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| **Science- Year 7** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Focus for**  **Learning** | Introduction to science  Scientific enquiry  Physics | | Biology  Scientific enquiry (physics)  Chemistry | | Chemistry  Biology | |
| **Prep for Pathway 1**  **GCSE** | Being a scientist (Lab skills and reaction) | Hoop Gliders (investigations/working scientifically – forces) | Human body  Life processes | Rocket investigation working scientifically, Chemical reaction | States and separating | Environmental biology. |
| **Pathway 2** | As above | As above | As above | As above | As above | As above. |
| **Pathway 3** | Being a scientist – Bucket time. and effect. Predictions (E.g. what happens when we keep blowing up a balloon?) | Through this unit students will be introduced to: • the properties and resulting actions of a variety of forces. Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | Through this unit students will be introduced to: • healthy eating and exercise • how the heart pumps blood around the body through blood vessels • how to measure pulse rate and how it relates to heart beat • the harmful effects of tobacco, alcohol and other drugs and how some drugs like medicines can be helpful if taken in the correct doses. Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | Through this unit students will be introduced to: • solids, liquids and gases • changes are reversible and irreversible • changes that occur when solids and liquids are mixed • separating solids from their solutions. Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results | Through this unit students will be introduced to: • parts and functions of the plant • plant reproduction • what encourages healthy growth in plants (photosynthesis). Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | |

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| **Science – Year 8** | **Autumn 1** | **Autumn 2** | | **Spring 1** | | **Spring 2** | | **Summer 1** | | **Summer 2** |
| **Focus for**  **Learning** |  | | |  | | | |  | | |
| **Pathway 1** | Lungs and gas exchange  Respiration and blood circulation | **Atoms elements compounds and further chem reactions** | | Speed and parachute investigations | | Energy types, Heat transfer and insulation | | Metals, alloys, extracting materials, polymers and other materials. | | Drugs, reaction times and health  Microbes |
| **Pathway 2 as above** |  |  | |  | |  | |  | |  |
| **Pathway 3** | Through this unit students will be introduced to: • habitat and environment variations • animals adaptations to environmental changes in their habitats • food chains • animals adaptations as predators and prey. Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | Through this unit students will be introduced to: • solids, liquids and gases • changes are reversible and irreversible • changes that occur when solids and liquids are mixed • separating solids from their solutions. Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results | Through this unit students will be introduced to: • the properties and resulting actions of a variety of forces. Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | | Through this unit students will be introduced to: • habitat and environment variations • animals adaptations to environmental changes in their habitats • food chains • animals adaptations as predators and prey. Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | | Through this unit students will be introduced to: • the various techniques involved in separation. Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | | Through this unit students will be introduced to: • variation within individual members of the same species • similarities between individuals of the same species due to inheritance • environmental differences in individuals of the same species • sorting and classifying organisms into groups according to observable features • animal and plant cells. Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | |

**Chemistry topics Physics topics**

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| particles  Atoms and elements  Acids and alkalis  Pure and Impure substances  Simple chemical reactions  Compounds  Y8 Topics  Periodic table  Extracting metals  Reactions of acids  Describing reactions  Earth and Atmosphere  Innovative materials | Energy transfers  Forces and effect  Electricity  Energy resources  Magnets and Electromagnets  Motion  Y8 Topics  Domestic and static electricity  Waves and Sound  Light  Application of Forces  Heat transfer  Exploring Space |

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| **Science – Year 9** | **Autumn 1** | | **Autumn 2** | | **Spring 1** | | **Spring 2** | | **Summer 1** | | **Summer 2** |
| **Focus for**  **Learning** |  | | | |  | | | |  | | |
| **Pathway 1**  **GCSE (Y1) phase 4** | Cell Biology (1) | | Organisation (1) | | Infection and response (1) | | Bioenergetics (1) | | Homeostasis and response (1) | | Ecology (1) |
| **Pathway 2**  **Energy Level**  **Year 1 -phase 4** | Cells, tissue organ system | | Lifestyles and disease | | Drugs and nervous system | | Endocrine system plus TDA | | Atoms and elements | | Priorities of materials. |
| **Pathway 3 -Phase 3** | Through this unit, students will be introduced to: • the way that we stay fit and healthy • the respiratory system and how it helps to maintain activity; ways in which exercise, smoking and drugs can effect our health Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results | Through this unit, students will be introduced to: • elements and compounds • chemical reactions • mixtures and compounds and the difference in formation between mixtures and compounds • the difference between acids and alkalis Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | | Through this unit students will be introduced to: • the types of objects that require electricity, to extend on their knowledge of types of circuits covered in KS3 • voltage and amps • resistance and how everyday objects can create electricity • a range of useful energy transfers Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | | Through this unit students will be introduced to: • the way that plants are the basis of other life and the way that they survive and grow • ideas behind their survival, the way that they are involved in food chains and their decay as the last stage of their life Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | | Through this unit students will be introduced to: • the notion of temperature change • transfer of heat – conduction and convection • the change of state Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | | Through this unit students will be introduced to: • the way that we use resources from around us in order to get our energy to live • the notion that some resources may well run out during their life time and we have to make changes to the way that we live now • the nature and origin of fossil fuels and renewable sources of energy and how their use has implications for the environment Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | |

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| **Science – Year 10** | **Autumn 1** | | **Autumn 2** | | **Spring 1** | | **Spring 2** | | **Summer 1** | | **Summer 2** |
| **Focus for**  **Learning** |  | | | |  | | | |  | | |
| **Pathway 1**  **GCSE (Y2)** | Cell Biology (2) | | Organisation (20 | | Infection and response (2) | | Bioenergetics (2) | | Evolution and inheritance (1) | | Ecology (2) |
| **Pathway 2**  **Energy Level**  **Year 2** | Separating mixtures | | TDA plus energy stores and changes | | Energy stored and changes plus fuels | | Forces | | Speed | | Reaction Times plus radiation |
| **Pathway 3** | Through this unit students will be introduced to: • puberty changes • sexual intercourse • babies and their needs • contraception Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | Through this unit students will be introduced to: • the difference between metals and non-metals • the way that metals can be placed in the reactivity series • how new products can be made from mixing together old ones Working scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results | | 108066 and 108067  Through this unit students will be introduced to: • the effect of forces and their measurement in relation to changes in speed and pressure • earth and space • the way that forces and movement are related • balanced and unbalanced forces and how they affect the speed • friction and how this effects ease of movement Working Scientifically covers: predicting and testing predictions, making observations and measurements and presenting these and grouping according to results. | | 108065 | | 108015 | | 108016 | |

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| **Science – Year 11** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Focus for**  **Learning** |  | |  | |  | |
| **Pathway 1**  **GCSE (Y3)** | Homeostasis and response | Inheritance variation and evolution | Ecology 3 | Revision for exams (mocks) | Exam Prep | N/A |
| **Pathway 2** |  |  |  |  |  |  |
| **Pathway 3**  **Unit awards** | 108017 | 108054 | 108055 | 108056 | TBC | TBC |