Biology
Curriculum Map

Year 7	Year 8
Cells and Organisation The Structure and Function of Body Systems Gas Exchange Systems Reproduction Photosynthesis	Nutrition and Digestion Cellular Respiration Health Ecology Genetics

Accelerated group

Year 9	Year 10	Year 11
4.1 Cell Biology 4.2 Organisation 4.3 Infection and response	4.4 Bioenergetics 4.5 Homeostasis and Response	4.6 Inheritance, Variation and Evolution 4.7 Ecology

Options group

Year 9	Year 10	Year 11
4.1 Cell Biology 4.2 Organisation 4.3 Infection and Response	4.4. Bioenergetics 4.5 Homeostasis and response 4.7 Ecology	4.6 Inheritance, Variation and Evolution 4.7 Ecology consolidation

Combined group

Year 9	Year 10	Year 11
4.1 Cell Biology 4.2 Organisation 4.3 Infection and Response	4.3 Infection and Response 4.4. Bioenergetics 4.5 Homeostasis and response	4.6 Inheritance, Variation and Evolution 4.7 Ecology Revisit and Consolidate Paper 1 Topics

Year 12	Year 13
3.1 Biological Molecules 3.2 Cells 3.3 Organisms Exchange Substances with their Environment 3.4 Genetic Information, Variation and Relationships between Organisms	3.5 Energy Transfers in and between Organisms 3.6 Organisms Respond to Changes in their internal External Environments 3.7 Genetics, Populations, Evolution and Ecosystems 3.8 The Control of Gene Expression

Chemistry
Curriculum Map — KS3/4

Year 7	Year 8
The Particle Model Atoms, Elements and Compounds Separation Techniques Simple Chemical Reactions	Chemical Reactions Part 2 The Periodic Table Earth and Atmosphere Materials

Accelerated group

Year 9	Year 10	Year 11
4.1 Atomic Structure and the Periodic Table 4.2 Bonding, Structure and Properties of Matter 4.4 Chemical Changes	4.3 Quantitative Chemistry 4.5 Energy Changes 4.6 The Rate and Extent of Chemical Change 4.8 Chemical Analysis	4.7 Organic Chemistry 4.8 Chemical Analysis

Options group

Year 9	Year 10	Year 11
4.1 Atomic Structure and the Periodic Table 4.2 Bonding, Structure and Properties of Matter 4.4 Chemical Changes	4.3 Quantitative Chemistry 4.5 Energy Changes 4.6 The Rate and Extent of Chemical Change 4.7 Organic Chemistry 4.8 Chemical Analysis	4.7 Organic Chemistry 4.8 Chemical Analysis Revisit and Consolidate paper 1 topics

Combined group

Year 9	Year 10	Year 11
5.1 Atomic Structure and the Periodic Table 5.2 Bonding, Structure and Properties of Matter 5.4 Chemical Changes	5.3 Quantitative Chemistry 5.4 Chemical Changes 5.5 Energy Changes 5.9 Chemistry of the Atmosphere	5.6 The Rate and Extent of Chemical Change 5.7 Organic Chemistry 5.8 Chemical Analysis

Chemistry
Curriculum Map — KS5

Year 12	Year 13
<u>Physical</u> Atomic structure Amount of substance Bonding Energetics Oxidation, reduction and redox equations Kinetics Chemical equilibria, Le Chatelier's principle and Kc Acids and bases <u>Organic</u> Introduction to organic chemistry Alkanes Halogenoalkanes Alkenes Alcohols Organic analysis <u>Inorganic</u> Periodicity Group 2, the alkaline earth metals Group 7(17), the halogens	<u>Physical</u> Thermodynamics Rate equations Equilibrium constant Kp for homogeneous systems Electrode potentials and electrochemical cells <u>Organic</u> Optical isomerism Aldehydes and ketones Carboxylic acids and derivatives Aromatic chemistry Amines Polymers Amino acids, proteins and DNA Organic synthesis Nuclear magnetic resonance spectroscopy Chromatography <u>Inorganic</u> Properties of Period 3 elements and their oxides Transition metals Reactions of ions in aqueous solution

Physics
Curriculum Map

Year 7	Year 8
Energy Forces and Pressure Space Physics	Current and Static Electricity Forces and Motion Magnetism Waves

Accelerated group

Year 9	Year 10	Year 11
4.1 Energy 4.2 Electricity	4.2 Electricity 4.4 Atomic Structure 4.5 Forces	4.7 Magnetism and Electromagnetism 4.8 Space

Options group

Year 9	Year 10	Year 11
4.1 Energy 4.2 Electricity	4.2 Electricity 4.4 Atomic Structure 4.5 Forces	4.7 Magnetism and Electromagnetism Revisit and Consolidate paper 1 topics

