complete homework on Spax Science
In LP4.4, I will know:	13/04/26 - (WK 1)	Frayer Model Words	Homework
how to describe what is meant by osmosis. how to carry out a practical investigating the rate of osmosis. how to carry out and complete knowledge check and PRT.		Osmosis	Complete homework on Spax Science
In LP4.5, I will know:	20/04/26 - (WK 2)	Frayer Model Words	Homework
how to describe what is meant by an exothermic reaction. how to describe what is meant by an endothermic reaction. how to investigate different exothermic reactions.		Exothermic	Complete homework on Spax Science
In LP4.6, I will know:	27/04/26 - (WK 1)	Frayer Model Words	Homework
how to investigate different endothermic reactions. how to carry out energy level diagrams. how to calculate and complete bond energy calculations. Extended Task.		Endothermic	Complete homework on Spax Science
In LP4.7, I will know:	04/05/26 - (WK 2)	Frayer Model Words	Homework
how to explain what is meant by a catalyst. how to effectively revise for LP4 assessment. how to complete PRT from LP4 Assessment.		Catalyst	Complete homework on Spax Science
Resources to support learning:	Spax Science, BBC Bitesize		
PFET Award Challenge for this Learning Programme:	How does the structure of a specialised cell enable it to perform its function? You will choose one specialised cell and research how it is adapted for its job.		

PRT Task 1

PRT Task 2