AQA
Realising potential

GCSE Combined Science: Trilogy

Double award

Exams

Six papers: two biology, two chemistry and two physics. Each will assess different topics.

Duration: all the papers are 1 hour 15 minutes.

Tiers: Foundation and Higher.

Weighting: the papers are equally weighted. Each is worth 16.7% of the grade and has 70 marks.

Question types: multiple choice, structured, closed, short answer and open response.

Summary of content

Biology

- Cell biology
- Organisation
- Infection and response
- Bioenergetics
- Homeostasis and response
- Inheritance, variation and evolution
- Ecology

Chemistry

- Atomic structure and the periodic table
- Bonding, structure, and the properties of matter
- Quantitative chemistry
- Chemical changes
- Energy changes
- The rate and extent of chemical change
- Organic chemistry
- Chemical analysis
- Chemistry of the atmosphere
- Using resources

Physics

- Forces
- Energy
- Waves
- Electricity
- Magnetism and electromagnetism
- Particle model of matter
- Atomic structure

Biology Paper 1
What's assessed Cell biology, organisation, infection & response and bioenergetics
How it's assessed Written exam: 1 hour 15 minutes 70 marks 16.7% of GCSE
Questions Multiple choice, structured, closed short answer and open response

Chemistry Paper 1
What's assessed Atomic structure & periodic table, bonding, structure & properties of matter, quantitative chemistry, chemical changes and energy changes
How it's assessed Written exam: 1 hour 15 minutes 70 marks 16.7% of GCSE
Questions Multiple choice, structured, closed short answer and open response

Physics Paper 1
What's assessed Energy, electricity, particle model of matter and atomic structure
How it's assessed Written exam: 1 hour 15 minutes 70 marks 16.7% of GCSE
Questions Multiple choice, structured, closed short answer and open response

Biology Paper 2
What's assessed Homeostasis and response, inheritance, variation & evolution and ecology
How it's assessed Written exam: 1 hour 15 minutes 70 marks 16.7% of GCSE
Questions Multiple choice, structured, closed short answer and open response

Chemistry Paper 2
What's assessed The rate & extent of chemical change, organic chemistry, chemical analysis, chemistry of the atmosphere and using resources
How it's assessed Written exam: 1 hour 15 minutes 70 marks 16.7% of GCSE
Questions Multiple choice, structured, closed short answer and open response

Physics Paper 2
What's assessed Forces, waves & magnetism and electromagnetism
How it's assessed Written exam: 1 hour 15 minutes 70 marks 16.7% of GCSE
Questions Multiple choice, structured, closed short answer and open response

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GCSE Combined Science Trilogy: Biology

Biology Paper 1	15th May 2018
Cell Biology	
Cells	
Microscopy	
Cell differentiation & specialisation	
Chromosomes & mitosis	
Stem cells	
Diffusion	
Osmosis	
Active transport	
Exchange surfaces	
Exchanging substances	
Organisation	
Cell organisation	
Enzymes and reactions	
Enzymes & digestion	
The lungs	
Circulatory system; heart, , blood vessels & blood	
Cardiovascular disease	
Health & disease	
Non-communicable disease	
Cancer	
Plant cell organisation	
Transpiration & Translocation	
Transpiration & stomata	
Infection & Response	
Communicable disease	
Viral, fungal & protist diseases	
Bacterial diseases and preventing diseases	
Fighting disease, vaccination & drugs	
Developing drugs	
Bioenergetics	
Photosynthesis & limiting factors	
The rate of photosynthesis	
Respiration & metabolism	
Aerobic & anaerobic respiration	

Biology Paper 2	11th June 2018
Homeostasis & response	
Homeostasis	
The nervous system	
Synapses and reflexes	
Investigating reaction time	
The endocrine system	
Controlling blood glucose	
Puberty & the menstrual cycle	
Controlling fertility	
Adrenaline & thyroxine *(Higher)*	
Inheritance, Variation & Evolution	
DNA	
Reproduction	
Meiosis	
X & Y chromosomes	
Genetic diagrams	
Inherited disorders	
Variation	
Evolution	
Selective breeding	
Genetic engineering	
Fossils	
Antibiotic resistant bacteria *(Higher)*	
Classification	
Ecology	
Competition	
Abiotic & Biotic factors	
Adaptations	
Food chains	
Using quadrats	
Using transects	
The water cycle	
The carbon cycle	
Biodiversity & waste management	
Global warming	
Deforestation & land use	
Maintaining ecosystems & biodiversity	

