

Curriculum Statement of Intent:

The Science Curriculum is designed to develop the key skills and disciplines that form The Scientific Method. By combining these skills with understanding of key concepts, students will be able to answer key questions about the world around them.

An enquiring mindset, allied with a broad range of analytical skills, makes Science a keystone subject in many careers. Science is also the foundation for progress in society and a functional Scientific Literacy is vital to ensure that students grow to be knowledgeable and adaptable citizens in our constantly evolving world.

Curriculum Statement of Implementation:

In the Science Faculty, the curriculum is broken into three main key stages. In years 7 and 8 (Key Stage 3), students study content from all three Science disciplines. The topics covered are chosen to build upon content studied in the Primary phase (Key Stage 2) as part of a challenging bridge to year 9, when GCSE content begins.

Our KS3 curriculum does not make the distinction between Biology, Chemistry and Physics explicit. This is based on research findings that suggest this is likely to cause disparity between the three subjects, mainly on gender lines. Instead, our individual topics are based around a central question or theme. This allows students a context within which the wide range of subject content to be studied but also exemplifies the relevancy of the concepts being covered. This is further supported by the use of practical work to link the domain of ideas and the domain of observables. This practical work also develops key skills required at GCSE and a structured paradigm of inquisitive thought and action.

As students move into year 9, they begin to study GCSE content. Our KS3 curriculum is designed to make this transition as smooth as possible with potential misconceptions addressed in earlier years. Students will also be aided by key parts of the Scientific Method having already been developed. In KS4 the distinction between the three Science disciplines will be much clearer. This is to allow students to study effectively for their exams but to also make an informed choice if they wish to study one or more Science subjects to A level. Whether students study Triple or Combined Science, they will rotate between all three disciplines on a regular basis to ensure that their retention of core ideas and content is developed.

Science plays an important role in the teaching of SMSC, especially regarding health and disease. This includes:

- *The menstrual cycle*
- *The link between lifestyle and disease (e.g. coronary artery disease, diabetes, cirrhosis etc.)*
- *Contraception and STIs*
- *Cloning*

This is in addition to many current issues of a global scale such as:

- *Global food and energy security*
- *Plastic pollution*
- *Global warming and acid rain.*

In Science, students will study these issues in a factual manner in order to enter the world of work fully informed of some of the major issues facing society.

Science is a subject that is more engaging and purposeful when linked to a real world context. This allows for Science to be a vehicle for careers guidance, as many areas of Science research or the Scientific Method are vital for an enormous range of careers. This helps engagement but also raises aspirations towards higher paying, professional careers.

With regard to planning in Science:

- 1) Long term plans are Programmes of Study which are in place for all year groups. These ensure that all of the content is completed in the allocated learning time, along with opportunities for assessment and feedback.*
- 2) Medium term planning is in the form of Schemes of Work. These break down the specification into smaller chunks (usually 1-2 lessons). Each of these Schemes of Work includes ideas for delivery, relevant exam paper questions, homework, assessments and also common misconceptions. This style of medium term planning allows teachers to plan a lesson that is bespoke for their class within a common framework.*
- 3) Short term planning is completed by the individual teacher using the PoS and SoW. This must also include risk assessments (where necessary) in line the Faculty policy and the whole school policies and expectations regarding lesson planning and assessment.*

Curriculum Coverage

Curriculum and Topics being covered in each year group

	Autumn	Spring	Summer
Year 7 (3 lessons a week)	Introduction to science (safety and lab skills) Cells Rocks and fossils	Atoms, elements, compounds. Energy Separating mixtures	Forces Acids and alkalis Sexual reproduction Electricity
SMSC Careers guidance British Values Sex Education	Evolution – area of disagreement between Science and Religion. Purpose of Science in society and as a career.	Energy in our world – including efficiency and energy resources. Future careers in Science – energy development and production.	Use of electricity in the modern world. Issues regarding sexual reproduction and gestation.
Year 8 (3 lessons a week)	Cells and body systems Rocks and fossils	Atoms, elements, compounds. Forces The periodic table Acids and alkalis	Electricity Metals and their uses Combustion Earth and space
SMSC Careers British Values Sex Education	Sex education issues regarding contraception and pregnancy. Human impact on the marine environment – over fishing and plastic pollution. Impact of medicine on the modern world, dealing with cancer as a modern day issue that impacts most students.	Careers regarding telecommunications.	Link to modern day economy and precious metals. Links to careers in F1 and aerospace.
Year 9 (5 lessons a week)	<p>B1 – Key Concepts in Biology</p> <ul style="list-style-type: none"> • Microscopes (including core practical) • Plant, animal and specialized cells • Enzymes • Enzyme activity (including core practical) • Transport in plants and animals (including core practical) <p>C1 – States of Matter</p> <ul style="list-style-type: none"> • States of matter <p>C2 – Methods of Separating and Purifying Substances</p>	<p>B3 – Genetics</p> <ul style="list-style-type: none"> • Meiosis • DNA • DNA extraction • Alleles • Inheritance • Mutations • Variation <p>C5 – Ionic Bonding</p> <ul style="list-style-type: none"> • Ionic bonds and lattices • Properties of ionic compounds <p>C6 – Covalent bonds</p>	<p>P1 – Motion</p> <ul style="list-style-type: none"> • Vectors and scalars • Distance/time graphs • Acceleration • Velocity/time graphs <p>P2 – Forces and Motion</p> <ul style="list-style-type: none"> • Resultant forces • Newton's First Law • Mass and weight • Newton's Second Law (including core practical) • Newton's Third Law • Momentum • Stopping distances • Crash hazards <p>P4 – Waves</p>

