



Curriculum Overview for Biology

Year 11

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



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