

Year 10 Biology	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Knowledge	<p>Communicable Diseases</p> <ul style="list-style-type: none"> Health and Disease Pathogens Growing bacteria Viral disease Bacterial disease Fungal disease Preventing infection Human defence <p>Preventing Disease</p> <ul style="list-style-type: none"> Vaccines Antibiotics and Painkillers Drug discovery Drug development Monoclonal Antibodies* Plant disease* Plant defence responses* 	<p>Nervous System</p> <ul style="list-style-type: none"> Reflex Action Synapses Brain* Eye* <p>Hormonal Coordination</p> <ul style="list-style-type: none"> Control of blood glucose Diabetes Adrenaline and Thyroxine Reproduction Contraception Infertility 	<p>Homeostasis</p> <ul style="list-style-type: none"> Controlling Body Temperature* Removing Waste* Kidneys* Dialysis* Kidney Transplants* <p>Cell Division</p> <ul style="list-style-type: none"> Mitosis, Cell Division x3 Differentiation Stem cells x2 <p>Reproduction</p> <ul style="list-style-type: none"> Types of Reproduction Cell division in sexual reproduction DNA and genome, inheritance basics 	<p>Reproduction continued</p> <ul style="list-style-type: none"> DNA structure and protein synthesis Gene expression and mutation Inherited Disorders Family trees, Punnet squares Screening <p>Variation and Evolution</p> <ul style="list-style-type: none"> Variation Natural Selection Antibiotic Resistance (4.6.3, B15) Selective breeding Genetic engineering Cloning Adult cell cloning GE ethics 	<p>Genetics and Evolution</p> <ul style="list-style-type: none"> History of genetics Theories of evolution Accepting Darwin's Ideas Speciation x2 Extinction Fossils Classification x2 <p>Photosynthesis</p> <ul style="list-style-type: none"> Photosynthesis basics Photosynthesis factors HT Photosynthesis limiting factors RP6 Photosynthesis and light intensity x2 	<p>Respiration</p> <ul style="list-style-type: none"> Aerobic respiration Anaerobic respiration Exercise Metabolism <p>Consolidation and revision</p>
Working Scientifically Skills	<ul style="list-style-type: none"> Evaluate the global use of vaccination in the prevention of disease. Understand that the results of testing and trials are published only after scrutiny by peer review. Appreciate the power of monoclonal antibodies and consider any ethical issues. Develop Hypotheses Apply experimental techniques Conduct accurate and safe experiment Record accurate observations Present data Evaluate accuracy, precision, repeatability and reproducibility and suggest improvements 	<ul style="list-style-type: none"> Interpret data about risk factors for specified diseases. Use data to relate limiting factors to the cost effectiveness of adding heat, light or carbon dioxide to greenhouses. Use of Chemical nomenclature Develop Hypotheses Apply experimental techniques Conduct accurate and safe experiment Record accurate observations Present data Identify trends and draw conclusions Evaluate accuracy, precision, repeatability and reproducibility and suggest improvements 	<ul style="list-style-type: none"> Evaluate the benefits and risks of procedures carried out on the brain and nervous system. Use of Chemical nomenclature Develop Hypotheses Apply experimental techniques Conduct accurate and safe experiment Record accurate observations Present data Identify trends and draw conclusions Evaluate accuracy, precision, repeatability and reproducibility and suggest improvements 	<ul style="list-style-type: none"> Every day and technological applications of science; evaluate associated personal, social, economic and environmental implications; and make decisions based on the evaluation of evidence and arguments. Extract and interpret information from charts, graphs and tables. 	<ul style="list-style-type: none"> Evaluate the advantages and disadvantages of treating organ failure by mechanical device or transplant. 	<ul style="list-style-type: none"> Develop Hypotheses Apply experimental techniques Conduct accurate and safe experiment Record accurate observations Present data Identify trends and draw conclusions Evaluate accuracy, precision, repeatability and reproducibility and suggest improvements
Core Practical	<ul style="list-style-type: none"> Microbiology 	<ul style="list-style-type: none"> Reaction Time 	<ul style="list-style-type: none"> Plant Responses 		<ul style="list-style-type: none"> Photosynthesis 	<ul style="list-style-type: none"> Food Tests recap
Independent Learning Link	Communicable Disease Preventing Disease	Nervous System Hormonal Coordination	Homeostasis Plant Hormones Cell Division	Reproduction Variation and evolution	Genetics and Evolution Photosynthesis	Respiration

Year 11	Half Term 1	Half Term 2	Half Term 3	Half Term 4	Half Term 5	Half Term 6
Knowledge	<p>Consolidation and revision</p> <p>Respiration</p> <ul style="list-style-type: none"> • Aerobic respiration • Anaerobic respiration • Exercise • Metabolism <p>Adaptations, interdependence and competition</p> <ul style="list-style-type: none"> • Communities, Biotic and Abiotic • Competition • Animal Adaptations • Plant adaptations 	<p>Organising an Ecosystem</p> <ul style="list-style-type: none"> • Levels of organisations • RP9 Ecology x2 • Cycling materials (carbon and water cycle) • Rates of decomposition • RP10 Decomposition • <p>Biodiversity</p> <ul style="list-style-type: none"> • Pollution • Deforestation • Global warming • Species Distribution* • Conservation • Trophic Levels* • Biomass transfer* • Food Security* • Food Production* 	Consolidation and revision	Consolidation and revision	Consolidation and revision	
Working Scientifically Skills	<ul style="list-style-type: none"> • Extract and interpret information from charts, graphs and tables. • Evaluate the environmental implications of deforestation, peatland destruction, global warming and intensive farming • Understand that the scientific consensus about global warming and climate change is based on systematic reviews of thousands of peer reviewed publications. Explain and evaluate the conflicting pressures on maintaining biodiversity given appropriate information. 	<ul style="list-style-type: none"> • Understand how scientific methods, models and theories develop over time. • Interpret information about genetic engineering techniques and to make informed judgements about issues concerning cloning and genetic engineering, including GM crops. • Extract and interpret information from charts, graphs, tables and evolutionary trees 				
Core Practical		<ul style="list-style-type: none"> • Field investigation • Decay 				
Independent Learning Link	<p>Respiration</p> <p>Adaptations, interdependence and competition</p>	<p>Ecology</p> <p>Ecosystems</p> <p>Biodiversity</p>				