	<ul style="list-style-type: none"> • Mixtures • Filtration • Chromatography • Distillation (including core practical) • Drinking water <p>C3 – Atomic Structure</p> <ul style="list-style-type: none"> • Atomic structure • Isotopes <p>B2 – Cells and Control</p> <ul style="list-style-type: none"> • Mitosis • Growth • Stem cells • Nervous system • Neurotransmission speeds <p>C4 – The Periodic Table</p> <ul style="list-style-type: none"> • Elements and The Periodic Table • Atomic number and the Periodic Table • Electronic configurations and the Periodic Table 	<ul style="list-style-type: none"> • Covalent bonds, properties and substances <p>C7 – Types of Substances</p> <ul style="list-style-type: none"> • Molecular compounds • Allotropes of carbon • Properties of metals based on structure <p>B4 – Natural Selection and Genetic Modification</p> <ul style="list-style-type: none"> • Evidence for human evolution • Darwin’s theory • Classification • Breeds and varieties • Genes in agriculture and medicine <p>P3 – Conservation of Energy</p> <ul style="list-style-type: none"> • Energy stores and transfers • Energy efficiency • Stored energies • Renewable and non renewable energies 	<ul style="list-style-type: none"> • Describing waves • Wave speeds (including core practical) • Refraction <p>C8 – Exchange and Transport in Animals</p> <ul style="list-style-type: none"> • Efficient transport and exchange • The circulatory system • The heart • Cellular respiration • Rates of respiration (including core practical) <p>MOVE TO YEAR 10, IT WON’T FIT INTO 2018-19</p> <p>P5 – Light and the Electromagnetic Spectrum</p> <ul style="list-style-type: none"> • EM waves and the EM spectrum (including core practical) • Uses of EM waves • Dangers of EM waves
<p>SMSC</p> <p>Careers</p> <p>British Values</p> <p>Sex Education</p>	<p>Careers in medicine.</p> <p>Ethical implications of stem cells.</p> <p>Link of cancer to mitosis.</p> <p>Embryo development</p> <p>Effects of drugs</p> <p>Discussion of lack of potable water around the world.</p>	<p>Discussion of genetic diseases.</p> <p>Impact of lifestyle choice on health (e.g. cardiovascular disease, fitness, BMI etc.)</p> <p>Debate over Darwin’s theory and evolution of humans.</p>	<p>Uses of waves across all industrial sectors.</p> <p>Health and safety regarding use of lasers, tanning beds etc.</p> <p>Alternative energy and reducing energy wastage as an environmental and economic issue.</p>
<p>Year 10 Combined Science</p> <p>(6 lessons a week)</p>	<p>P4– Waves</p> <ul style="list-style-type: none"> • Describing waves • Wave speeds (including core practical) • Refraction <p>P5– Light and the Electromagnetic Spectrum</p> <ul style="list-style-type: none"> • EM waves and the EM spectrum (including core practical) • Uses of EM waves 	<p>P9 – Electricity and Circuits</p> <ul style="list-style-type: none"> • Electric circuits • Current and potential difference • Current, charge and energy • Resistance (including core practical) • Power • Transferring energy • Electrical safety 	<p>P12 – Particle Model</p> <ul style="list-style-type: none"> • Particles and density (including core practical) • Energy and changes of state • Energy calculations (including core practical) • Gas temperature and pressure <p>P13 – Forces and Matter</p> <ul style="list-style-type: none"> • Bending and stretching (including core practical)

