BRANNEL SCHOOL
EXCELLENCE | CREATIVITY | COMMUNITY

Curriculum Summary Document

Year 11 – Science

Consolidating Scientific Understanding and Securing Exam Confidence

Module/Unit of Learning	Taught During	What will students learn?	How does this prepare students for success at GCSE?	Links to other Subjects
Ecology	Autumn 1	Students analyse interactions within ecosystems, including interdependence, competition and biodiversity. They interpret population data, evaluate human impacts and consider conservation strategies.	Strengthens data-handling and multi-factor reasoning needed for 4–6 mark biology questions and synoptic application across topics.	Geography: human impact on ecosystems
Homeostasis	Autumn 1	Students study nervous and hormonal communication, including reflexes, thermoregulation and blood glucose control. They analyse feedback loops and explain the consequences of imbalance.	Builds precision in sequencing processes and applying scientific vocabulary—essential for extended written responses and application to unfamiliar scenarios.	Oracy: clear explanation of multi-step biological processes
Inheritance, Variation & Evolution	Autumn 2	Students study DNA structure, genes, alleles and patterns of inheritance. They evaluate evidence for evolution, genetic variation and natural selection.	Develops structured reasoning, comparison, and evaluative skills required for high-tariff questions involving genetic processes and evidence-based conclusions.	History: development of scientific ideas
Atmosphere	Autumn 2	Students explore the evolution of Earth's atmosphere, greenhouse gases and the causes and consequences of climate change. They interpret data and evaluate scientific claims.	Supports balanced argument, evidence evaluation and extended writing—core features of chemistry paper 2 questions.	Geography: climate systems and environmental change
Resources	Autumn 2	Students investigate Life Cycle Assessments, recycling, sustainable resource use and the environmental impact of materials. They use data to compare options and justify decisions.	Strengthens analytical thinking and evaluation of evidence, directly supporting long-answer chemistry questions involving environmental reasoning.	Geography: sustainability and resource use
Forces	Spring 1	Students study force interactions, acceleration, momentum and motion graphs. They apply equations and interpret graphical relationships.	Develops confidence with multi-step quantitative reasoning, equation manipulation and interpretation of unfamiliar physical contexts.	Maths: gradients, rates of change and equation rearrangement

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Waves Magnets	Spring 2	Students model waves as oscillations and study reflection, refraction and wave interactions. They use diagrams and apply equations linking frequency, wavelength and speed.	Develops representational accuracy with diagrams and mathematical relationships. Supports application of abstract wave models in unfamiliar GCSE contexts.	Maths: proportional relationships in wave equations
Magnets	Spring 2	Students study magnetism, magnetic fields and electromagnets. They investigate field patterns and how electromagnets are used in real systems.	Strengthens understanding of field models and supports explanation-based GCSE questions. Develops application of conceptual models to practical scenarios.	Maths: interpreting field diagrams
Revision (Biology, Chemistry, Physics)	Summer 1	Students consolidate key knowledge from all three sciences. They practise applying command words, interpreting unfamiliar scenarios and producing structured extended answers.	Directly strengthens exam readiness through retrieval practice, analysing model answers, and refining exam technique.	Oracy: verbal rehearsal of structured scientific explanations