Combined group

Year 9	Year 10	Year 11
6.1 Energy 6.2 Electricity	6.2 Electricity 6.4 Atomic Structure 6.5 Forces	6.5 Forces 6.7 Magnetism and Electromagnetism

Year 12	Year 13
1 Measurements and their errors 2 Particles and radiation 3 Waves 4 Mechanics and materials 5 Electricity	6 Further mechanics and thermal physics 7 Fields and their consequences 8 Nuclear physics 11 Engineering Physics

Applied Science Curriculum Map

Year 12

Unit 1 – Principles and applications of Science

The electronic structure of atoms
Ionic bonding
Covalent bonding
Metallic bonding
Intermolecular forces
Quantities used in chemical reactions
The periodic table
Physical properties of elements
Chemical properties of elements
Cell theory
Microscopy
Ultrastructure and function of organelles in cells
Cell specialisation: structure and function
Tissue structure and function; epithelial, endothelial, muscle, nervous
Oscillations, periods and amplitude
Wave motion
Wave speed
Graphical representation of wave features
Types of wave motion: transverse and longitudinal
Diffraction gratings
Stationary waves resonance
The principles of fibre optics
Optical fibres
Applications of fibre optics in medicine and communication
Speed of electromagnetic waves and inverse square law for intensity of a wave
Regions of the electromagnetic spectrum

Unit 2 – Practical scientific procedures and techniques

Laboratory equipment and calibration
Standardisation of solutions using titration
Titration
Colorimetry
Thermometers
Cooling curves
Determination of melting point
Chromatographic techniques
Applications of chromatography
Other types of chromatography
Theory and principles behind chromatography
Personal responsibility
Interpersonal skills
Professional practice

Year 13

Unit 3 – Science investigation skills

Writing a hypothesis for an investigation
Selection of appropriate equipment, techniques and standard procedures
Health and safety issues
Variables in an investigation
Method for data collection and analysis
Collection of qualitative and quantitative data
Processing data
Interpretation and analysis of data
Evaluation
Enzymes in action
Diffusion of molecules
Plants and their environment
Energy content of fuels
Electrical circuits

Unit 8 – Physiology of human body systems

Structure of the musculoskeletal system
Functions of the musculoskeletal system
Disorders of the musculoskeletal system
Health matters and treatments related to the musculo-skeletal system
Structure of the lymphatic system
Functions of the lymphatic system
Disorders of the lymphatic system
Health matters and treatments related to the lymphatic system
Structure of the digestive system
Functions of the digestive system
Disorders of the digestive system
Health matters and treatments related to the digestive system and diet

Health & Social Care Curriculum Map

Year 12	Year 13
Unit 1 – Human lifespan development Physical development across life stages Intellectual development across life stages Emotional development across life stages Social development across life stages The nature/nurture debate Genetic factors that affect development Environmental factors that affect development Social factors that affect development Economic factors that affect development Major life events that affect development The physical effects of ageing The psychological effects of ageing The societal effects of ageing **Unit 14 – Physiological disorders and their care** Types of physiological disorder and the effects on body systems and functions Impact of disorders on service users' physical, mental, social and emotional health Causes of physiological disorders Signs and symptoms of physiological disorders Investigative procedures for physiological disorders Diagnostic procedures for physiological disorders Provision of treatment and support Types of carers and care settings Care methods and strategies Treatment plan processes	**Unit 2 – Working in health and social care** Roles of people who work in health and social care settings Responsibilities of people who work in health and social care settings Multi-disciplinary working in the health and social care sector Monitoring the work of people in health and care settings Roles of organisations in providing health and care services Issues that affect access to services Ways organisations represent the interests of service users Roles of organisations that regulate and inspect health and social care services Responsibilities of organisations towards people who work in health and social care settings People with specific needs Working practices **Unit 5 – Meeting individual care and support needs** Promoting equality, diversity and preventing discrimination Skills and personal attributes required for developing relationships with individuals Empathy and establishing trust with individuals Ethical issues and approaches Legislation and guidance on conflict of interest, balancing resources and minimising risk Enabling individuals to overcome challenges Promoting personalisation Communication techniques How agencies work together to meet individual care and support needs Roles and responsibilities of key professionals on multi-disciplinary teams Maintaining confidentiality Managing information

Science
Assessment Guidance

Years 7 to 11

These guidelines outline the expectations with regards to **teacher marking and feedback**, along with what should be present in student written work.

All students across KS3 and 4 will have a science exercise book to be used in the majority of lessons and KS4 students will have a folder in addition to this for core practical work.