	<ul style="list-style-type: none"> Dangers of EM waves <p>P6 – Radioactivity</p> <ul style="list-style-type: none"> Atomic models Electrons and orbits Background radiation Types of radiation Radioactive decay Half life Dangers of radioactivity <p>B4 – Natural Selection and Genetic Modification</p> <ul style="list-style-type: none"> Evidence for human evolution Darwin’s theory Classification Breeds and varieties Genes in agriculture and medicine <p>B5 – Health, Disease and the Development of Medicines</p> <ul style="list-style-type: none"> Health and disease Non communicable diseases Cardiovascular disease Pathogens Spreading pathogens Physical and chemical barriers The immune system Antibiotics <p>B6 – Plant Structures and Their Functions</p> <ul style="list-style-type: none"> Photosynthesis Factors that affect photosynthesis (including core practical) Absorbing water and mineral ions Transpiration and translocation 	<p>P10 - Magnets and the Motor Effect</p> <ul style="list-style-type: none"> Magnets and magnetic fields Electromagnetism Magnetic forces <p>P11 – Electromagnetic Induction</p> <ul style="list-style-type: none"> Transformers Transformers and energy <p>C9 – Calculations Involving Masses</p> <ul style="list-style-type: none"> Masses and empirical formulae Conservation of mass Moles <p>C10 – Electrolytic Processes</p> <ul style="list-style-type: none"> Electrolysis (including core practical) Products from electrolysis <p>C11 – Obtaining and Using Metals</p> <ul style="list-style-type: none"> Reactivity Ores Oxidation and reduction Life cycle assessment and recycling <p>C12 – Reversible Reactions and Equilibria</p> <ul style="list-style-type: none"> Dynamic equilibrium. 	<ul style="list-style-type: none"> Extension and energy transfers. <p>B9 – Ecosystems and Material Cycles</p> <ul style="list-style-type: none"> Ecosystems Abiotic factors and communities Sampling (includes core practical) Biotic factors and communities Parasitism and mutualism Biodiversity and humans Preserving biodiversity The water cycle The carbon cycle The nitrogen cycle <p>ADAPTED FOR 10 A, S, P TO REFLECT BEING TAUGHT IN SPECIALISMS FROM MARCH 2019.</p> <p>B 8-9</p> <p>C 9-11</p> <p>P 10-13</p>
<p>SMSC</p> <p>Careers</p> <p>British Values</p> <p>Sex Education</p>	<p>Uses of waves across all industrial sectors.</p> <p>Health and safety regarding use of lasers, tanning beds etc.</p>	<p>Safe use of electricity.</p> <p>Metal recycling as an environmental and economic issue.</p>	<p>Impact of humans on the environment.</p>

	<p>Overuse of antibiotics and MRSA. Reducing spread of pathogens, including STIs.</p> <p>How lifestyle choices can impact on health.</p> <p>Debate over Darwin's theory and human evolution.</p> <p>Discovery of radioactivity (Curie etc.) – can be linked to risks of</p>		
<p>Year 10 Astronomy</p> <p>(2 lessons a week)</p>	<p>1 – Planet Earth</p> <ul style="list-style-type: none"> • Earth structure • Latitude and longitude • Earth's atmosphere • Night sky <p>6 – Celestial observation</p> <ul style="list-style-type: none"> • Constellations • Celestial sphere • Celestial coordinate systems • Diurnal motion • Circumpolar stars • Practical observing <p>2 – The lunar disc</p> <ul style="list-style-type: none"> • Lunar surface • Moon's orbit <p>9 – Exploring the Moon</p> <ul style="list-style-type: none"> • History of lunar exploration • Origin of the moon <p>11 – Exploring the Solar System</p> <ul style="list-style-type: none"> • Planets and dwarf planets • Comets • Meteoroids and meteorites • Size of the solar system • Optical telescopes – refracting and reflecting 	<p>11 – Exploring the solar system</p> <ul style="list-style-type: none"> • Space probes <p>5 – Solar system observation</p> <ul style="list-style-type: none"> • Observing the planets • Apparent motion of the Sun <p>7 – Solar system models</p> <ul style="list-style-type: none"> • Solar and Lunar cycles • Models of the Solar System <p>10 – Solar astronomy</p> <ul style="list-style-type: none"> • Observing the Sun • The Sun's interior • The Sun's atmosphere • The Solar wind <p>3 – Earth-Sun-Moon system</p> <ul style="list-style-type: none"> • Solar and Lunar eclipses • Tides and precession • Relative measurements of E-S-M • Diameters and distances 	<p>8 – Planetary motion and gravity</p> <ul style="list-style-type: none"> • Orbits and Kepler's 1st Law • Kepler's 2nd Law • Kepler's 3rd Law • Gravitation – linking Kepler's and Newton's laws <p>4 – Time and E-S-M cycles</p> <ul style="list-style-type: none"> • Sidereal and synodic time • Lunar phases • The equation of time
<p>SMSC</p> <p>Careers</p> <p>British Values</p> <p>Sex Education</p>	<p>1 - Earth's atmosphere – looking at pollution</p> <p>9 – history of lunar exploration – links to aerospace engineering</p> <p>11 – Lenses in telescopes - optometry</p>	<p>7 – Models of the solar system – religious and scientific views on the origin of the universe</p> <p>11 – space probes – links to engineering and technology</p> <p>Mutual respect and tolerance: Galileo – Difficulties he faced with the church, imprisonment and discreditation.</p>	

