Subject Curriculum Map

Intent – We want pupils to become scientifically literate enough to discern fact from fiction in their everyday lives. We want pupils to gain grades at GCSE that will enable pupils to pursue science post-16 and post-18. To motivate students to consider the social, cultural, and moral issues related to science. 'Think like a scientist, write like a scientist and speak like a scientist'

The science curriculum's vision is to engage students in science and develop scientists of the future. We will deliver a five-year curriculum in a stimulating and exciting learning environment where the teaching is both challenging and supportive. By empowering students to learn independently we enable them to flourish and achieve to the best of their ability. At KS3 students' study both a knowledge rich curriculum and the methodology of working scientifically that are then developed further in KS4 to educate our students to become citizens of a scientific world and through STEM opportunities (for example Science club, Science week activities etc) inspire some to become future scientists and engineers. All our students should leave Conisborough College with the requisite scientific literacy to engage with future technological advances such as purchasing EV's, choosing home power sources such as wind/solar panels, IVF, vaccines, advanced cancer treatments etc. All Conisborough students should understand (where appropriate) the science behind political issues such as ULEZ, climate change initiatives, compulsory vaccination/adding fluoride to water etc, allowing them to fully engage with the democratic process in the future.

Implementation

Term	1 (6 weeks)	2 (6 Weeks)		3 (5 weeks)	4 (5 Weeks)	5 (5 Weeks)		6 (5 Weeks)
Year 7	**7.01** Particles, Substances and Mixtures **7.02** Fundamentals of Physics Units in year 7 have been chosen to provide the basis for schemas that students will develop through the rest of KS3 and KS4. Students schema are developed using themes that run across the whole of the Science curriculum. This makes it easier for staff and students to understand where new knowledge fits in with existing knowledge. Science is a hierarchical subject with fundamental concepts that must be mastered before the next thing can be understood. For example, states of matter are introduced before distillation as a separation technique in 7.01. Particles, Substances and Mixtures introduces ideas about particles and substances that will be built on in Chemical changes and materials in year 7. This is also the unit that introduces students to the scientific method and the use of common laboratory equipment as part of the scientific method. This will introduce students to the idea of following basic health and safety rules, something that is	**7.02** Fundamentals of Physics **7.03** Cells and Organisation Fundamentals of Physics 7.02 builds on the foundations in KS2 by introducing the themes of Motion and force and Energy. Energy is an essential theme that spans across all other themes. **7.02**. ensures students have a solid understanding of the fundamentals of forces: that forces are pushes or pulls with a given direction and size that act on an object and can change the motion or shape of the object. They arise in pairs, and their direction and size can be modelled with arrows. Students are taught about resultant forces when forces are balanced (zero resultant force) and unbalanced (non-zero) forces. They revisit contact and non-contact forces (KS2) and name air resistance, friction, lift, normal contact force, thrust, upthrust, water resistance (contact) and	Assessment	**7.04** Chemical Changes **7.05** Organ systems (5) In Chemical changes **7.04**. students apply their understanding of elements and compounds; students are taught how the properties of compounds are different to those of the elements from which the compounds are made. To fully understand this requires mastery of the particle model introduced in 7.01 in term 1. Organ systems builds on the knowledge acquire in **7.03** Cells and Organisation. The human examples of organ system swill be returned to in year 8.04 where the circulatory system will be contrasted with plant transport systems. These ideas will be built upon in year 10 in exchange and transport when Students revisit and deepen their understanding of how cells get what they need (7.05) with all types of transport: diffusion, osmosis, and active transport. This unit will form the basis of most students understanding of howe their bodies work and therefore allow them to	**7.05** Organ systems **7.06** Sound and Light 1. **7.07** Materials **7.06** Sound and Light Students develop their knowledge of light emanating from a source to illuminate objects, which is how we see them, and how shadows are evidence for light travelling in straight lines (KS2) to understand how whole areas can be lit up and how surfaces affect the reflection. This is revisited in year 8 Materials and the Earth where ideas about waves are used to explain the green house effect and in Geography Earthquakes. In year 9, 9.02 Waves are expanded using ideas about energy transfer and vibrations as well as transverse and longitudinal waves.	**7.06** Sound and Light **7.07** Materials **7.08** **7.06**. Students build on their knowledge of sound being caused by vibrations and what changes its loudness and pitch (KS2), to understand how sound is transmitted via particles (7.01); how it can be absorbed, reflected, and scattered; and what affects its speed as it is transmitted. They also revisit how humans hear. Knowledge of sound and the ear will allow students to	Assessment	**7.08** Life Cycles **7.08**. Students revisit the idea of specialised cells in context, when learning about sperm and egg cells in sexual reproduction. They are introduced to the idea that growth is an increase in the number of cells. This will be revisited in year 11 when they study Growth and Development. This will help them with the knowledge they need to make informed decisions about their own

