

2022/ 2023	AUTUMN		SPRING		SUMMER	
	HT1	HT2	HT3	HT4	HT5	HT6
Y7	Area of study Research Methods Chemistry Key concepts/ Knowledge Investigation Classifying Material Assessment method Short Class Assessments End of Topic Test	Area of study Biology Chemistry Key concepts/ Knowledge Microscopes & Cells Atoms, Elements & Compounds Assessment method Short Class Assessments End of Topic Test	Area of study Biology Physics Key concepts/ Knowledge Nutrition and Digestion Electrical Circuits Assessment method Short Class Assessments End of Topic Test	Area of study Chemistry Physics Key concepts/ Knowledge Chemical Reactions Energy Assessment method Short Class Assessments End of Topic Test	Area of study Biology Key concepts/ Knowledge Plant Reproduction Assessment method Short Class Assessments End of Topic Test	Area of study Physics Key concepts/ Knowledge Forces & Motion Assessment method Short Class Assessments End of Topic Test END OF YEAR EXAM
Y8	Area of study Research Methods Chemistry Key concepts/ Knowledge Investigation Gas Exchange Assessment method Short Class Assessments End of Topic Test	Area of study Chemistry Physics Key concepts/ Knowledge Sorting Materials Magnetism & Space Assessment method Short Class Assessments End of Topic Test	Area of study Biology Physics Key concepts/ Knowledge Inheritance & Variance Magnetism & Space Generating Electricity Assessment method Short Class Assessments End of Topic Test	Area of study Chemistry Key concepts/ Knowledge Chemical Changes Assessment method Short Class Assessments End of Topic Test	Area of study Physics Key concepts/ Knowledge Waves Assessment method Short Class Assessments End of Topic Test	Area of study Biology Key concepts/ Knowledge Biology Assessment method Short Class Assessments End of Topic Test END OF YEAR EXAM
Y9	Area of study Research Methods Biology Chemistry Key concepts/ Knowledge Investigation Ecology & Genetics Producing Materials Assessment method Short Class Assessments End of Topic Test	Area of study Chemistry Key concepts/ Knowledge Producing Materials Assessment method Short Class Assessments End of Topic Test	Area of study Physics Key concepts/ Knowledge Motion Health & Disease Assessment method Short Class Assessments End of Topic Test	Area of study Biology Key concepts/ Knowledge Health & Disease Environment Assessment method Short Class Assessments End of Topic Test	Area of study Physics Key concepts/ Knowledge Non-Renewable vs Renewable Energy Assessment method Short Class Assessments End of Topic Test	Area of study Biology Chemistry Physics Key concepts/ Knowledge All topics revision Assessment method END OF YEAR EXAM

NOTES	SKILLS FOR LIFE/ FUTURE LEARNING AND EMPLOYMENT	
		<p>Working scientifically Through the content across all three disciplines, pupils should be taught to:</p> <p>Scientific Attitudes</p> <ul style="list-style-type: none"> Pay attention to objectivity and concern for accuracy, precision, repeatability and reproducibility Understand that scientific methods and theories develop as earlier explanations are modified to take account of new evidence and ideas, together with the importance of publishing results and peer review Evaluate risks <p>Experimental Skills and Investigations</p> <ul style="list-style-type: none"> Ask questions and develop a line of enquiry based on observations of the real world, alongside prior knowledge and experience Make predictions using scientific knowledge and understanding Select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate Use appropriate techniques, apparatus, and materials during fieldwork and laboratory work, paying attention to health and safety Make and record observations and measurements using a range of methods for different investigations; and evaluate the reliability of methods and suggest possible improvements Apply sampling techniques. <p>Analysis and Evaluation</p> <ul style="list-style-type: none"> Apply mathematical concepts and calculate results Present observations and data using appropriate methods, including tables and graphs Interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions Present reasoned explanations, including explaining data in relation to predictions and hypotheses Evaluate data, showing awareness of potential sources of random and systematic error Identify further questions arising from their results

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Y10	<p>Area of study OCR Syllabus Biology Key concepts/ Knowledge Cell Level Systems B1 Assessment method Short Class Assessments End of Topic Test</p>	<p>Area of study OCR Syllabus Chemistry Physics Key concepts/ Knowledge Particles C1 C2 Matter P1 Assessment method Short Class Assessments End of Topic Test</p>	<p>Area of study OCR Syllabus Biology Key concepts/ Knowledge Scaling Up B2 Assessment method Short Class Assessments End of Topic Test</p>	<p>Area of study OCR Syllabus Biology Physics Key concepts/ Knowledge Scaling Up B2 Forces P2 Assessment method Short Class Assessments End of Topic Test</p>	<p>Area of study OCR Syllabus Physics Key concepts/ Knowledge Forces P2 Assessment method Short Class Assessments End of Topic Test</p>	<p>Area of study OCR Syllabus Biology Key concepts/ Knowledge Organism Level B3 B4 Assessment method Short Class Assessments End of Topic Test</p>
Y11	<p>Area of study OCR Syllabus Chemistry Physics Key concepts/ Knowledge Chemical Reaction C3 Electricity & Magnetism P3 Assessment method Short Class Assessments End of Topic Test</p>	<p>Area of study OCR Syllabus Chemistry Physics Key concepts/ Knowledge Waves & Radiation P4 Chemical Reaction C4 Assessment method Short Class Assessments End of Topic Test</p>	<p>Area of study OCR Syllabus Biology Key concepts/ Knowledge Genetics B5 Global Challenges B6 Assessment method Short Class Assessments End of Topic Test</p>	<p>Area of study OCR Syllabus GCSE Preparation Key concepts/ Knowledge Revision All Topics Assessment method Short Class Assessments End of Topic Test</p>	<p>Area of study OCR Syllabus GCSE Preparation Key concepts/ Knowledge Revision All Topics Assessment method GCSE Exam Preparation</p>	GCSE EXAM

SKILLS FOR LIFE/ FUTURE LEARNING AND EMPLOYMENT

Working scientifically Through the content across all three disciplines, students should be taught so that they develop understanding and first-hand experience of:
The development of scientific thinking

- The ways in which scientific methods and theories develop over time
- Using a variety of concepts and 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.

Experimental skills and strategies

- Using scientific theories and explanations to develop hypotheses
- 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 both for fieldwork and for experiments
- 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.

Analysis and evaluation

- 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, including the methods used, the findings and reasoned conclusions, using paper-based and electronic reports and presentations.

Vocabulary, units, symbols and nomenclature

- 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.