<p>Year 11 Triple Science</p> <p>(5 lessons a week)</p> <p>Revision schedule to be finalized.</p> <p>Triple group to be finalized by start of Autumn 2.</p>	<p>Previous Core Practicals: B1 [x3], B5, B6, B8, B9 C2, C8 [x2], C10, C18, C23, C25, P2, P4, P5 [x2]</p> <p>SB7:</p> <ul style="list-style-type: none"> • Hormones • Hormonal control of metabolic rate • The Menstrual cycle • Hormones and the menstrual cycle • Control of blood glucose • Type 2 diabetes • Thermoregulation • Osmoregulation • The kidneys <p>SB8:</p> <ul style="list-style-type: none"> • Efficient transport and exchange • Factors affecting diffusion • The circulatory system • The heart • Cellular respiration • CORE PRACTICAL: Respiration rates <p>SC9</p> <ul style="list-style-type: none"> • Mass & Empirical formulae • Conservation of mass • Moles <p>SC12</p> <ul style="list-style-type: none"> • Dynamic equilibrium <p>SC14/15/16</p> <ul style="list-style-type: none"> • Yields • Atom Economy • Concentrations • Titrations and calculations • CORE PRACTICAL: Acid-Alkali titration • Molar volume of gases • Fertilizers and the Haber process • Factors affecting equilibrium • Chemical cells and fuel cells 	<p>SP7</p> <ul style="list-style-type: none"> • The solar system • Gravity & orbits • Life cycles & stars • Red-shift • Origin of the universe • <p>SP10/11</p> <ul style="list-style-type: none"> • Electric circuits • Current & potential difference • Current, charge and energy • Resistance • More about resistance • CORE PRACTICAL: Investigating resistance • Transferring energy • Power • Transferring energy by electricity • Electrical safety • Charges and static electricity • Dangers & uses of static electricity • Electric fields <p>SP12/13</p> <ul style="list-style-type: none"> • Magnets & Magnetic fields • Electromagnetism • Magnetic forces • Electromagnetic induction • The National grid • Transformers and Energy <p>SP14/15</p> <ul style="list-style-type: none"> • Particles and Energy • CORE PRACTICAL: Investigating densities • Energy and changes of state • Energy calculations • CORE PRACTICAL: Investigating water • Gas temperature and pressure • Gas pressure and volume • Bending and stretching • Extension and energy transfers 	<p>REVISION AND EXAMS</p>
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		<ul style="list-style-type: none"> CORE PRACTICAL: Investigating springs Pressure in fluids Pressure and upthrust <p>NOTE FOR STUDENTS WHO HAVE MOVED FROM 10S: SC13, SC35, SC26 and SP9 will need to be caught up.</p>	
SMSC Careers British Values Sex Education	<p>SMSC: What are the moral and social issues related regarding Chemical and fuel cells vs. “traditional” energy resources? What are the implications in ART interventions in conception?</p> <p>Careers: SB7+8: Medical professions, SC9 Analytical/Research chemistry careers SC12-14: Chemical Engineering professions</p> <p>British Values: Democracy: Government responsibility and involvement in new energy source technologies</p> <p>Sex Education: N/A</p>	<p>SMSC: How is technology moving the human species forward? What are the moral and social implications of automation and technological progress?</p> <p>Careers: SC25-26: Analytical Chemistry careers SP9-13: Electronic & Electrical Engineering</p> <p>British Values: Democracy: How much involvement should the government have in moderating progress and automotive processes to support job availability?</p> <p>Sex Education: N/A</p>	
Year 11 Combined Science (5 lessons a week) Revision schedule to be finalized. Triple group to be finalized by start of Autumn 2.	<p>Previous Core Practicals (from B1, B6, B8, C2, C8, C14, P2, P4, P5)</p> <p>C5– Ionic Bonding</p> <ul style="list-style-type: none"> Ionic bonds and lattices Properties of ionic compounds <p>C6– Covalent bonds</p> <ul style="list-style-type: none"> Covalent bonds, properties and substances <p>C7– Types of Substances</p> <ul style="list-style-type: none"> Molecular compounds Allotropes of carbon Properties of metals based on structure 	<p>P9 – Electricity and Circuits</p> <ul style="list-style-type: none"> Electric circuits Current and potential difference Current, charge and energy Resistance (including core practical) Power Transferring energy Electrical safety <p>P10 - Magnets and the Motor Effect</p> <ul style="list-style-type: none"> Magnets and magnetic fields Electromagnetism Magnetic forces <p>P11 – Electromagnetic Induction</p> <ul style="list-style-type: none"> Transformers Transformers and energy 	REVISION AND EXAMS

