

LONG TERM PLANNING [Year 10 2023-2024](#)

AUTUMN TERM 1: SEPT - OCT	AUTUMN TERM 2: OCT - DEC	SPRING TERM 1: JAN - FEB
Organism level systems: B3	Predicting and identifying reactants and products: C4	Electricity P3
<u>Organism level systems</u> B3.1 Coordination and Control- the nervous system B3.2 Coordination and Control- Endocrine B3.3 Maintaining internal environment	<u>Predicting and identifying reactants and products</u> C4.1 Predicting chemical reactions C4.2 Identifying the products of chemical reactions	<u>Electricity</u> P3.1 Static and charge P3.2 Simple circuits
Working Scientifically		
<p>AO: Through the content across all three disciplines, students should be taught so that they develop understanding and first-hand experience of:</p> <p>1. The development of scientific thinking • understanding how scientific methods and theories develop over time • using a variety of models to develop scientific explanations and understanding • appreciating the power and limitations of science and considering ethical issues which may arise • explaining every day and technological applications of science; evaluating associated personal, social, economic and environmental implications; and making decisions based on the evaluation of evidence and arguments • evaluating risks both in practical science and the wider societal context, including perception of risk. • recognising the importance of peer review of results and of communication of results to a range of audiences.</p> <p>2. Experimental skills and strategies • using scientific theories and explanations to develop hypotheses</p> <ul style="list-style-type: none"> • planning experiments to make observations, test hypotheses or explore phenomena • applying a knowledge of a range of techniques, apparatus, and materials to select those appropriate to the experiment • carrying out experiments appropriately having due regard to the correct manipulation of apparatus, the accuracy of measurements and health and safety considerations • recognising when to apply a knowledge of sampling techniques to ensure any samples collected are representative • making and recording observations and measurements using a range of apparatus and methods • evaluating methods and suggesting possible improvements and further investigations. <p>3. Analysis and evaluation</p> <ul style="list-style-type: none"> • applying the cycle of collecting, presenting and analysing data, including: • presenting observations and other data using appropriate methods • translating data from one form to another • carrying out and representing mathematical and statistical analysis • representing distributions of results and making estimations of uncertainty • interpreting observations and other data, including identifying patterns and trends, making inferences and drawing conclusions • presenting reasoned explanations, including relating data to hypotheses • being objective, evaluating data in terms of accuracy, precision, repeatability and reproducibility and identifying potential sources of random and systematic error • communicating the scientific rationale for investigations, methods used, findings and reasoned conclusions through paper-based and electronic reports and presentations. 		
SPRING TERM 2: FEB – MAR	SUMMER TERM 1: APR - MAY	SUMMER TERM 2: JUN - JUL

Monitoring and controlling chemical reactions: C5	Magnetism and magnetic fields: P4 Waves in matter: P5	Cell level systems: B1.4 Community level systems: B4
<u>Monitoring and controlling chemical reactions</u> C5.1 Monitoring chemical reactions C5.2 Controlling reactions C5.3 Equilibria	<u>Magnetism and magnetic fields</u> P4.1 Magnets and magnetic fields P4.2 Uses of magnetism <u>Waves in matter</u> P5.1 Wave behaviour P5.2 The electromagnetic spectrum P5.3 Wave interaction	<u>Cell level systems</u> B1.4 Photosynthesis <u>Community level systems</u> B4.1 Ecosystems
Vocabulary, Units, Symbols and Nomenclature		
<p>AO: use scientific vocabulary, units, symbols and nomenclature</p> <ul style="list-style-type: none"> • developing their use of scientific vocabulary and nomenclature • recognising the importance of scientific quantities and understanding how they are determined • using SI units and IUPAC chemical nomenclature unless inappropriate • using prefixes and powers of ten for orders of magnitude (e.g. tera, giga, mega, kilo, centi, milli, micro and nano) • interconverting units • using an appropriate number of significant figures in calculations <p>S&L AF1: Talk in purposeful and imaginative ways to explore ideas and feelings, using non-verbal features for clarity and effect</p>		