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| **Paddington Academy Topic Overview**  **Subject: GCSE Biology, Chemistry & Physics**  **Exam Board: AQA** | | |
| **Topic** | **Sub-Topics** | **Revision Guide Pages to start on** |
| **GCSE BIOLOGY** | | |
| **B1 Cell Biology** | Cell structure & microscopes | 11 |
| Differentiation & the cell cycle | 14, 19 |
| Bacteria | 16 |
| Cell transport & exchange surfaces | 20 |
| **B2 Organisation** | Enzymes & food tests | 28 |
| Heart & lungs | 33 |
| Heart disease | 37 |
| Plant transport | 42 |
| **B3 Infection & Response** | Pathogens | 46 |
| Immune system | 49 |
| Treating disease | 51 |
| Plant diseases | 55 |
| **B4 Photosynthesis & Respiration** | Photosynthesis | 57 |
| Respiration | 61 |
| Exercise | 63 |
| **B5 Homeostasis** | Nervous system | 66 |
| Homeostasis: Thermoregulation & osmoregulation | 73 |
| Fertility | 77 |
| Plant hormones | 81 |
| **B6 Inheritance & Evolution** | DNA & protein synthesis | 84 |
| Reproduction | 87 |
| Inheritance | 90 |
| Evolution & classification | 95, 101 |
| Selective breeding, genetic engineering & cloning | 98 |
| **B7 Ecology** | Factors affecting ecosystems | 106 |
| Cycles in ecosystems | 112 |
| Managing threats to biodiversity | 116 |
| Food chains & pyramids | 120 |
| **GCSE CHEMISTRY** | | |
| **C1 Atomic structure & the periodic table** | Chemistry basics |  |
| Separating mixtures |  |
| History of the atom |  |
| Electronic structure and the periodic table |  |
| **C2 Bonding** | Bonding |  |
| Changes of state |  |
| **C3 Quantitative Chemistry** | Relative formula mass |  |
| Conservation of mass |  |
| Concentration |  |
| **C4 Chemical changes** | Reactions of acids |  |
| Extracting metals |  |
| Electrolysis |  |
| **C5 Energy changes** | Endothermic and exothermic reactions |  |
| **C6 Rates of reaction** | Factors affecting the rate of a reaction |  |
| Measuring rates of reaction |  |
| **C7 Organic chemistry** | Crude oil |  |
| **C8 Chemical analysis** | Analysing mixtures |  |
| Gas tests |  |
| **C9 The atmosphere** | Atmosphere |  |
| Pollution |  |
| **C10 Resources** | Finite resources |  |
| Potable water |  |
| **GCSE PHYSICS** | | |
| **P1 Energy** | Energy transfers | 11 |
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| **P2 Electricity** | Circuits | 24 |
|  | Electricity in the home | 31 |
|  | Static electricity | 35 |
| **P3 Particle model** | Density | 38 |
|  | Internal energy and changes of state | 39 |
| **P4 Radioactivity** | Isotopes and nuclear radiation | 44 |
|  | Half life | 46 |
|  | Uses of radiation | 48 |
| **P5 Forces** | Forces | 51 |
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|  | Moments | 57 |
|  | Fluid pressure | 58 |
|  | Motion | 61 |
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|  | Sound waves | 88 |
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