	<p>C10 – Electrolytic Processes</p> <ul style="list-style-type: none"> Electrolysis (including core practical) Products from electrolysis <p>C11 – Obtaining and Using Metals</p> <ul style="list-style-type: none"> Reactivity Ores Oxidation and reduction Life cycle assessment and recycling <p>C12 – Reversible Reactions and Equilibria</p> <ul style="list-style-type: none"> Dynamic equilibrium. 	<p>P12 – Particle Model</p> <ul style="list-style-type: none"> Particles and density (including core practical) Energy and changes of state Energy calculations (including core practical) Gas temperature and pressure <p>P13 – Forces and Matter</p> <ul style="list-style-type: none"> Bending and stretching (including core practical) Extension and energy transfers. <p>REVISION OF PRIOR CONTENT</p>	
<p>SMSC</p> <p>Careers</p> <p>British Values</p> <p>Sex Education</p>	<p>Recycling as an environmental and economic issue.</p> <p>Use of life cycle assessments in industry.</p>	<p>Electrical safety</p> <p>Forces and matter relates to materials and engineering careers.</p>	
<p>Year 12 Chemistry</p>	<p><u>AS content</u></p> <p>Topic 1: Atomic Structure and The Periodic Table</p> <p>Topic 2: Bonding & Structure</p> <p>Topic 5: Formulae, Equations and Amounts of Substance</p> <p>Topic 6: Organic Chemistry I</p>	<p><u>AS content</u></p> <p>Topic 3 – Redox</p> <p>Topic 4 – Inorganic chemistry and the periodic table</p> <p>Topic 7 – Modern Analytical techniques I</p> <p>Topic 8 – Energetics I</p> <p>Topic 9 – Kinetics I</p> <p>Topic 10 –Equilibrium I</p>	<p>2nd year “A level” content to start in the summer term following assessment</p>
<p>SMSC</p> <p>Careers</p> <p>British Values</p> <p>Sex Education</p>	<p>SMSC: Awe and wonder with regards to the complexity and scale of atomic structure and amounts of substances. Links can be made between science and spirituality at this stage</p> <p>Careers: There are a multitude of career links to be made with the content: Pharmaceutical industry, uncountable scientific research posts, chemical engineering, medical</p>	<p>SMSC: Again, Awe and wonder with regards to Energetic processes that are occurring in front of eyes but not always with explicit visual signs. Links to the early periodic table and the moral, social and cultural issues that hindered and/or supported its development</p> <p>Careers: As in the Autumn term</p>	<p>TBC</p>

	<p>professions, engineering positions...</p> <p>British Values: Links can be made with the “rule of Law” value here with regards to the constraints of developing organic products, their marketing and uses. Links to the illegal pharmaceutical trade can also be made.</p> <p>Sex Education: No direct link here</p>	<p>British Values: Link some of the constraints scientists faced during the 17-20th centuries when proposing new ideas now part of this content to the individual liberty and democracy we now have the freedom to enjoy.</p> <p>Sex Education: No direct link here</p>	
Year 12 Physics	<p>Topic 2: Mechanics</p> <ul style="list-style-type: none"> Describing motion graphically Equations for speed and acceleration Newton’s Second Law Vectors Power and efficiency Momentum Equations of motion Free body force diagrams <p>Topic 5: Waves and the particle nature of light</p> <ul style="list-style-type: none"> Wave properties Wave equation Light Ray diagrams 	<p>Topic 4: Materials</p> <ul style="list-style-type: none"> Density Hooke’s Law Stress, strain, Young’s modulus. <p>Topic 3: Electrical circuits</p> <ul style="list-style-type: none"> Current and potential difference Kirchoff’s Laws Power, potential divider, emf and resistivity Conduction mechanisms <p>Topic 5: Waves and the particle nature of light</p> <ul style="list-style-type: none"> Photon model Spectra 	<p>Topic 5: Waves and the particle nature of light (continued)</p> <ul style="list-style-type: none"> Photoelectric effect and wave-particle duality <p>Topic 6: Further mechanics</p> <ul style="list-style-type: none"> Impulse Conservation of momentum Circular motion and centripetal force. <p>Topic 12: Gravitational fields</p> <ul style="list-style-type: none"> Field models, inverse square law, Newton’s law of gravitation.
SMSC Careers British Values Sex Education	Links to most engineering and optics based careers.	Links to Materials Science and other engineering jobs.	Links to modern careers in quantum physics and engineering.

Curriculum – Assessment (Measuring Impact)

Data Drop Points

The following statements outline the contributing assessment information sources which, aggregated, provide 'Working At Grade' entries for each child throughout the year.

