

| t                               | Term 1   |  | Term 2  |   | Term 3   |   |
|---------------------------------|--|--|---|---|--|---|
| <b>Key focus</b>                | Unit 1:<br>Biological molecules<br><br>Unit 2:<br>Cells  | Unit 1:<br>Biological molecules<br><br>Unit 2:<br>Cells  | Unit 3: Organisms exchange substances with their environment<br><br>Unit 4: Genetic information, variation and relationships between organisms  | Unit 3: Organisms exchange substances with their environment<br><br>Unit 4: Genetic information, variation and relationships between organisms  | Exam Revision<br><br>Exams   | Exams<br><br>Unit 5: Energy transfers in and between organisms<br><br>Unit 6: Organisms respond to changes in their internal and external environments  |
| <b>Purpose of the scheme</b>    | The purpose of this course is to teach you about the process of life, living organisms and how these living things interact with one another.  |  |   |   |  |   |
| <b>Pre read (suggested)</b>     | <a href="#">A level Biological Molecules - Learn the ENTIRE topic in this video. AQA A level Biology Revision - YouTube</a><br><br><a href="#">ENTIRE Topic 2 - A level Biology for AQA. Learn the whole topic in an hour! - YouTube</a> | <a href="#">A level Biological Molecules - Learn the ENTIRE topic in this video. AQA A level Biology Revision - YouTube</a><br><br><a href="#">ENTIRE Topic 2 - A level Biology for AQA. Learn the whole topic in an hour! - YouTube</a> | <a href="#">A level topic 3 - The ENTIRE topic. Learn or revise all of this topic in 1 hour! Get exam ready - YouTube</a><br><br><a href="#">Learn the ENTIRE Topic 4 - AQA A level Biology. Learn or revise the entire topic in this one video. - YouTube</a>  | <a href="#">A level topic 3 - The ENTIRE topic. Learn or revise all of this topic in 1 hour! Get exam ready - YouTube</a><br><br><a href="#">Learn the ENTIRE Topic 4 - AQA A level Biology. Learn or revise the entire topic in this one video. - YouTube</a>            | <a href="#">AQA A-level Biology Revision - PMT(physicsandmathstutor.com)</a> | <a href="#">ENTIRE topic 5 - A level Biology (AQA) Learn or revise the WHOLE topic to get you exam ready - YouTube</a><br><br><a href="#">A level Biology ENTIRE topic 6: Learn the whole topic - response, muscles, synapses &amp; homeostasis - YouTube</a> |
| <b>Key knowledge and skills</b> | a) Required practical skills<br>b) Structure of important biological molecules<br>c) Cell structure<br>d) Mitosis<br>e) Cell transport   | a) Required practical skills<br>b) Structure of DNA/RNA/ATP<br>c) DNA replication<br>d) Cell transport<br>e) Immune system   | a) Gas exchange and surface area to volume ratio<br>b) Digestion and absorption<br>c) Mass transport<br>d) DNA, genes and chromosomes<br>e) Transcription and translation<br>f) Mutations and meiosis<br>g) Genetic diversity and adaptation                    | a) Required practical skills<br>b) Mass transport in plants<br>c) Species and taxonomy<br>d) Biodiversity within a community<br>e) Investigating diversity<br>f) Statistics<br>g) Revision skills   | a) Revision skills<br>b) Past paper practice                                 | a) Photosynthesis<br>b) Respiration<br>c) Survival and response<br>d) Receptors<br>e) Control of heart rate<br>f) Required practical skills   |
| <b>Key words/ vocabulary</b>    | Peptides<br>Induced fit<br>Saccharides<br>Homogenation<br>Centrifuge<br>Binary fission<br>Phospholipid bilayer<br>Fluid mosaic   | Triglycerides<br>Phospholipids<br>Nucleic acids<br>Water potential<br>B and T lymphocytes<br>Cell mediated immunity<br>Humoral immunity  | Tracheoles<br>Lamellae<br>Countercurrent flow<br>Inspiration/ Expiration<br>Correlation v causation<br>Peptidases<br>Oxygen dissociation<br>Bohr effect<br>Degenerate<br>Exons/introns<br>Histones<br>MRNA/TRNA<br>Codon/Anticodon<br>Transcription/Translation | Cohesion-tension theory<br>Mass flow hypothesis<br>Sink-source<br>Substitution/deletion mutation<br>Crossing over/independent segregation<br>Allele frequency<br>Directional selection<br>Stabilising selection<br>Courtship behaviour<br>Phylogeny<br>Index of diversity | Revision   | Light dependent/ independent<br>Photolysis<br>Calvin cycle<br>Glycolysis<br>Link reaction<br>Krebs cycle<br>Taxis<br>Kinesis<br>Tropisms<br>Pacian corpuscle<br>Generator potential<br>Autonomic<br>Sympathetic<br>Parasympathetic                            |

## Curriculum Map – Biology – Year 12

|   |  |   |   |   |  |  |
|---|--|---|---|---|--|--|
| <b>Exam board</b>                       | AQA A-Level Biology  |   |   |   |  |  |
| <b>End point</b>                        | A-Level Biology Exam Paper 1, 2 and 3  | A-Level Biology Exam Paper 1, 2 and 3   | A-Level Biology Exam Paper 1, 2 and 3   | A-Level Biology Exam Paper 1, 2 and 3   | A-Level Biology Exam Paper 1, 2 and 3  | A-Level Biology Exam Paper 1, 2 and 3  |
| <b>Assessment method</b>                | <ul style="list-style-type: none"> <li>PRP Assessment</li> <li>Intervention</li> </ul> | <ul style="list-style-type: none"> <li>PRP Assessment</li> <li>Mock assessment</li> <li>Intervention</li> </ul> | <ul style="list-style-type: none"> <li>PRP Assessment</li> <li>Classroom Mocks</li> <li>Intervention</li> </ul> | <ul style="list-style-type: none"> <li>PRP Assessment</li> <li>Mock assessment</li> <li>Intervention</li> </ul> | <ul style="list-style-type: none"> <li>PRP Assessment</li> <li>Intervention</li> </ul> | <ul style="list-style-type: none"> <li>Internal Exams</li> </ul>                           |
| <b>Wider reading / links / research</b> | Maths – standard form, magnitude<br>Chemistry – moles, polymerisation and isotopes     | Maths – standard form, magnitude<br>Chemistry – moles, polymerisation and isotopes                              | Maths – correlation<br>PE/Sport – respiration and exercise  | Health and social care – human lifespan development<br>Maths – standard deviation, mean, mode and median.       |  | PE/Sport – respiration and exercise<br>Health and social care – human lifespan development |
| <b>Careers links</b>                    | Molecular Biologist<br>Cancer research<br>Doctor<br>Nurse<br>Pharmacologist            | Immunologist<br>Geneticist  | Biologist<br>Marine biologist<br>Ecologist<br>Geneticist  | Biologist<br>Marine biologist<br>Ecologist<br>Geneticist  |  | Biochemist   |