	becoming increasingly important for many jobs. In year 8 these ideas will be expanded to explain ideas about acids and alkalis in 8.08 Acids and Alkalis and chemical reactions in the context of photosynthesis and respiration in 8.04 Plants and their processes. Students then use these ideas to access units on the periodic table (9.03), Rates (9.07) that lead straight into GCSE chemistry units in year 10 and 11. These ideas will be used in everyday life by students because they impact understanding of cooking, choices about diet and its effect health ranging from the treatment of common issues such as indigestion to the impact on the health of our teeth of choosing a diet high in acids (fruits, soft drinks etc.) Throughout KS3, and into KS4 Science content is taught simultaneously with the scientific method. The essentials of "how Science works" are taught across the 5-year curriculum using 5 recurring disciplinary themes 1. Scientific attitudes and ways of thinking 2. Enquiry and field work 3. Analytical and Evaluative approaches 4. Applications of Science and its implications and 5. Protocols for measurement. These themes form the basis for the Scientific method that help develop transferable skills for all aspects of student's future lives. Students will be able to apply these skills to organise their workflow in a logical sequence, apply problem solving skills at work or produce work reports that follow a coherent logical sequence. They will be able to follow practical instruction and understand the need for following health and safety guidance to prevent accidents due to their lab training. Outside of work knowledge about science will help with everything from basic car maintenance (understanding the need for different screen wash in summer/winter) to	gravity force and magnetic force (non-contact). This unit will help students understand the world around them why it is important, for example to oil your bike chain regularly to help make it more efficient when riding. **7.03.** Students are introduced to cells as the fundamental building blocks of living organisms. Ideas about cells are used to explain multicellular organisms and their hierarchy of tissues, organs, and organ systems. They are taught the components of animal and plant cells and examine some specialised cells. Students are taught that all cells need oxygen and glucose for respiration, the process by which energy is released, and that all cells need to excrete carbon dioxide and water as waste products of this process. They are taught that this happens by diffusion – diffusion was covered in 7.01. The ideas introduced in this unit will be used in 7.05 Organ systems and 7.08 Life cycles. The schema developed in these units will them be built upon in year 8 and 9 in the Plant and their process unit (8.04) before applying this knowledge in the context of aerobic and anaerobic respiration in plants, animals, and microorganism in 9.04 Cellular respiration. Understanding the cell is essential for students to access later topics on the body and therefor understanding of their own health in the future.		make informed health and lifestyle decisions in the future.	**7.07**. Students build on understanding of properties of materials and how these relate to their use (KS2) by considering the properties and use of composite materials. They are introduced to polymers and ceramics and compare these to metals. Polymers and ceramics will be revisited in the GCSE unit's Organic chemistry and Chemical bonding. These units will together help students understand for example why we rely on single use plastics so much and the issues surrounding their continued use. In the sound and light units' students learn how humans see and what colour is; they explore what images are, including how refraction acts through lenses. Light and sound as energy pathways are introduced. The sections on the eye and corrective lens will help them understand how their eye works, the causes of common eye problems (myopia etc) and the way the treatments work (glasses.)	make informed decisions about he use of ear defenders when doing DIY or using ear plugs when riding a motorbike/going to concerts/festival.		fertility/ contraception in the future as well as understanding the changes they are going through as part of puberty.