Year 7

Data Drop point 1:

In Autumn there will be topic assessments for each of the units covered. These assessments will not be graded, as the content is limited. The assessments will be based on a multiple choice questions that will test all content covered within the topic, as well as extended answer questions to assess student response to higher order tasks. For the final data drop, an MAO will be used which will be based on previous KS3 SATs questions, GCSE questions and questions from Exploring Science tests. The grades assigned for WAGs will be based upon boundaries that reflect the ability and target grades of the cohort. These are not designed to be ultimate assessments of GCSE attainment. The grades assigned are used to determine relative progress within the year group. This will allow staff to identify areas of content and students who need further development and intervention. Work will be ongoing regarding exam technique and revision skills in lessons.

Data Drop point 2:

In Spring there will be topic assessments for each of the units covered. These assessments will not be graded, as the content is limited. The assessments will be based on a multiple choice questions that will test all content covered within the topic, as well as extended answer questions to assess student response to higher order tasks. For the final data drop, an MAO will be used which will be based on previous KS3 SATs questions, GCSE questions and questions from Exploring Science tests. The grades assigned for WAGs will be based upon boundaries that reflect the ability and target grades of the cohort. These are not designed to be ultimate assessments of GCSE attainment. The grades assigned are used to determine relative progress within the year group. This will allow staff to identify areas of content and students who need further development and intervention. Work will be ongoing regarding exam technique and revision skills in lessons.

Data Drop point 3:

In Summer there will be topic assessments for each of the units covered. These assessments will not be graded, as the content is limited. The assessments will be based on a multiple choice questions that will test all content covered within the topic, as well as extended answer questions to assess student response to higher order tasks. For the final data drop, an MAO (within the summer assessment window) will be used which will be based on previous KS3 SATs questions, GCSE questions and questions from Exploring Science tests. The grades assigned for WAGs will be based upon boundaries that reflect the ability and target grades of the cohort. These are not designed to be ultimate assessments of GCSE attainment. The grades assigned are used to determine relative progress within the year group. This will allow staff to identify areas of content and students who need further development and intervention. Work will be ongoing regarding exam technique and revision skills in lessons. This assessment will include all elements of Science that has been taught throughout the year.

Moderation processes: For each summative assessment, 10-15% of the class will be moderated (dependent on group size). This sample will be representative of the group and will also include the highest and lowest marked papers from the group (if not already in the sample). If inaccuracies or inconsistencies are found, the group's papers will be remarked.

Year 8

Data Drop point 1:

In Autumn there will be topic assessments for each of the units covered. These assessments will not be graded, as the content is limited. The assessments will be based on a multiple choice questions that will test all content covered within the topic, as well as extended answer questions to assess student response to higher order tasks. For the final data drop, an MAO will be used which will be based on previous KS3 SATs questions, GCSE questions and questions from Exploring Science tests. The grades assigned for WAGs will be based upon boundaries that reflect the ability and target grades of the cohort. These are not designed to be ultimate assessments of GCSE attainment. The grades assigned are used to determine relative progress within the year group. This will allow staff to identify areas of content and students who need further development and intervention. Work will be ongoing regarding exam technique and revision skills in lessons.

Data Drop point 2:

In Spring there will be topic assessments for each of the units covered. These assessments will not be graded, as the content is limited. The assessments will be based on a multiple choice questions that will test all content covered within the topic, as well as extended answer questions to assess student response to higher order tasks. For the final data drop, an MAO will be used which will be based on previous KS3 SATs questions, GCSE questions and questions from Exploring Science tests. The grades assigned for WAGs will be based upon boundaries that reflect the ability and target grades of the cohort. These are not designed to be ultimate assessments of GCSE attainment. The grades assigned are used to determine relative progress within the year group. This will allow staff to identify areas of content and students who need further development and intervention. Work will be ongoing regarding exam technique and revision skills in lessons.

Data Drop point 3:

In Summer there will be topic assessments for each of the units covered. These assessments will not be graded, as the content is limited. The assessments will be based on a multiple choice questions that will test all content covered within the topic, as well as extended answer questions to assess student response to higher order tasks. For the final data drop, an MAO (within the summer assessment window) will be used which will be based on previous KS3 SATs questions, GCSE questions and questions from Exploring Science tests. The grades assigned for WAGs will be based upon boundaries that reflect the ability and target grades of the cohort. These are not designed to be ultimate assessments of GCSE attainment. The grades assigned are used to determine relative progress within the year group. This will allow staff to identify areas of content and students who need further development and intervention. Work will be ongoing regarding exam technique and revision skills in lessons. This assessment will include all elements of Science that has been taught throughout the year.

Moderation processes: For each summative assessment, 10-15% of the class will be moderated (dependent on group size). This sample will be representative of the group and will also include the highest and lowest marked papers from the group (if not already in the sample). If inaccuracies or inconsistencies are found, the group's papers will be remarked.

