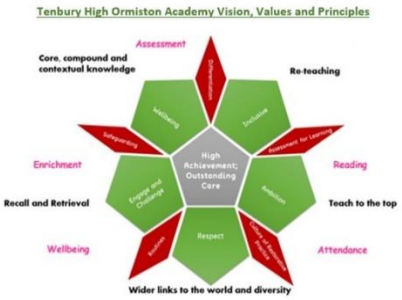
TENBURY HIGH
ORMISTON ACADEMY




# Curriculum Overview for Biology
# Year 11

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| **Half Term 5: Ecology**<br>**Substantive Knowledge:**<br>• Maintain biodiversity<br>• Trophic levels and pyramids of biomass<br>• Efficiency of biomass transfer between trophic levels.<br>• Triple→factors affecting food production and security.<br><br>**Disciplinary Knowledge:**<br>Analysis of data<br>Writing like a scientist<br>Understanding and responding to command terms<br>Applying<br><br>**Revision for exams**<br><br>**Substantive Knowledge:**<br>• Cell structure and function<br>• Cell transport methods; diffusion, osmosis and active transport<br>• Surface area and volume ratio<br>• Microscopy<br>• Cell cycle<br>• Genes, chromosomes and DNA<br>• Hierarchical system: cells, tissues and organs<br><br>• Plant systems<br>▪ Leaf structure and function<br>▪ Stomata structure and function<br>▪ Root structure and function<br>▪ Xylem structure and function<br>▪ Phloem structure and function<br>▪ Transpiration stream<br>▪ Rates of transpiration and how they are impacted<br>• Communicable diseases – Spread methods, reduction and prevention, reproduction.<br>• Viral diseases – Measles, vaccinations, HIV and the immune system, Tobacco mosaic virus and impact on plants.<br>• Bacterial diseases – Salmonella effects and causes, Gonorrhoea treatment, causes, spread.<br>• Fungal diseases – Rose black spot effects and treatment.<br>• Protist diseases – Malaria spread and prevention.<br>• Human defence – Non-specific and WBCs.<br>• Vaccination – How it works, why we do it.<br>• Antibiotics and painkillers – Use, how they work, fact that painkillers don't kill pathogens.<br>• Monoclonal antibodies (Triple) – Production, use, benefits.<br>• Plant disease (Triple) – Detection methods, identification, infection types, effects.<br>• Photosynthesis reaction<br>• Rates of reaction for photosynthesis<br>• Limiting factors of photosynthesis<br>• Investigating rates of photosynthesis<br>• How plants use glucose<br>• Aerobic and anaerobic respiration<br>• Impact of exercise on respiration<br>• Metabolism |  <br>  <br>  <br>  | Skim and Scan of source information<br>Decoding terms<br>Etymology of key terms<br><br>All from unit 1 – unit 4<br><br>GCSE Paper 1<br><br>Revision Card preparation for every lesson<br>Revision plan tasks<br>Examination questions<br>Repetition of use of revision cards for end of unit assessment |

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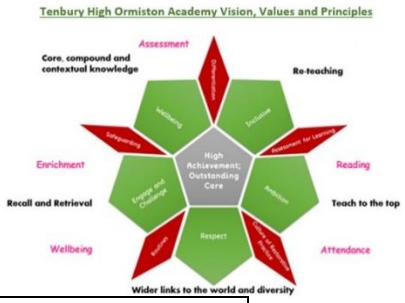


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| **Half Term 6: Paper 2 revision**<br><br>**Substantive Knowledge:**<br>Homeostasis (nervous and endocrine systems)<br>Genetic inheritance<br>Evolution<br>Ecology – sampling, environment changes and cycles in nature<br><br>**Disciplinary Knowledge:**<br>Analysis of data<br>Writing like a scientist<br>Understanding and responding to command terms<br>Applying concepts into different contexts |  | Skim and Scan of source information<br>Decoding terms<br>Etymology of key terms |
| |  | All from unit 5 – unit 7 |
| |  | GCSE paper 2 exam |
| |  | Revision Card preparation for every lesson<br>Revision plan tasks<br>Examination questions<br>Repetition of use of revision cards for end of unit assessment |