

Year 10 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?

During this learning programme, you will explore how particles behave in different states of matter and how substances change state when heated or cooled. You will learn to read a temperature-time graph so you can spot when melting, boiling or freezing is happening, and understand why the temperature stays the same during these changes. You'll also learn about internal energy, which is the energy stored inside a material, and how heating affects the movement and spacing of its particles

Where have I seen this learning before?

You can use this learning to understand how to stay healthy, protect yourself from disease and make informed choices about diet, exercise, smoking and alcohol. Knowing how pathogens spread helps you prevent infection and understand vaccines, medicines and how new drugs are developed. The electricity and particle model topics help you make sense of how appliances work, how energy is used in homes, and how to stay safe with electrical devices. These ideas link directly to real jobs in healthcare, engineering, lab work, forensics, environmental science and any career that uses problem-solving, data and scientific thinking

What could I use it for?

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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
what health means and how different pathogens (bacteria, viruses, fungi, protists) cause disease. IGNITION (using Agar Plates) how diseases spread and which methods help prevent infection. how lifestyle and environmental factors can increase or reduce disease risk.		Infection	SPARX Science
In LP4.2, I will know:	16/03/26 - (WK 1)	Frayer Model Words	Homework
how the human body defends itself against invading pathogens. how vaccinations protect individuals and populations. the difference between antibiotics, painkillers and how new drugs are discovered.		Pathogen	SPARX Science
In LP4.3, I will know:	23/03/26 - (WK 2)	Frayer Model Words	Homework
how drugs are developed and tested for safety and effectiveness. what non-communicable diseases are and why lifestyle choices influence risk. how cancer develops and how carcinogens such as smoking and diet contribute. Extended Task.		Influence	SPARX Science
In LP4.4, I will know:	13/04/26 - (WK 1)	Frayer Model Words	Homework
what electric current and charge are, and how they behave in circuits. how potential difference and resistance are measured in practical investigations. how series and parallel circuits differ in current and potential difference.		Potential	SPARX Science
In LP4.5, I will know:	20/04/26 - (WK 2)	Frayer Model Words	Homework
how components behave in circuits (V-I characteristics) and how to interpret the graphs. how alternating current differs from direct current in the home and the national grid. how to set up and measure series and parallel circuit arrangements safely.		Parallel	SPARX Science
In LP4.6, I will know:	27/04/26 - (WK 1)	Frayer Model Words	Homework
how cables, plugs and appliances are designed to keep users safe. how to calculate electrical power, energy transfer and appliance efficiency. how to calculate density in required practical investigations using mass and volume. Extended Task.		Efficiency	SPARX Science
In LP4.7, I will know:	04/05/26 - (WK 2)	Frayer Model Words	Homework
The properties of solids, liquids and gases and how particle arrangement explains them; how to read a temperature-time graph and identify changes of state; what internal energy is and how heating affects the energy of particles.		Arrangement	SPARX Science
Resources to support learning:			
SPARX Science, BBC Bitesize			
FFET Award Challenge for this Learning Programme:			
design a low-cost, portable device or product that helps reduce the spread of disease, improves health, or keeps people safe using principles from biology and physics			

PRT Task 1

PRT Task 2