	making informed lifestyle choices that can have a dramatic impact on their health.							
Year 8	**8.01** Heating and cooling. **8.01**. Students are taught to explain temperature of matter using the particle model of matter. They review energy stores and pathways (7.02) and are taught about temperature changes in different systems, and how energy tends to spread across a system. They also review changes of state (7.01) and include sublimation for the first time. They apply new knowledge of temperature to endo- and exothermic reactions (7.04). They are taught factors that affect the rate of change of temperature and apply this to their knowledge of the enhanced greenhouse effect. Thermal conduction is explained in the context of particles, and students are introduced to density (in simple terms) before learning about thermal convection. These ideas are revisited in year 10 when students learn about specific latent heat and specific heat capacity. This will help them make informed decisions about types of insulation for their homes and when revised at GCSE they will be taught how to calculate payback time for different home improvements. **8.02** Materials and the Earth. **8.02.** Students revisit the greenhouse and enhanced greenhouse effect (needed for Geography) and apply their more scientific understanding of the transfer of energy by radiation and heating and cooling (8.01). Again, this units is vital for students to access GCSE units on heat/energy transfers and energy stores as well as giving them the	**8.03** Forces and motion. **8.03**. Students build on their knowledge of forces (7.02) and focus specifically on motion and speed. They draw and interpret distance-time graphs. They also consider how speed can be increased by reducing the force of air resistance through streamlining. This will help them understand the design choices made by (for example) car designers and how it might affect both the handling and fuel efficiency of any future car purchases. These ideas are used again in the GCSE unit What forces do to explain velocity and velocity time graphs. This will give students the understanding they need to fully engage with the highway code sections on safety, speed and braking distances if they choose to drive in the future. **8.04** Plant and their processes. **8.04**. Before revisiting food chains more explicitly, students are reminded of the importance of plants as producers (KS2), and are taught photosynthesis, the process by which plants produce food.		**8.05** Electricity 1. **8.05**. Students build on their concrete experience of electrical circuits (KS2) and are introduced to current and potential difference in the context of series circuits (parallel circuits follow in Year 9, to build understanding in small steps). Students are also introduced to the relationship between power, energy transferred and time, and how energy at home is typically measured in kWh. Students then consider the cost of electricity and efficiency of appliances. This will help them with understanding their gas and electricity bills and will therefore help them with a key aspect of household budgeting when they are older. **8.06** Interactions and interdependence. **8.06**. Formalising the ideas first introduced in KS2, students are taught vocabulary to describe ecosystem organisation (such as ecosystem, community, population, habitat, and environment). They revisit food chains (KS2) and are taught about biomass transfer, food webs and bioaccumulation. They are also taught about decay and the importance of microorganisms for the ecosystem. Mastery of these ideas are essential to successes in the year 10 GCSE unit Ecology where they will study energy	**8.07** Forces and work. **8.07**. Students build on their practical experience of pulleys, levers and gears (KS2) and simple forces (7.01) and are taught about moments and balance; simple machines; work done and Hooke's law. Their knowledge of pressure in the context of gas pressure (7.01) is formalised here with the equation that connects pressure, force, and surface area. The ideas from these units will continue in year 9 in the floating and sinking unit 9.06. This unit helps students to understand the world around us for the humble bicycle and how to use its gears to more complex examples of engineering such as a car. **8.08** Acids and Alkalis 1. **8.08**. Students are introduced another type of reaction: neutralisation. This adds to their knowledge of precipitation, oxidation, thermal decomposition, and combustion reactions. They are also taught reactions of acids and metals. This will be revisited when they look at the reactivity and group 1 metals in 9.03 in the year 9-unit Periodic table and reactivity. Students can apply their knowledge of acids and alkalis when choosing clearing	**8.08** Acids and Alkalis 2. **8.09** Nutrition and digestion. **8.09**. Students revisit the importance of diet (KS2) and are taught the components of food in a healthy human diet, and what each is needed for in the body. They are also taught the importance of bacteria in the human digestive system. This unit lays the foundation for understanding how choices about diet can impact student's health over their lifetime.		**8.10** Space 1. **8.10**. Students revisit the basics of space physics (KS2) are taught about a wider range of celestial bodies, their orbits and their groupings (including galaxies). They revisit day and night (KS2) and are taught why day length varies with seasons and why the Sun appears to move across the sky. They are also taught how the Earth's tilt causes seasons. This unit will help students understand phenomena such as solar eclipses as well as our place within the universe.