Year 9

Data Drop point 1:

In Autumn, there will be a topic assessment for each of the units studied. This will be based upon multiple choice questions that test all of the specification points for the topic. In these assessments there will also be extended answer questions that will develop exam technique and draw out misconceptions. These tests will not be graded as they do not cover a wide range of content. Students will be given DIRT tasks to close the gap between their current and desired performance. At the end of the term there will be a summative assessment that will be based on past GCSE exam papers for the topics covered. These tests will be graded based on the target grades of the year group (to allow comparative analysis), with consideration given to previous grade boundaries for GCSE.

Data Drop point 2:

In Spring, there will be a topic assessment for each of the units studied. This will be based upon multiple choice questions that test all of the specification points for the topic. In these assessments there will also be extended answer questions that will develop exam technique and draw out misconceptions. These tests will not be graded as they do not cover a wide range of content. Students will be given DIRT tasks to close the gap between their current and desired performance. At the end of the term there will be a summative assessment that will be based on past GCSE exam papers for the topics covered. These tests will be graded based on the target grades of the year group (to allow comparative analysis), with consideration given to previous grade boundaries for GCSE.

Data Drop point 3:

In Summer, there will be a topic assessment for each of the units studied. This will be based upon multiple choice questions that test all of the specification points for the topic. In these assessments there will also be extended answer questions that will develop exam technique and draw out misconceptions. These tests will not be graded as they do not cover a wide range of content. Students will be given DIRT tasks to close the gap between their current and desired performance. At the end of the term there will be a summative assessment that will be based on modified GCSE papers that include all of the content covered in the academic year. Grade boundaries will be based on the GCSE grade boundaries from the previous year.

Moderation processes: For each summative assessment, 10-15% of the class will be moderated (dependent on group size). This sample will be representative of the group and will also include the highest and lowest marked papers from the group (if not already in the sample). If inaccuracies or inconsistencies are found, the group's papers will be remarked.

Year 10 – Combined Science

Data Drop point 1:

In Autumn, there will be a topic assessment for each of the units studied. This will be based upon multiple choice questions that test all of the specification points for the topic. In these assessments there will also be extended answer questions that will develop exam technique and draw out misconceptions. These tests will not be graded as they do not cover a wide range of content. Students will be given DIRT tasks to close the gap between their current and desired performance. At the end of the term there will be a summative assessment that will be based on past GCSE exam papers for the topics covered. These tests will be graded based on the previous grade boundaries for GCSE Combined Science.

Data Drop point 2:

In Spring, there will be a topic assessment for each of the units studied. This will be based upon multiple choice questions that test all of the specification points for the topic. In these assessments there will also be extended answer questions that will develop exam technique and draw out misconceptions. These tests will not be graded as they do not cover a wide range of content. Students will be given DIRT tasks to close the gap between their current and desired performance. At the end of the term there will be a summative assessment that will be based on past GCSE exam papers for the topics covered. These tests will be graded based on the previous grade boundaries for GCSE Combined Science.

Data Drop point 3:

In Summer, there will be a topic assessment for each of the units studied. This will be based upon multiple choice questions that test all of the specification points for the topic. In these assessments there will also be extended answer questions that will develop exam technique and draw out misconceptions. These tests will not be graded as they do not cover a wide range of content. Students will be given DIRT tasks to close the gap between their current and desired performance. At the end of the year there will be a summative assessment that will be based on past GCSE exam papers as mock exams for the topics covered. These tests will be graded based on the previous grade boundaries for GCSE Combined Science. This will be either 3 or 6 mock exams, based on the capacity of the mock exam window. The final grade will be based on the result of these mocks, although mitigation may well be made for absence or dramatic underperformance based on assessments completed earlier in the year.

Moderation processes: For each summative assessment, 10-15% of the class will be moderated (dependent on group size). This sample will be representative of the group and will also include the highest and lowest marked papers from the group (if not already in the sample). If inaccuracies or inconsistencies are found, the group's papers will be remarked.

Year 10 – Astronomy

Data Drop point 1:

In Autumn, there will be a topic assessment for each of the units studied (Planet Earth, Celestial Observation, The Lunar Disc, Exploring the Moon and Exploring the Solar System) although these are likely to be merged at different points to make a more meaningful assessment. These assessments will be based on exam style questions provided by Edexcel/Micklemore for each unit. There will also be a final assessment (which will include elements of all of the units studied) comprised of exam questions from SAMs and ASAMs (plus 2018 papers, if required). The final grade will be an amalgam of the grades achieved in each of these formative assessments along with a summative assessment at the end of the term which will include elements from all topics studied. All assessments will be placed in a tracker and an average calculated, with the synoptic, summative assessment given additional weighting (+20%).