GCSE Combined Science Trilogy: Chemistry

Chemistry Paper 1	17th May 2018
Atomic structures and the periodic table	
Atoms	
Elements	
Compounds	
Chemical equations	
Separation techniques, mixtures & chromatography	
Distillation	
History of the atom	
Electronic structure	
Development of the periodic table	
The modern periodic table	
Metals & non-metals	
Group 1 elements	
Group 7 elements	
Group 0 elements	
Bonding structure & properties of matter	
Formation of ions	
Ionic bonding	
Ionic compounds	
Covalent bonding	
Simple molecular substances	
Polymers & giants covalent structures	
Allotropes of carbon	
Metallic bonding	
States of matter	
Changing state	
Quantitative Chemistry	
Relative formula mass	
The mole	
Conservation of mass	
The mole & equations *(Higher)*	
Limiting reactants *(Higher)*	
Concentrations of solutions	
Chemical changes	
Acids & bases	
Strong acids & weak acids	
Reactions of acids	
The reactivity series	
Separating metals from metal oxides *(Higher)*	
Redox reactions *(Higher)*	
Electrolysis	
Electrolysis of aqueous solutions	
Energy Changes	
Exothermic & endothermic reactions	
Bond energies *(Higher)*	

Chemistry Paper 2	13th June 2018
The rate and extent of chemical change	
Rates of reaction	
Factors affecting rates of reaction	
Measuring rates of reaction	
Two rates experiments *(Higher)*	
Finding reaction rates from graphs *(Higher)*	
Reversible reactions	
Le Chateliers's principle *(Higher)*	
Organic chemistry	
Hydrocarbons	
Fractional distillation	
Uses and cracking of crude oil	
Chemical analysis	
Purity & formulations	
Paper chromatography	
Tests for gases	
Chemistry of the atmosphere	
The evolution of the atmosphere	
Greenhouse gases and climate change	
Carbon footprints	
Air pollution	
Using resources	
Finite & renewable resources	
Reuse & recycling	
Life cycle assessments	
Potable water	
Waste water treatment	

GCSE Combined Science Trilogy: Physics

Physics Paper 1	23rd May 2018
Energy	
Energy stores & systems	
Kinetic & potential energy stores	
Specific heat capacity	
Conservation of energy and power	
Reducing unwanted energy transfers	
Efficiency	
Energy resources & their uses	
Wind, solar & geothermal	
Hydro-electricity, waves & tides	
Bio-fuels and non-renewables	
Trends in energy resource use	
Electricity	
Current & circuit symbols	
Resistance & V=IR	
Resistance and I-V characteristics	
Circuit devices	
Series circuits	
Parallel circuits	
Investigating resistance	
Electricity in the home	
Power	
The national grid	
Particle model of matter	
The particle model & motion in gases	
Density of materials	
Internal energy and changes of state	
Specific latent heat	
Atomic structure	
Developing the model of the atom	
Isotopes and nuclear radiation	
Nuclear equations	
Half-life	
Irradiation & contamination	

Physics Paper 2	15th June 2018
Forces	
Contact & non-contact forces	
Weight, mass & gravity	
Resultant forces & work done	
Calculating forces *(Higher)*	
Forces & elasticity	
Investigating springs	
Distance, displacement, speed & velocity	
Acceleration	
Distance-time & velocity-time graphs	
Terminal velocity	
Newton's First & Second laws	
Inertia & Newton's Third law	
Investigating motion	
Stopping distances	
Reaction times	
Momentum *(Higher)*	
Waves	
Transverse & longitudinal waves	
Experiments with waves	
Wave behaviour & electromagnetic waves	
Refraction	
Radio waves *(Higher)*	
EM waves & their uses	
More uses of EM waves	
Investigating infrared radiation	
Dangers of electromagnetic waves	
Magnetism & electromagnetism	
Permanent & induced magnets	
Electromagnetism	
The motor effect *(Higher)*	
Electric motors *(Higher)*	