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| **Science- Year 7** | **Autumn 1** | **Autumn 2** | **Spring 1** | **Spring 2** | **Summer 1** | **Summer 2** |
| **Focus for****Learning** | Introduction to scienceScientific enquiryPhysics | BiologyScientific enquiry (physics)Chemistry | ChemistryBiology |
| **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 exchangeRespiration 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 healthMicrobes |
| **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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| particlesAtoms and elementsAcids and alkalisPure and Impure substancesSimple chemical reactionsCompoundsY8 TopicsPeriodic tableExtracting metalsReactions of acidsDescribing reactionsEarth and AtmosphereInnovative materials | Energy transfersForces and effectElectricityEnergy resourcesMagnets and ElectromagnetsMotionY8 TopicsDomestic and static electricityWaves and SoundLightApplication of ForcesHeat transferExploring 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 108067Through 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 |