

## 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.

## Aut

**Biology***B1 cells*

Transport in Cells, Osmosis  
Practical, Microbiology,  
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,  
transition elements.

*C2 Bonding*

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

**Physics***P1 Energy*

Energy pathways &  
transfers, Energy  
calculations, Renewable &  
non-renewable energy  
sources, insulation  
investigation.

*P2 Electricity*

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

**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.

**Chemistry***C3 Quantitative Chemistry*

Relative Formula Mass,  
Reacting Masses, Balancing  
equations, Atom Economy,  
Titrations.

*C4 Chemical Changes*

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

**Physics***P3 Particle Model*

Particle model, density  
investigation, Change of  
state and internal energy,  
Latent heat, Gas 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 & 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.

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

**Homework:**

Weekly exam question and Educake quiz must be completed.