

Combined Science PPE

Year 11,

You will be taking:

- 3 Combined Science exams – each 1 hour 15 minutes long.
 - Biology, Chemistry and Physics.
 - 70 marks per paper.
- Ensure you have a black pen, pencil, ruler, scientific calculator.

Details regarding the papers are below:

Biology Paper 2
What's assessed Biology topics 5–7: Homeostasis and response; Inheritance, variation and evolution; and Ecology.
How it's assessed <ul style="list-style-type: none">• Written exam: 1 hour 15 minutes• Foundation and Higher Tier• 70 marks• 16.7% of GCSE
Questions Multiple choice, structured, closed short answer, and open response.

Chemistry Paper 2
What's assessed Chemistry topics 13–17: The rate and extent of chemical change; Organic chemistry; Chemical analysis; Chemistry of the atmosphere; and Using resources. Questions in Paper 2 may draw on fundamental concepts and principles from Sections 5.1 to 5.3.
How it's assessed <ul style="list-style-type: none">• Written exam: 1 hour 15 minutes• Foundation and Higher Tier• 70 marks• 16.7% of GCSE
Questions Multiple choice, structured, closed short answer, and open response.

Physics Paper 2
What's assessed Physics topics 22–24: Forces; Waves; and Magnetism and electromagnetism
How it's assessed <ul style="list-style-type: none">• Written exam: 1 hour 15 minutes• Foundation and Higher Tier• 70 marks• 16.7% of GCSE
Questions Multiple choice, structured, closed short answer, and open response.

The PPE topics are below:

Topic B5 — Homeostasis and Response

Homeostasis.....	58
The Nervous System.....	59
Synapses and Reflexes.....	60
Investigating Reaction Time.....	61
The Endocrine System.....	62
Controlling Blood Glucose.....	63
Puberty and the Menstrual Cycle.....	64
Controlling Fertility.....	65
More on Controlling Fertility.....	66
Adrenaline and Thyroxine.....	67

Topic B6 — Inheritance, Variation and Evolution

DNA.....	68
Reproduction.....	69
Meiosis.....	70
X and Y Chromosomes.....	71
Genetic Diagrams.....	72
More Genetic Diagrams.....	73
Inherited Disorders.....	74
Variation.....	75
Evolution.....	76
Selective Breeding.....	77
Genetic Engineering.....	78
Fossils.....	79
Antibiotic-Resistant Bacteria.....	80
Classification.....	81
Revision Questions for Topics B5 & B6.....	82

Topic B7 — Ecology

Competition.....	83
Abiotic and Biotic Factors.....	84
Adaptations.....	85
Food Chains.....	86
Using Quadrats.....	87
Using Transects.....	88
The Water Cycle.....	89
The Carbon Cycle.....	90
Biodiversity and Waste Management.....	91
Global Warming.....	92
Deforestation and Land Use.....	93
Maintaining Ecosystems and Biodiversity.....	94
Revision Questions for Topic B7.....	95

Topic C6 — The Rate and Extent of Chemical Change

Rates of Reaction.....	142
Factors Affecting Rates of Reaction.....	143
Measuring Rates of Reaction.....	144
Two Rates Experiments.....	145
Finding Reaction Rates from Graphs.....	146
Reversible Reactions.....	147
Le Chatelier's Principle.....	148
Revision Questions for Topic C6.....	149

Topic C7 — Organic Chemistry

Hydrocarbons.....	150
Fractional Distillation.....	151
Uses and Cracking of Crude Oil	152

Topic C8 — Chemical Analysis

Purity and Formulations.....	153
Paper Chromatography.....	154
Tests for Gases.....	155
Revision Questions for Topics C7 & C8.....	156

Topic C9 — Chemistry of the Atmosphere

The Evolution of the Atmosphere.....	157
Greenhouse Gases and Climate Change.....	158
Carbon Footprints.....	159
Air Pollution	160

Topic C10 — Using Resources

Finite and Renewable Resources.....	161
Reuse and Recycling.....	162
Life Cycle Assessments.....	163
Potable Water.....	164
Waste Water Treatment.....	165
Revision Questions for Topics C9 & C10.....	166

Topic P5 — Forces

Contact and Non-Contact Forces.....	201
Weight, Mass and Gravity.....	202
Resultant Forces and Work Done.....	203
Calculating Forces.....	204
Forces and Elasticity.....	205
Investigating Springs.....	206
Distance, Displacement, Speed and Velocity.....	207
Acceleration.....	208
Distance-Time and Velocity-Time Graphs.....	209
Terminal Velocity.....	210
Newton's First and Second Laws.....	211
Inertia and Newton's Third Law.....	212
Investigating Motion.....	213
Stopping Distances.....	214
Reaction Times.....	215
Momentum.....	216
Revision Questions for Topic P5.....	217

Topic P6 — Waves

Transverse and Longitudinal Waves.....	218
Experiments With Waves.....	219
Wave Behaviour and Electromagnetic Waves.....	220
Refraction.....	221
Radio Waves.....	222

EM Waves and Their Uses.....	223
More Uses of EM Waves.....	224
Investigating Infrared Radiation.....	225
Dangers of Electromagnetic Waves.....	226

Topic P7 — Magnetism and Electromagnetism

Permanent and Induced Magnets.....	227
Electromagnetism.....	228
The Motor Effect.....	229
Electric Motors.....	230
Revision Questions for Topics P6 & P7.....	231