

## OVERVIEW

Students follow the AQA GCSE Combined Science course and will gain a thorough grounding in each of the three sciences. Not only will students 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 two teachers, each taking 4 lessons a fortnight.

## Aut

**Biology***B1 cells*

Transport in Cells, Osmosis  
Practical, Stem cells,  
Mitosis, Cancer.

*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.

**Physics***P1 Energy*

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

*P2 Electricity*

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

**Assessment:**

End of topic test for  
each unit.

## Spr

**Biology***B3 Infection*

Pathogens, communicable  
Diseases, Viruses, Bacteria,  
Fungi and Protists, Immune  
Response, Vaccinations,  
Clinical Trials, Monoclonal  
antibodies, Plant disease

**Chemistry***C3 Quantitative Chemistry*

Relative Formula Mass,  
Reacting Masses, Balancing  
equations

*C4 Chemical Changes*

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

**Physics***P3 Particle Model*

Particle model, density,  
Change of state and  
internal energy, Latent  
heat, Pressure

**Assessment:**

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

End of topic test for  
each unit.

## Sum

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

*C6 Rates of Reaction*

Rates, Effect of concentration  
on rates of reactions, 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

**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:**

- Knowledge retriever and workbook (provided)
- CGP Combined Science Revision Guide
- BBC Bitesize revision pages
- Youtube: Cognito Science lessons

**Homework:**

Weekly exam question and Educake quiz must be completed