KS3 CURRICULUM: SCIENCE - YEAR 9 (2023-2024)

Overview

In Science you will learn about:

- The different specialised cells in animals and plant and how they multiply. What STEM cells are and the ethical and medical issues that surround them.
- The function of the digestive system and the role of enzymes in digestion.
- The structure of an atom and the layout and development of the periodic table. Isotopes and ions and how atoms bond together.
- Different types of energy and the formula for calculating them. How to reduce energy loss inside homes and how we can use more renewable energy.

	Focus / Topic	Knowledge & Skills	Skills	Assessment
Autumn 1	B1 Cell structure and transport B2 Cell division	Function of microscopes and using them correctly. Understanding of how cells multiply and what STEM cells are.	• Make predictions using scientific knowledge and understanding. • Make and record observations and measurements using a range of methods for different investigations and evaluate the reliability of methods suggesting possible improvements.	B1 End of topic test. B2 End of topic test.
Autumn 2	B2 Organisation and the digestive system	Knowledge of how we absorb nutrients from our food and practical skills testing foods for macronutrients.	• Present observations and data using appropriate methods, including tables and graphs. • Understand that scientific methods and theories develop as earlier explanations are modified to take account of new evidence and ideas. • Make predictions using scientific knowledge and understanding.	B2 End of topic test
Spring 1	C1 Atomic structure C2 The periodic table	Balancing chemical equations and the history of the atom. Knowledge of ions, isotopes and development of the periodic table.	• Evaluate risks. • Make and record observations and measurements using a range of methods. • Make predictions using scientific knowledge and understanding. • Evaluate data, showing awareness of potential sources of random and systematic error.	C1 End of topic test C2 End of topic test
Spring 2	C3 Structure and bonding P1 Conservation and dissipation of energy	Understanding of states of matter and how atom bond together. Different types of energy and how to calculate them.	• Make predictions using scientific knowledge and understanding. • Interpret observations and data, identifying patterns and using observations to draw conclusions.	C3 End of topic test P1 End of topic test

			• Identify further questions arising from your results.	
Summer 1	P2 Energy transfer by heating	Using practical skills to calculate specific heat capacity. Different ways to insulate homes.	• Make and record observations and measurements using a range of methods. • Use and derive simple equations and carry out appropriate calculations.	P2 End of topic test
Summer 2	P3 Energy resources	Different methods of getting energy from renewable and non-renewable sources.	• Ask questions and develop a line of enquiry based on observations of the real world alongside prior knowledge and experience.	P3 End of topic test.

Further Information

Chace GCSE Science website: https://sites.google.com/s/1BtvyrZrxIRC1edvS2polc56NnbGMsMfh/p/1Q_QYKtQJGkB2vAWUIxIJQyHyyE7Ce_L7/edit?safe=vss
Seneca: https://www.senecalearning.com/
Kerboodle: https://www.kerboodle.com/users/login
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