Data Drop point 2:

In Spring, there will be a topic assessment for each of the units studied (Solar System Observation, Solar System models, Solar astronomy and Earth-Moon-Sun system) although these are likely to be merged at different points to make a more meaningful assessment. These assessments will be based on exam style questions provided by Edexcel/Micklemore for each unit. There will also be a final assessment (which will include elements of all of the units studied, plus questions which will assess content studied in Autumn) comprised of exam questions from SAMs and ASAMs (plus 2018 papers, if required). The final grade will be an amalgam of the grades achieved in each of these formative assessments along with a summative assessment at the end of the term which will include elements from all topics studied. All assessments will be placed in a tracker and an average calculated, with the synoptic, summative assessment given additional weighting (+20%).

Data Drop point 3:

In Summer, there will be a topic assessment for each of the units studied (Planetary motion and gravity and Time and E-S-M cycles) although these are likely to be merged at different points to make a more meaningful assessment. These assessments will be based on exam style questions provided by Edexcel/Micklemore for each unit. There will also be a final assessment which will

consist of a full exam paper from 2018. The final grade will be based on the result of these mocks, although mitigation may well be made for absence or dramatic underperformance based on assessments completed earlier in the year.

Moderation processes: For each summative assessment, 10-15% of the class will be moderated (dependent on group size). This sample will be representative of the group and will also include the highest and lowest marked papers from the group (if not already in the sample). If inaccuracies or inconsistencies are found, the group's papers will be remarked.

Year 11 – Triple Science

Data Drop point 1:

This grade entry will be based on a full series of 3 mock exams that will take place in December 2018 (B1, C1 and P1). The working at grade will be based wholly on this. Mitigation based on prior results will take place if a student is absent or unexpectedly underperformance.

Data Drop point 2:

This grade entry will be based on a full series of 3 mock exams that will take place in March 2018 (B2, C2 and P2). The working at grade will be based wholly on this. Mitigation based on prior results will take place if a student is absent or unexpectedly underperformance.

Data Drop point 3:

Predictions will be entered after the Easter Holiday for all year 11 students. This will be based on the mock window 2 results along with mock exam results that have been completed by students.

Moderation processes: For each summative assessment, 10-15% of the class will be moderated (dependent on group size). This sample will be representative of the group and will also include the highest and lowest marked papers from the group (if not already in the sample). If inaccuracies or inconsistencies are found, the group's papers will be remarked.

Year 11 – Combined Science

Data Drop point 1:

This grade entry will be based on a full series of 3 mock exams that will take place in December 2018 (B1, C1 and P1). The working at grade will be based wholly on this. Mitigation based on prior results will take place if a student is absent or unexpectedly underperformance.

Data Drop point 2:

This grade entry will be based on a full series of 3 mock exams that will take place in March 2018 (B2, C2 and P2). The working at grade will be based wholly on this. Mitigation based on prior results will take place if a student is absent or unexpectedly underperformance.

Data Drop point 3:

Predictions will be entered after the Easter Holiday for all year 11 students. This will be based on the mock window 2 results along with mock exam results that have been completed by students.

Moderation processes: For each summative assessment, 10-15% of the class will be moderated (dependent on group size). This sample will be representative of the group and will also include the highest and lowest marked papers from the group (if not already in the sample). If inaccuracies or inconsistencies are found, the group's papers will be remarked.

Year 12

Data Drop point 1:

In Autumn, there will be a topic assessment for each of the units studied. These assessments will be based on past exam and exam style questions from Edexcel for each unit. There will also be a final assessment (which will include elements of all of the

units studied) comprised of exam questions for all of the content covered to this point. The final grade will be based on final, summative assessment with mitigation given for students who are absent or dramatically underperformed based on prior assessments.

Data Drop point 2:

In Spring, there will be a topic assessment for each of the units studied. These assessments will be based on past exam and exam style questions from Edexcel for each unit. There will also be a final assessment (which will include elements of all of the units studied) comprised of exam questions for all of the content covered to this point. The final grade will be based on final, summative assessment with mitigation given for students who are absent or dramatically underperformed based on prior assessments.

Data Drop point 3:

In Spring, there will be a topic assessment for each of the units studied. These assessments will be based on past exam and exam style questions from Edexcel for each unit. There will also be a final which will be comprised of the AS level papers. The final grade will be based on final, summative assessment with mitigation given for students who are absent or dramatically underperformed based on prior assessments. The exam boundaries will be modified from the AS boundaries to reflect the smaller amount of content covered.

Moderation processes: For each summative assessment, 10-15% of the class will be moderated (dependent on group size). This sample will be representative of the group and will also include the highest and lowest marked papers from the group (if not already in the sample). If inaccuracies or inconsistencies are found, the group's papers will be remarked.

Curriculum and Assessment Policy

The following template must be completed for each teacher for a representative sample (min. 10%) of the cohort for which they are entering WAGs onto Bromcom at each data drop point in the calendar.

Remedial Action Required (if any):

Deadline:

Data entry sign off (Faculty Leader):_____ Date:_____