

OVERVIEW

Students follow the AQA GCSE Science course and will gain a thorough grounding in each of the three sciences. Not only will they develop their knowledge and understanding of biology, chemistry and physics but they will enrich their experience by completing practical activities and learning through discovery. Students continue to build on the knowledge and understanding gained from Year 9, studying topics that build in complexity. Lessons include regular retrieval practice and past paper questions to build up recall and application skills. Students are taught by three specialist teachers, each taking 4 lessons a fortnight.

Autumn

Biology*B2 Organisation*

Digestive system, Enzymes, Practical, Circulatory System, Heart, Blood & Blood vessels, Respiratory System, Adaptations of the lungs.

Chemistry*C1 Atomic Structure*

Atomic Structure, development of atomic model, history of periodic table, group 1 elements, group 7 elements.

C2 Bonding

Ionic Bonding, Reactivity of Metals, Covalent Bonding, Metallic Bonding, Simple molecules, allotropes of carbon.

C3 Quantitative Chemistry

Relative Formula Mass, Reacting Masses, Balancing equations

Physics*P1 Energy*

Energy pathways & transfers, Kinetic Energy, Gravitational Potential Energy, Elastic Energy, Renewable and non-renewable energy sources.

Assessment:

End of topic test for each unit.

Spring

Biology*B3 Infection*

Pathogens, communicable Diseases, Viruses, Bacteria, Fungi and Protists, Immune Response, Vaccinations, Clinical Trials.

Chemistry*C4 Chemical Changes*

Reactivity of metals, Reactions of acids, Displacement, forming salts, Electrolysis

C5 Energy Changes

Exothermic and endothermic reactions, energy change investigations, energy level diagrams, calculating bond energy.

Physics*P2 Electricity*

Circuits & symbols, series circuits, parallel circuits, resistance equation, resistance of a wire investigation, wiring a plug, National Grid

Assessment:

Mid-Year exam paper based on topics covered so far.

End of topic test for each unit.

Summer

Biology*B4 Bioenergetics*

Photosynthesis, Adaptations of a leaf, Respiration, Effects of exercise on the body.

B7 Ecology

Communities, Adaptations, Cycling materials, Sampling populations, Biodiversity, Human impact on ecosystems.

Chemistry*C5 Energy Changes*

Exothermic & endothermic reactions, energy change investigations, energy level diagrams, calculating bond energy, fuel cells.

C6 Rates of Reaction

Rates, Effect of concentration, effect of surface area, effect of temperature, Catalysts.

Physics*P4 Atomic Structure*

Atomic Structure, History of the atom, Alpha, Beta and Gamma radiation, Half life, irradiation & contamination.

P7 Magnetism

Magnetic fields, Motor effect, Electric motors.

Assessment:

End of Year exam will be 3 x Paper 1

End of topic test for each unit.

Useful resources for supporting your child at home:

- CGP Science Revision Guide
- BBC Bitesize revision pages
- YouTube: Cognito Science lessons

Homework:

Weekly Carousel Quiz will be set and emailed to all students and parents/carers email address'.