

Subject: KS4 Biology		Year Group: 10
Term 1 Key Focus/Topic(s) Genetics <ul style="list-style-type: none"> • Protein synthesis • Genetic variants • Mendel • Alleles • Inheritance • Multiple and missing alleles • Gene mutation 	Term 2 Key Focus/Topic(s) Natural selection genetic modification <ul style="list-style-type: none"> • Evidence for human evolution • Darwin's theory • Development of Darwin's theory • Classification • Breeds and variety • Tissue culture • Genetic tools • Fertilisers and biological control 	Term 3 Key Focus/Topic(s) Health and disease <ul style="list-style-type: none"> • Health and disease • Non-communicable disease • Cardiovascular disease • Pathogens • Spreading pathogens • Virus life-cycles • Plant disease
Term 1 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on extended open response questions (exam preparation). 	Term 2 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on extended open response questions (exam preparation). 	Term 3 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on extended open response questions (exam preparation).
Term 4 Key Focus/Topic(s) Defence mechanisms and medication <ul style="list-style-type: none"> • Plant defences • Physical and chemical barriers • The immune system • Antibiotics • Monoclonal antibodies 	Term 5 Key Focus/Topic(s) Plant structures <ul style="list-style-type: none"> • Photosynthesis • Factors affecting photosynthesis • Absorbing water and mineral ions • Transpiration • Translocation 	Term 6 Key Focus/Topic(s) Plant function <ul style="list-style-type: none"> • Plant adaptations • Hydrophytes • Plant hormones • Use of plant hormones
Term 4 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on extended open response questions (exam preparation). • Core practical - antibiotics 	Term 5 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on extended open response questions (exam preparation). • Core practical – Light intensity 	Term 6 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on extended open response questions (exam preparation). • Year 10 Examination

Rationale:

All of the topics covered in Year 10 require higher levels of abstract thinking from students. These lessons build on the material covered in Year 9, the majority of the material requires students to expand on knowledge gained from the key concepts and apply this to more abstract thinking. For example in natural selection students will need to understand cell structure, adaptation, DNA function and gene transfer.

In Year 10 Biology we place a particular focus on:

- Literacy skills – We focus on the structuring of written responses so that they convey clarity and detail.
- Application of knowledge to unfamiliar situations.
- Practical Skills – understanding the scientific method, processing and presenting data, forming conclusions and making improvements.

Evaluation:

- Assessment opportunities will involve teacher, self and peer assessment. The assessment will focus around work produced in lessons where the students are required to demonstrate their literacy and/or numeracy skills as well as their scientific knowledge.
- Students should demonstrate good mathematical skills in Biology – interpretation of data.
- Assessment of students' extended writing answers – students should demonstrate that they can identify command words; context or/and instructions; key terminology in the questions. In response to unpicking the questions students should be able to make responses that are detailed, explaining the science and use the correct scientific terminology.
- Book scrutiny, lesson observations and collegial discussions will be used to quality assure teaching and learning. Gap analysis on mock papers.