**Ormiston Park Academy Curriculum Map/Overview (Yrs 7-11) 2020- 21 Department: Science Curriculum Leader: Alison Durant**

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|  | HT1 | HT2 | HT3 | HT4 | HT5 | HT6 |
| **Year 11** | **Key Content:**  **Biology**  Homeostasis  The Nervous System  **Chemistry**  Chemical analysis  The earth's atmosphere  **Physics**  Light  **Triple Science**  Required Practicals & Maths Skills  **DC0** | **Key Content:**  **Biology**  Homeostais  Reproduction  **Chemistry**  The earth's atmosphere  The earth's resources  **Physics**  Electromagnets  Space & the Universe  **Triple Science**  Required Practicals & Maths Skills  **MOCK EXAMS 1** | **Key Content:**  **Biology**  Variation & Evolution  Genetic Engineering  **Chemistry**  The earth's resources  Using our resources  **Physics**  Revision  **Triple Science**  Required Practicals & Maths Skills  **MOCK EXAMS 2** | **Key Content:**  **Biology**  Adaptations, Interdependence and coordination  Organising and ecosystems  Biodiversity  **Chemistry**  Chemical calculations  **Physics**  Revision  **Triple Science**  Required Practicals & Maths Skills | **Key Content:**  REVISION FOR PAPER 1  **PAPER 1 EXAMS** | **Key Content:**  REVISION FOR PAPER 2  **PAPER 2 EXAMS** |
|  | **Key Skills:**  Describing Key Processes  Relating Properties to Structure  Writing word and symbol equations  Balancing equations  Investigative skills  Use of practical techniques  Mathematical Skills | **Key Skills:**  Mathematical Skills  Describing Key Processes  Relating Properties to Structure  Writing Word and Symbol Equations  Balancing Equations  Exam Technique  Practical Skills | **Key Skills:**  Mathematical Skills  Evaluating information  Writing word and symbol equations  Balancing equations  Investigative skills  Use of practical techniques  Exam Technique | **Key Skills:**  Writing word and symbol equations  Balancing equations  Investigative skills  Use of practical techniques  Exam Technique  Describing Key Processes | **Key Skills:**  Exam Technique  Recall & Revision Strategies  Mathematical Skills  Investigative Skills | **Key Skills:**  Exam Technique  Recall & Revision Strategies  Mathematical Skills  Investigative Skills |
| **Year 10** | **Key Content:**  **Biology**  Organising plants and animals  **Chemistry**  Structure and bonding  **Physics**  Radioactivity  Half Life Graphs & Calculations  Nuclear Fission & Fusions | **Key Content:**  I  **Biology**  Communicable Diseases  **Chemistry**  Chemical changes  **Physics**  Radioactivity | **Key Content:**  **Biology**  Treating disease  Non-Communicable Diseases  **Chemistry**  Electrolysis  Energy changes  **Physics**  Forces in Balance | **Key Content:**  **Biology**  Photosynthesis  **Chemistry**  Energy changes  Chemical calculations  **Physics**  Motion | **Key Content:**  **Biology**  Respiration  **Chemistry**  Chemical calculations  **Physics**  Force and motion  Force and pressure  MOCK Exams | **Key Content:**  **Biology**  The nervous system  **Chemistry**  Rates and equilibrium  **Physics**  Waves and properties  Electromagnetic waves  **End of Year Assessments** |
|  | **Key Skills:**  Mathematical skills  Recall of parts  Use of practical technique  Describing key processes  Exam technique | **Key Skills:**  Mathematical skills  Relating Properties to Structure  Use of practical technique  Describing key processes  Exam technique | **Key Skills:**  Recall of Parts  Balancing Symbol Equations  Forces Calculations  Investigative Skills  Describing key processes  Exam technique | **Key Skills:**  Recall of Parts  Describing key processes  Forces Calculations  Investigative Skills  Exam technique | **Key Skills:**  Recall of parts  Describing key processes  Mathematical skills  Exam technique | **Key Skills:**  Recall of parts  Mathematical skills  Describing key processes  Exam technique |
