



Marshall's Park Academy - Curriculum Overview

Subject: **Science**

Year Group: **9**

Curriculum/Subject Leader: **Mr Whitley**

26/27



During **Year 9**, students will complete KS3 and begin their GCSE course with units from Biology Chemistry and Physics paper 1.

Combined Science (Trilogy) awards students **two** GCSE grades and covers key scientific concepts, practical skills, and exam techniques. The course includes **16 required practicals** that develop students' understanding of scientific investigation and application. Students sit **six** exams at the end of Year 11: two each in Biology (B1, B2), Chemistry (C1,C2), and Physics (P1, P2). Each paper is **1 hour 15 minutes**, with a mix of multiple-choice, structured, closed short answer, and extended response questions, contributing to the final grades.

Triple Science leads to **three** separate GCSEs in Biology, Chemistry, and Physics, providing a deeper exploration of each subject. This course is ideal for students who wish to pursue Science at A-Level and beyond. Triple Science includes one additional topic on **Space** and more complex content than Combined Science, with students completing **24 required practicals** in total. Students will sit **six exams**: two per science discipline, each lasting **1 hour 45 minutes**, and featuring varied question types that assess knowledge, practical understanding, and data analysis skills

TERM 1	TERM 2	TERM 3
KNOWLEDGE	KNOWLEDGE	KNOWLEDGE
B3.1 Growth and Differentiation The study of how cells divide through mitosis, the process of growth, and cell differentiation, focusing on how specialized cells develop from stem cells in plants and animals.	C3.2 Introduction to Quantitative Chemistry The introduction to quantitative aspects of chemistry, including calculations involving the mole, relative formula mass, and balanced equations to determine the amounts of reactants and products in chemical reactions.	P3.3 Sound and Waves The properties of waves, with a focus on sound waves, including their frequency, wavelength, amplitude, and how they travel through different materials, along with practical uses like ultrasound.
C3.1 The Periodic Table The development of the periodic table, the arrangement of elements based on atomic structure, and the trends in properties across groups and periods, including metals and non-metals.	P3.2 Heating The study of heat transfer methods, including conduction, convection, and radiation, and the role of insulation and thermal conductivity in energy efficiency.	P3.4 Home Electricity The study of electrical circuits in the home, including mains electricity, alternating current (AC), direct current (DC), power ratings of appliances, and the importance of electrical safety measures.
P3.1 Acceleration The study of motion, focusing on how forces cause changes in velocity and acceleration, and including calculations involving speed, distance, and time, along with Newton's laws of motion.	B3.3 Genetics The study of DNA structure, inheritance patterns, genetic variation, the process of meiosis, and applications of genetics, such as genetic engineering and cloning.	B4.1 The Digestive System The structure and function of the human digestive system, including the role of enzymes in digestion, nutrient absorption, and how different organs work together to break down and process food.
B3.2 Human Interaction The impact of human activities on ecosystems, including pollution, deforestation, biodiversity loss, and conservation, as well as strategies to manage human impact on the environment.	C3.3 Using Resources The sustainable use of Earth's resources, the environmental impact of human activity, and ways to minimize pollution and conserve resources through recycling and sustainable practices.	C4.1 Structure and Bonding The study of atomic bonding, including ionic, covalent, and metallic bonding, and how these types of bonds influence the structure and properties of substances.

- SKILLS:
- AO1: Demonstrate knowledge and understanding of: scientific ideas; scientific techniques and procedures.
 - AO2: Apply knowledge and understanding of: scientific ideas; scientific enquiry, techniques and procedures.
 - AO3: Analyse information and ideas to: interpret and evaluate; make judgments and draw conclusions; develop and improve experimental procedures.

KEY ASSESSMENTS	KEY ASSESSMENTS	KEY ASSESSMENTS
Autumn half term 1 assessment B3.1 Growth and Differentiation Autumn half term 2 assessment C3.1 The Periodic Table P3.1 Acceleration	Spring half term 3 assessment B3.2 Human Interaction C3.2 Introduction to Quantitative Chemistry Spring half term 4 assessment P3.2 Heating B3.3 Genetics	Summer half term 5 assessment C3.3 Using Resources P3.3 Sound and Waves Summer end of year assessment (half term 6) All units from year 9 including P3.4 Home Electricity B4.1 The Digestive System

- Links to external resources:
- 1. Tassomai**
Website: [Tassomai](#)
Description: An adaptive learning platform that personalizes quizzes to help students strengthen their knowledge in GCSE Science topics.
 - 2. Focus eLearning**
Website: [Focus eLearning](#)
Description: Provides interactive, visual simulations for science experiments and concepts. Ideal for enhancing practical understanding, especially for the practical components of the GCSE Combined Science course.
 - 3. BBC Bitesize (GCSE Science)**
Website: BBC Bitesize
Description: Comprehensive revision resources, including videos, quizzes, and interactive activities for Biology, Chemistry, and Physics.
 - 4. Seneca Learning**
Website: [Seneca Learning](#)
Description: Free, interactive courses covering the entire GCSE Science syllabus with engaging visuals and quick quizzes.
 - 5. Save My Exams**
Website: [Save My Exams](#)
Description: Offers detailed revision notes, practice questions, model answers, and past papers tailored to AQA and other exam boards.
 - 6. Cognito**
Website: [Cognito](#)
Description: Provides free, short video lessons covering all GCSE Science topics in a clear and concise way. Great for quick revision and concept reinforcement.
 - 7. FuseSchool (YouTube)**
Channel: [FuseSchool](#)
Description: A YouTube channel offering animated tutorials for Biology, Chemistry, and Physics, making complex concepts more engaging and easier to understand.
 - 8. Physics and Maths Tutor (PMT)**
Website: [Physics and Maths Tutor](#)

Description: Offers revision notes, past papers, worksheets, and video tutorials for GCSE Biology, Chemistry, and Physics.

Book:

CGP revision guides and resources

[GCSE Science - AQA | CGP Books](#)