

## Year 11 Science Overview

### Biology

Homeostasis and Response - Sex Cells (Gametes) and Meiosis, Nervous System, Hormonal Control (Blood, Glucose, Contraception), Plant Hormones

Inheritance, Variation and Evolution - DNA Structure and Genome, Inheritance (Dominant/Recessive, Punnett Squares), Genetic Engineering, Selective Breeding, Evolution and Natural Selection, Evidence for Evolution, Extinction

Ecology - Ecosystems, Interdependence, Adaptation, Competition, Biodiversity, Pollution, Deforestation, Global Warming, Maintaining Ecosystems and Food Security

### Chemistry

Rates of Reaction - Collision Theory, Factors Affecting Rates, Reversible Reactions, Dynamic Equilibrium (Le Chatelier's Principle)

Organic Chemistry - Hydrocarbons (Alkanes and Alkenes), Alcohols, Carboxylic Acids, Polymers

Chemical Analysis - Pure Substances, Formulation, Chromatography, Gas Tests, Flame Tests, Ion Tests

Chemistry of the Atmosphere - Evolution of the Atmosphere, Greenhouse Gases, Global Climate Change, Air Pollution

Using Resources - Potable Water, Waste Water Treatment, Life Cycles, Recycling, Sustainable Development

### Physics

Forces - Weight, Acceleration, Newton's Laws, Momentum, Stopping Distances, Forces and Elasticity

Waves - Properties of Wave, Reflection/Refraction, Electromagnetic Spectrum, Uses and Dangers of Waves, Sound Waves and Ultrasound and Seismic Waves

Magnetism and Electromagnetism - Magnetic Fields, Electromagnets, Electric Motors, Generators and Transformers

Space Physics - Life Cycle of Stars, Planets and Orbits, Red-Shift, Evidence for Expanding Universe

*GCSE Mock Assessments throughout Units*

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## Key Details

- **Required Practicals:** Practical experiments (e.g. chromatography, testing ion solutions, measuring reaction rates, investigating resistance in wires, plant growth experiments).
  - **Assessment:** Mock exams, end-of-topic tests, and final GCSE exams (Combined Science or Triple Science).
  - **Skills Developed:** Scientific investigation, applying equations, interpreting data, linking ideas across Biology, Chemistry, and Physics.
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👉 Do you want me to combine Year 10 & Year 11 into a full 2-year GCSE Science curriculum map?

Or should I make a visual infographic (flowchart style)? Would you like me to include the required practicals and equations list as well?

Ask ChatGPT

\*\*\*Biology\*\*1\.

\*\*Homeostasis and Response\*\* – nervous system (reflex