

Biology

Curriculum Map

Year 7 Cells and Organisation The Skeletal and Muscular Systems Gas Exchange Systems Reproduction Photosynthesis	Year 8 Nutrition and Digestion Health Cellular Respiration Interactions and Interdependencies Inheritance, Chromosomes, DNA and Genes
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Accelerated group

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

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

Year 9 4.1 Cell Biology 4.2 Organisation	Year 10 4.4. Bioenergetics 4.5 Homeostasis and response	Year 11 4.6 Inheritance, Variation and Evolution
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Year 12 3.1 Biological Molecules 3.2 Cells 3.3 Organisms Exchange Substances with their Environment 3.4 Genetic Information, Variation and Relationships between Organisms	Year 13 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
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Chemistry

Curriculum Map — KS3/4

Year 7	Year 8
The Particulate Nature of Matter Atoms, Elements and Compounds Pure and Impure Substances Chemical Reactions Part 1 Energetics	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 4.9 Chemistry of the Atmosphere	4.5 Energy Changes 4.6 The Rate and Extent of Chemical Change 4.7 Organic Chemistry

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 4.5 Energy Changes	4.3 Quantitative Chemistry 4.10 Using Resources 4.6 The Rate and Extent of Chemical Change	4.6 The Rate and Extent of Chemical Change 4.7 Organic Chemistry 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	5.10 Using Resources 5.5 Energy Changes 5.3 Quantitative Chemistry	5.6 The Rate and Extent of Chemical Change 5.3 Quantitative Chemistry 5.7 Organic Chemistry



Chemistry

Curriculum Map — KS5

Year 12	Year 13
<p><u>Physical</u></p> <p>Atomic structure Amount of substance Bonding Energetics Oxidation, reduction and redox equations Kinetics Chemical equilibria, Le Chatelier's principle and K_c Acids and bases</p>	<p><u>Physical</u></p> <p>Thermodynamics Rate equations Equilibrium constant K_p for homogeneous systems Electrode potentials and electrochemical cells</p>
<p><u>Organic</u></p> <p>Introduction to organic chemistry Alkanes Halogenoalkanes Alkenes Alcohols Organic analysis</p>	<p><u>Organic</u></p> <p>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</p>
<p><u>Inorganic</u></p> <p>Periodicity Group 2, the alkaline earth metals Group 7(17), the halogens</p>	<p><u>Inorganic</u></p> <p>Properties of Period 3 elements and their oxides Transition metals Reactions of ions in aqueous solution</p>



Physics Curriculum Map

Year 7 Particle Model Physical Changes Energy Forces and Pressure Static Electricity Space Physics	Year 8 Current Electricity Forces and Motion Magnetism Waves
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Accelerated group

Year 9 4.1 Energy 4.3 Particle Model of Matter 4.6 Waves 4.2 Electricity	Year 10 4.2 Electricity 4.5 Forces	Year 11 4.5 Forces 4.7 Magnetism and Electromagnetism 4.8 Space
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Options group

Year 9 4.1 Energy 4.3 Particle model of matter 4.4 Atomic structure 4.2 Electricity	Year 10 4.3 Particle Model of Matter 4.4 Atomic Structure 4.5 Forces	Year 11 .7 Magnetism and Electromagnetism 4.8 Space Revisit and Consolidate paper 1 topics
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Combined group

Year 9 6.1 Energy 6.3 Particle Model of Matter 6.6 Waves	Year 10 6.3 Complete particle Model 6.2 Electricity 6.4 Atomic Structure 6.5 Forces	Year 11 6.6 Atomic Structure 6.7 Magnetism and Electromagnetism
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Year 12 1 Measurements and their errors 2 Particles and radiation 3 Waves 4 Mechanics and materials 5 Electricity	Year 13 6 Further mechanics and thermal physics 7 Fields and their consequences 8 Nuclear physics 12 Turning points in physics
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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 musculoskeletal 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

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

Year 13

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 assessment	Description	Time allocated	Marking	Recording data	Feedback
Summative	Longer term, higher stakes assessment that informs module grades	45 mins	Teacher	Centralised tracker / satchel	Class feedback sheet and closing the gap activity
Checkpoint	Lower stakes to check understanding	20 mins	Self-peer marked	Teacher mark book / satchel	
AoK	AO3 based assessment	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

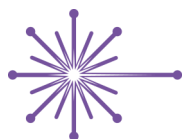
This is when student's mark each other's work. It usually done in a different colour pen to that which the task was completed in.

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 assessed 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 practicals 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. Students will complete several checkpoint assessments, each approximately 30 minutes long, which will be self-marked. These assessments are important for providing feedback on student progress but do not contribute to predicted or module grades. 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 5 summative assessments, each of around 35 to 40 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 6 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 set weekly and is self-marking 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.

