**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 information  Decoding terms  Etymology of key terms |
| Speech | Photosynthesis  Chlorophyll  Oxygen  Carbon dioxide  Reaction  Rate  Limiting factor  Variable  Accurate  Trend  Insoluble  Glucose  Respiration  Aerobic  Anaerobic  Lactic acid  Muscle Fatigue  Oxygen debt  Metabolism  Enzyme  Energy |
| Checklist RTL | Recall tasks to start every lesson  Recall test  Review sheet  End of unit assessment |
| Home | Revision Card preparation for every lesson  Recall test  Review sheet  Repetition 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 information  Decoding terms  Etymology of key terms |
| Speech | Photosynthesis  Chlorophyll  Oxygen  Carbon dioxide  Reaction  Rate  Limiting factor  Variable  Accurate  Trend  Insoluble  Glucose  Respiration  Aerobic  Anaerobic  Lactic acid  Muscle Fatigue  Oxygen debt  Metabolism  Enzyme  EnergyHomeostasis  Negative feedback  Central nervous system  Peripheral nervous system  Neurone  Stimulus  Synapse  Reflex  Involuntary  Reaction time  Repeatable  Valid  Endocrine System  Hormone  Insulin  Glucose  Glycogen  Glucagon  Menstrual Cycle  FSH  LH  Oestrogen  Contraception  Inhibit  Fertility treatment  In vitro  Fertility  Triple only:  Cerebral cortex  Cerebellum  Medulla  Structure  Function  Accommodation  Myopia  Hyperopia  Thermoregulation  Vasodilation  Vasoconstriction  Ion  Filtration  Reabsorption  Germination  Auxin  Tropism  Gibberellin  Ethene |
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