



Marshalls Park Academy - Curriculum Overview



Subject: Science

Year Group: 11

Curriculum/Subject Leader: ZST

Academic Year:23/24

During Year 11, students will start their GCSE course by studying units required for Paper 1 and 2 (AQA Combined Science Trilogy or AQA Triple Science Biology, Chemistry and Physics). The units will contain theoretical, required practical-based lessons, revision and exam practice. Students complete all 6 Science papers in year 11 with exams accounting for 100% of their grades. Within these exams there will be questions that will draw on the knowledge and understanding students have gained from carrying out the required practical activities. These questions will count for at least 15 % of the overall marks for the qualification.

AQA combined Science Trilogy: Paper 1 Biology, Paper 1 Chemistry, Paper 1 Physics, Paper 2 Biology, Paper 2 Chemistry and Paper 2 Physics. All exams are 1 hour and 15 and students will gain the equivalent of two Science GCSEs.

AQA Triple Science: Paper 1 Biology and Paper 2 Biology, Paper 1 Chemistry, Paper 2 Chemistry, Paper 1 Physics and Paper 2 Physics. All exams are 1 hour and 45 minutes and students will gain three separate Science GCSEs: Biology, Chemistry and Physics.

TERM 1	TERM 2	TERM 3
KNOWLEDGE/SKILLS	KNOWLEDGE/SKILLS	KNOWLEDGE/SKILLS
Knowledge/topics: Biology: B7 - Ecology part 2 (food production, the water and carbon cycles and human impacts) and Start B6 – Inheritance, Variation and Selection (DNA, genes and mutations, reproduction, culturing microorganisms, variation, evolution, extinction and classification) Chemistry: C7 - Organic Chemistry (Hydrocarbons, crude oil, alkenes and addition polymerisation, alcohols and carboxylic acids, condensation polymerisation and natural polymers) and start C10 – Using resources (types of resources, potable water, recycling, life-cycle assessments, ceramics, alloys and fertiliser) Physics: P6 – Waves (wave properties, reflection, refraction, lenses, light and sound) and P7 – Magnetism and Electromagnetism (magnetism, the motor effect, the generator effect and transformers)	Biology: B6 – Inheritance, Variation and Selection Continued Chemistry - C10 – Using resources continued Knowledge: This term will consist of revision of the topics in advance of examination period for paper 1: Biology paper 1: B1 Cell Biology, B2 Organisation, B3 Infection and Response and B4 Bioenergetics Chemistry Paper 1: C1 Atomic Structure, C2 Bonding, Structure and the Properties of Matter, C3 Quantitative Chemistry, C4 Chemical Changes and C5 Energy Changes Physics Paper 1: P1 Energy, P2 – Electricity, P3 Particle Model of Matter and P4 Atomic Structure	Knowledge: This term will consist of revision of the topics in advance of examination period for paper 2: Biology Paper 2: B5 Homeostasis, B6 Inheritance, Variation and Selection and B7 Ecology Chemistry Paper 2: C6 The Rate and Extent of Chemical Change, C7 Organic Chemistry, C8 Chemical Analysis, C9 Chemistry of the Atmosphere and C10 Using resources Physics Paper 2: P5 Forces, P6 Waves and P7 Magnetism and Electromagnetism (includes P8 Space for Triple Science only)
Skills:		
<ul style="list-style-type: none"> • 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
Biology: B7 – Ecology part 2 Chemistry: C7 – Organic Chemistry Physics: P6 – Waves and P7 – Magnetism and Electromagnetism PPEs – Paper 1	Biology: B6 – Inheritance, Variation and Selection Chemistry: C10 – Using Resources Regular testing in class to test ALL skills and content knowledge in advance of final GCSEs. PPE – Paper 2	Regular testing in class to test ALL skills and content knowledge in advance of final GCSEs. GCSE Examinations



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Extended reading suggestions and links to external resources:

<https://www.bbc.com/bitesize/examspecs/z8r997h> (Combined Science), <https://www.bbc.com/bitesize/examspecs/zsc9rdm> (Physics Triple Science),
<https://www.bbc.com/bitesize/examspecs/z8xtmnb> (Chemistry Triple Science), <https://www.bbc.com/bitesize/examspecs/zpgcbk7> (Biology Triple Science)

CGP GCSE AQA Combined Science Foundation or Higher Revision Guide and CGP GCSE AQA Combined Science Exam practice Workbook Foundation or Higher

CGP GCSE AQA Biology/Physics/Chemistry Revision Guide (individual) CGP GCSE AQA Biology/Physics/Chemistry Exam practice workbook (individual)

CGP GCSE Biology/Physics/Chemistry Revision question cards (can be used for both combined and triple as triple sections identified and can be removed)

www.focuselearning.co.uk – required practical support (username will be set on SMHW or ask class teacher)

www.youtube.com – users: primrose kitten, fuseschool, freesciencelessons, Malmesbury Education (required practical support)

www.gcsepod.com (create log in on website or ask form tutor to support), www.samlearning.com (ask form tutor for log in)

Outside reading to support learning: When the Wolves Returned: Restoring Nature's Balance in Yellowstone by Dorothy Hinshaw Patent (Goodreads Author) and Water Is Water: A Book About the Water Cycle by Miranda Paul (Goodreads Author)