

Year 10 Science Learning Programme 2

The LORIC skill focus for this LP is: ORGANISATION.

The Moral Values foci for this LP are: COMPASSION and HONESTY.

Compassion - sympathy and concern for the suffering or misfortunes of others

Honesty - being truthful and refraining from cheating or lying

What will I be learning about in this Learning Programme?

In this learning programme, you will explore chemical bonding, the properties of different materials, energy transfers and energy resources. You will also learn about health issues, heart disease and cancer, as well as photosynthesis, plant transport and transpiration. You will develop your practical, problem-solving and calculation skills through investigations and assessments.

Where have I seen this learning before?

You will build on your KS3 Science learning about particles, states of matter, elements, energy, plants, photosynthesis and health. You may already have learned about the periodic table, chemical reactions, energy resources, cells and how plants make food. This programme develops these ideas further, introducing more detailed GCSE concepts such as chemical bonding, energy calculations, limiting factors and the transport of water in plants.

What could I use it for?

The knowledge and skills from this programme could be useful in many future careers. Chemistry could lead to careers in medicine, pharmacy, engineering and materials science, while Biology could support careers in healthcare, environmental science, agriculture and plant science. Understanding energy and practical investigations can also be useful in engineering, renewable energy and other scientific careers.

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 LP2.1, I will know:	19/10/26 - (WK 2)	Frayer Model Words	Homework
IGNITION - Types of chemical bond. how to explain ionic bonding. how to describe some types of ionic compounds and explain their properties.		Ionic	Sparx Science
In LP2.2, I will know:	02/11/26 - (WK 1)	Frayer Model Words	Homework
how to explain covalent bonding. how to describe some simple and giant covalent structures and explain their properties. how to describe some allotropes of carbon.		Covalent	Sparx Science
LP2 RLW, I will:	09/11/26 - (WK 2)	Frayer Model Words	Homework
review my learning, recalling and applying key knowledge, and focus on closing any gaps in my knowledge.			Sparx Science
In LP2.3, I will know:	16/11/26 - (WK 1)	Frayer Model Words	Homework
how to describe the structure of a metal and explain metallic bonding. how to describe some health issues. how to describe some non-communicable diseases.		Metallic	Sparx Science
Extended Task.			
In LP2.4, I will know:	23/11/26 - (WK 2)	Frayer Model Words	Homework
how to complete a knowledge check. how to complete a PRT. how to explain the process of photosynthesis and factors affecting the rate of photosynthesis.		Photosynthesis	Sparx Science
In LP2.5, I will know:	30/11/26 - (WK 1)	Frayer Model Words	Homework
how to describe some energy transfers. how to calculate gravitational potential, kinetic and elastic energy. how to combine these equations and apply them to exam style questions.		Kinetic	Sparx Science
In LP2.6, I will know:	07/12/26 - (WK 2)	Frayer Model Words	Homework
how to describe how a salt is made by a neutralisation reaction. how to carry out the salts required practical. how to explain the reactivity of groups 1 and 7.		Neutralisation	Sparx Science
Extended Task.			
In LP2.7, I will know:	14/12/26 - (WK 1)	Frayer Model Words	Homework
how to describe the structure of a leaf how to explain transport in plants. how to describe transpiration.		Transpiration	Sparx Science
Resources to support learning:			
SPARX Science			
FFET Award Challenge for this Learning Programme:			
Design a sustainable greenhouse that helps plants grow efficiently while using as little energy as possible. Use your knowledge of photosynthesis, limiting factors, transpiration, energy transfers and renewable energy to explain your design. Choose suitable materials and justify your choices using science. Present your ideas as a poster, model or presentation, including an energy calculation as an extension.			


PRT Task 1


PRT Task 2