| **Year 9** | **Key Content:**  Cells  Transport Mechanisms  Pathogens and Disease  Cell Division & Mitosis | **Key Content:**  Energy Transfer  Thermal Energy  Atomic structure | **Key Content:**  Atomic Structure  The Periodic Table  Mendeleev & The Development of the Periodic Table  Energy transfer by heating | **Key Content:**  Energy Resources  Charge & Electricity | **Key Content:**  Electricity in the Home  Density  Internal Energy & SLH  Gas Temperature & Pressure | **Key Content:**  The Digestive System  Digestive Enzymes  Food Tests  **End of Year Assessments** |
|  | **Key Skills:**  Recall of parts  Describing functions  Use of Practical Technique  Exam technique | **Key Skills:**  Describing Key Processes  Investigative Skills  Energy Transfer Calculations  Exam technique | **Key Skills:**  Recall of Parts  Exam technique  Investigative Skills  Developing Scientific Theory | **Key Skills:**  Linking Properties to Structure  Recall of Parts  Mathematical Skills  Exam technique | **Key Skills:**  Recall of Parts  Describing Key Processes  Mathematical Skills  Exam Technique | **Key Skills:**  Recall of Parts  Linking Properties to Structure  Exam technique |
| **Year 8** | **Key Content:**  Forces  Pressure  Magnetic Fields  Electromagnets  Work Done & Energy  Energy Transfer | **Key Content:**  Sound Waves  Radiation & Energy  Modelling Waves  Atoms, Elements & Compounds  Chemical Formulae  Polymers  The Periodic Table  Groups 1, 7 and 0. | **Key Content:**  Atoms in Chemical Reactions  Combustion  Thermal Decomposition  Conservation of Mass  Exothermic & Endothermic Reactions  Energy Profile Diagrams  The Carbon Cycle & Global Warming  Extracting Metals & Recycling | **Key Content:**  Gas Exchange  Drugs, Alcohol & Smoking  Nutrients & Food Tests  Diet & The Digestive System  Bacteria & Enzymes in Digestion  Aerobic Respiration  Anaerobic Respiration  Photosynthesis | **Key Content:**  Investigating Photosynthesis  Plant Minerals  Natural Selection  Charles Darwin  Extinction  Preserving Biodiversity  Inheritance  DNA & Genetics | **Key Content:**  Food Testing Investigation  Stearic Acid, Colling Curve  Hooke’s Law Investigation  **End of Year Assessments**  Photosynthesis Investigation  Thermal Decomposition Investigation  Making Electromagnets Investigation |
|  | **Key Skills:**  Recall of parts and functions  Linking Properties to Structure  Describing Processes  Use of Key Terminology  Mathematical Calculations | **Key Skills:**  Writing word equations  Writing symbol equations  Balancing Equations  Use of Key Terminology  Describing Key Concepts | **Key Skills:**  Writing word equations  Writing symbol equations  Balancing Equations  Use of Key Terminology  Describing Key Concepts | **Key Skills:**  Use of Evidence  Use of Key Terminology  Investigative Skills  Describing Key Concepts  Writing word & symbol equations | **Key Skills:**  Use of Evidence  Use of Key Terminology  Investigative Skills  Developing Scientific Theory  Describing Key Concepts | **Key Skills:**  Wave Calculations  Energy Transfer Calculations  Use of Key Terminology |
| **Year 7** | **Key Content:**  Practical & Safety Skills for Science  Forces  Electricity | **Key Content:**  Energy  Waves – Sound & The Ear | **Key Content:**  Light  The Eye & Vision  States of Matter  Diffusion | **Key Content:**  Separating Mixtures  Chemical Reactions  Acids & Alkalis  Neutralisation | **Key Content:**  Metals and Non-Metals  Making Salts  Displacement of Metals  Structure of the Earth  The Rock Cycle | **Key Content:**  The Skeleton  Movement and the Joints  Cells  Food Chains & Webs  Flowers and Pollination  **End of Year Assessments** |
|  | **Key Skills:**    Safety  Carrying out investigations  Forces calculations  Recall of parts and functions  Use of Key Terminology | **Key Skills:**  Energy/Power Calculations  Wave Calculations  Use of Key Terminology | **Key Skills:**  Wave calculations  Recall of parts and functions  Describing Processes  Use of Key Terminology | **Key Skills:**  Techniques for separating  Use of Technical Equipment  Use of Key Terminology | **Key Skills:**  Investigative Skills  Research Skills  Describing Processes  Use of Key Terminology | **Key Skills:**  Recall of parts and functions  Use of Key Terminology  Use of Microscopes |