**Curriculum Overview for Biology**

**Year 10**

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| **Half Term 5: Bioenergetics****Disciplinary*** Describing chemical reactions
* Writing word and symbol equations
* Balancing symbol equations
* Graph analysis
* Calculating rates of reaction
* Higher tier: calculating rates using a tangent on a graph

**Substantive*** 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

Starting Unit 6 – outlined in half term 6. | Books | Skim and Scan of source informationDecoding termsEtymology of key terms |
| Speech | PhotosynthesisChlorophyllOxygenCarbon dioxideReaction Rate Limiting factorVariableAccurateTrendInsolubleGlucoseRespirationAerobicAnaerobicLactic acidMuscle FatigueOxygen debtMetabolismEnzymeEnergy |
| Checklist RTL | Recall tasks to start every lessonRecall testReview sheetEnd of unit assessment |
| Home | Revision Card preparation for every lessonRecall testReview sheetRepetition of use of revision cards for end of unit assessment |
| **Half Term 6: Homeostasis and response****Substantive Knowledge:*** Homeostasis system components
* The Nervous System
	+ - Central Nervous system
		- Triple: The brain
		- Triple: The Eye and defects of the eye
		- Reflex arcs
		- Body temperature control
* The Endocrine System
	+ - Parts of the Endocrine system
		- Hormones
		- Blood glucose control
		- Triple: Water control and ADH
		- Reproductive hormones
		- Menstrual cycle
		- Use of reproductive hormones
		- Triple: Plant hormones and their uses

**Disciplinary Knowledge:*** Reaction times investigation: variables, methods, collecting data, risk, evaluation
* Triple: Plant hormone investigation: variables, methods, collecting data, risk, evaluation
* Measuring time (scales)
* Ethics in science (controlling fertility, organ transplants)
 | Books | Skim and Scan of source informationDecoding termsEtymology of key terms |
| Speech | PhotosynthesisChlorophyllOxygenCarbon dioxideReaction Rate Limiting factorVariableAccurateTrendInsolubleGlucoseRespirationAerobicAnaerobicLactic acidMuscle FatigueOxygen debtMetabolismEnzymeEnergyHomeostasisNegative feedbackCentral nervous systemPeripheral nervous systemNeuroneStimulusSynapseReflexInvoluntaryReaction timeRepeatableValidEndocrine SystemHormoneInsulinGlucoseGlycogenGlucagonMenstrual CycleFSHLHOestrogenContraceptionInhibitFertility treatmentIn vitroFertilityTriple only:Cerebral cortexCerebellumMedullaStructureFunctionAccommodation MyopiaHyperopiaThermoregulationVasodilationVasoconstrictionIonFiltrationReabsorptionGerminationAuxinTropismGibberellinEthene |
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