Some lessons will also use printed booklets to support learning.

Embedded throughout the guidelines are clear links to the **academy expectations** of student work:

Pride in work; **Subject knowledge** and practise of **skills;** Regular **review;** Actions following **responsive feedback** and **Progress**.

Assessment

Type of assess-ment	Description	Time allocated	Marking	Recording data	Feedback
Summative	Longer term, high-er stakes assess-ment that informs module grades	45 mins	Teacher	Centralised track-er / satchel	Class feedback sheet and closing the gap activity
Checkpoint	Lower stakes to check understand-	30-40 mins	Self-peer marked	Teacher mark book / satchel	
AoK	AO3 based assess-ment	20-30 mins	Teacher	Teacher mark book	Marking grid

AoK assessments assess AO3 skills and assess a different theme each term. In term 1 students are assessed on their graph drawing skills, term 2 assesses writing skills and term 3 assesses practical analysis skills. These are teacher assessed using a marking grid which explicitly identifies strengths and target areas.

Marking

In addition to this formal assessment marking, we expect to see the following evidence of effective feedback in lessons and books.

Peer/student marking

This is when student's mark each other's work. It usually done in a different colour pen to that which the task was completed in.

Oral feedback

This can be from a teacher or a peer to a student to support their progress. This will not be evident in books but will be noted in learning walks.

Homework

Homework consists of a variety of activities, including spelling tests, quizzes, reading and comprehension tasks and exam style questions. Some of these tasks, such as spelling tests and quizzes provide both students and teachers with immediate feedback through Satchel:One. Comprehension tasks and exam-style questions may either be peer/self-marked in the lesson or teacher marked.

Science
Assessment Guidance

Student work standards

A student's exercise book is expected to become a valuable revision resource, and as such, all notes and activities must be presented in line with Academy/department expectations. Each book should be introduced with an outline of the teaching order for the Academic Year and a set of QR codes. These link to 'knowledge organisers' for each topic and can be used to support tasks in class or personal revision at home. To embed longer term learning there should be evidence of retrieval practice in the exercise books. This may come in the form of mini tests or questions at the beginning of each lesson. For KS4 practical lab books are used to present and analyse required practical data. There is also an opportunity to complete follow up questions and exam style questions relating to each practical.

KS5

All students completing KS5 Science courses are expected to keep a folder or exercise book with the following: notes from each topic, assessments, required practical work and supervised study work. The folder should be kept in a neat and organised condition and a standards check will be carried out each module.

Biology

Students are assessed in this linear qualification in three formal examinations. In addition to this, questions will also assess the use of practical skills. Mathematical and data interpretation skills which will make up at least 10% of the examination papers. In the third paper, students will be assess on their ability to link the topics and their knowledge synoptically, through an extended answer question. There is no coursework element of the course. Instead, the students will be required to complete a number of core practical which cover specific skills and techniques. In lesson, feedback is provided to students both in the forms of written and verbal comments. Students will complete a range of different tasks, including summative assessments, baseline tests and multiple choice questions tests, of which written feedback and time for reflection is provided. There will be 7 summative assessments in Year 12 and 6 assessments in Year 13. Mock examinations will take in Year 12 and 13, which will cover all content covered and be guided by recent examinations. This will help to inform module grades and predicted grades.

Chemistry

Over the course of two years, students will complete 10 summative assessments in class. These assessments will last approximately 50 minutes and be worth approximately 40 marks each. These assessments are important for providing feedback on student progress. Students will also complete two mock examinations (one in Y12 and one in Y13) largely based on previous papers. These assessments will directly inform predicted grades. Assessments will be based on current topics taught, but as the course progresses, questions may draw on knowledge from earlier units, reflecting the synoptic nature of the A-level chemistry course.

Physics

Students in Year 12 will sit 10 summative assessments, each of around 40 to 45 marks long, and complete a mock examination based on the first half of the course; including multiple-choice and skills based sections. In Year 13 students will sit 7 summative assessments and a further detailed mock examination covering the large majority of the course; again, including a skills based section and multi-choice questions. Homework is differentiated, with assistance and follow up provided by the teacher. Finally, students will sit a set written homework for each topic they study. All teacher assessed work will have feedback provided and a closing the gap activity. Students in lessons are each provided with an exercise book per teacher to complete classwork and this will include extensive self and peer marking to ensure material covered in lessons is being informally assessed. Details of topics included in summative assessments and mock exams will be provided to students well in advance of sitting the assessments in order to provide plenty of opportunity for revision (in and out of lessons) and opportunity for students to seek assistance and further help from their teachers before the assessments. All of the assessed work completed by students will feed in to module grades and predicted grades for potential further education courses.