

Curriculum Map Year 11 Separate Science - Biology

Topic Name	Term	Skills developed with link to NC Subject content	Reflection on previous link in the curriculum	Progress to future link in the curriculum
DNA, genes and meiosis Inheritance and genetics	Autumn HT1	Understanding of: <ul style="list-style-type: none"> DNA structure and the role of genes and chromosomes The human genome project Protein synthesis using mRNA Mutations and their effect on protein structure Asexual and sexual reproduction Meiosis Gregor Mendel and genetic terminology Inheritance and genetic diseases 	Year 6: Evolution and inheritance <ul style="list-style-type: none"> Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago Recognise that living things produce offspring of the same kind but normally offspring vary and are not identical to their parents 	Year 12: Biological molecules <ul style="list-style-type: none"> Structure of DNA and RNA, including DNA replication Year 12: Variation and relationships <ul style="list-style-type: none"> Comparing DNA in nucleus, chloroplasts and mitochondria. Genetic code, triplet codons, introns and exons. Genetic code universality and degenerate nature. Role of DNA and mRNA in protein synthesis. Types of mutations and their effect on genetic code. Year 12: Mitosis and meiosis <ul style="list-style-type: none"> Stages of mitosis and meiosis. Year 13: Inheritance <ul style="list-style-type: none"> Genetic diagrams and inheritance. Codominance, linkage and epistasis. Chi-squared test and its use. Year 13: Mutations and control of gene expression <ul style="list-style-type: none"> Different types of mutations and their impact. Mutagenic agents and cancer.
Inheritance and genetics Variation and evolution Mock exam preparation (if mocks at this time)	Autumn HT2	Understanding of: <ul style="list-style-type: none"> Family trees and ethics Inheritance of gender Adaptation and variation Darwin vs. Wallace Fossil evidence of evolution Evolutionary trees Speciation Selective breeding Brief recap and review of content, particularly paper 1 content. 	Year 6: Evolution and inheritance <ul style="list-style-type: none"> Recognise that living things have changed over time and that fossils provide information about things that lived millions of years ago. Recognise that living things produce offspring of the same kind but normally offspring vary and are not identical to their parents Year 4: Classification <ul style="list-style-type: none"> Recognise that living things can be grouped in various ways; explore/use classification keys to help group, identify, name various living things in the local/wider environment; 	Year 13: Inheritance <ul style="list-style-type: none"> Genetic diagrams and inheritance. Codominance, linkage and epistasis. Year 13: Evolution and speciation <ul style="list-style-type: none"> Types of variation and frequency patterns in populations due to different types of selection processes. Mechanisms of allopatric and sympatric speciation. Genetic drift.

Examination Period	Summer HT6			
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