	knowledge required to understand the wider social debates around climate change and the need to reduce carbon dioxide emissions through a variety of individual life style choices.	Students are also taught about the importance of plants in absorbing carbon dioxide from the atmosphere in the context of climate change. This unit has a lot of cross over with Geography. Knowledge about plants and their needs will help any students who decide to take up gardening or even care for and keep pot plants in their homes		transfers within ecosystems and the effect of biotic and abiotic factors. This unit is not only directly relevant to student who might take up gardening as a hobby but also understanding the need for conservation and how it benefits humans.	products, skin products as well as in cooking from choosing safe foods to preserve using canning techniques (high acid food stuff) to improving the flavour and texture of food.			
Year 9	**9.01** Ecosystems **9.01**. Having been taught the interdependence of organisms in terms of food and energy transfer (8.06) students consider wider relationships in an ecosystem, including how organisms can impact their environment, human issues and sustainability, the importance of biodiversity and conservation. Students will also understand why certain foods are not recommended for some groups such as whitefish due to their high mercury levels from pollution and how substances such as forever chemicals are getting into our food ands water supply and the possible issues associated with that. **9.02** Waves **9.02**. Having seen the effects of waves and the pathway of radiation (7.06), students are formally introduced to waves as a vibration that transfers energy from place to place without transporting matter. They are taught about transverse and longitudinal waves, amplitude and frequency, superposition, and speed. They compare light and sound waves. They are also introduced to infrared in the context of thermal radiation. This is added to when they learn about the EM spectrum in year 11 as part of the waves unit. Students will be able to explain the effects of loud music on our hearing and understand how simple choices such as different arrangements of furniture/use of carpets etc. can massively change the	**9.03** Periodic table and reactivity **9.03**. Having examined various properties of elements (7.01, 7.04), students consider the physical properties in the context of the periodic table. This will help them understand the different material choices for different products and therefore help evaluate different products. For example choosing galvanised tools vs painted tools. **9.04** Electricity 2 **9.04**. Students revisit current and potential difference (8.05) and apply this to parallel circuits. They are also taught resistance and Ohm's law, as well as insulators and static electricity (using knowledge of electrons, 9.03). Knowledge of electricity an circuits can help keep students safe when using electrical appliances, for example understanding the risks of taping up a frayed power chord Vs replacing it. This unit considers renewable and non-renewable energy resources and review nuclear energy store when learning about the advantages and disadvantages of nuclear		**9.05** Cellular respiration **9.04**. Having seen aerobic respiration in the context of all cells (7.03) and specifically humans (7.05) and plants (8.04), students revisit aerobic respiration and investigate the relationship between respiration and exercise. They are then taught about anaerobic respiration in both plants, animals (humans) and microorganisms. By the end of this unit students will understand the importance of yeast for baking and bacteria in cheese and yogurt making as well as understanding how their own cells release energy. Problems with respiration in cellular mitochondria re increasingly being linked to disease in humans understanding the effects of diet and exercise on respiration will help students with a deeper understanding of their own health in the future. **9.06** Floating and Sinking. **9.06**. Students build on understanding of gravity (7.02) and weight (8.10) and are taught about the force of upthrust. They build their understanding of density (8.01) in this context. They also build their understanding of pressure (8.07) in the context of atmospheric pressure. Understanding this will help students understand safety rules for climbing	**9.07** Reactivity and rates 2 **9.07**. Students consider new types of chemical reactions, including displacement reactions and how carbon can be used in these to extract metals. Having encountered rates of reaction implicitly (for example, in the context of enzymes speeding up the rate of reaction in 8.09), they are focused on in this unit for the first time. Students measure how surface area, temperature and catalysts affect rates of reaction. These ideas will be returned to at GCSE and become vital foe anyone considering taking A Level chemistry. For all students studying these ideas will help them understand simple every day chemical reactions including the risks from mixing different types of batteries in appliances or not following warnings on cleaning products/hair dye bottles etc. **9.08** Magnetic fields and Electromagnets. **9.08**. Students build on their concrete experience of magnets and magnetic poles (KS2) and magnetic forces (7.02) and are taught about magnetic fields, including the Earth's magnetic field. They are also introduced to	**9.09** Health and Disease. 9.09. Students are introduced to causes of ill-health as imbalances (e.g., too little exercise), drugs and pathogens. Students are taught about the ways that drugs can affect the gaseous exchange system (7.05) and the circulatory system (7.05, 9.05). They are taught about pathogens (linking to understanding of unicellular organisms first introduced in 7.03), how transmission can be prevented and humans' first line of defence. This is essential understanding for the GCSE		**9.10** Space 2 **9.10**. Students apply knowledge of radiation (9.02) and forces and motion, particularly gravity force (7.02) in the context of space. Students revisit orbits (8.10) and are taught about the forces that cause bodies to stay in orbit, revisiting gravitational force (7.02) and are taught about inertia. Students then apply knowledge of the atomic model and nucleus (9.03) to stellar evolution and the beginning of the universe. This unit lays the foundation for the GCSE Physics unit

	acoustics of a room and therefore not only affect neighbors but their own enjoyment of music/TV. Students will also understand the link between loss of hearing and increased risk of dementia/social isolation so they can make choices to help reduce the risks if they so choose.	power. They are also taught about global electricity consumption and 'energy' security and poverty. Understanding these issues allows students to hold politicians accountable when they make claims about this country's future energy needs and the best ways to meet them.		at altitude as well as diving safety procedures. Or even just help them understand why chewing on an aeroplane help stop their ears popping. **9.07** Reactivity and rates 1 **9.07**. Students consider new types of chemical reactions, including displacement reactions and how carbon can be used in these to extract metals. Having encountered rates of reaction implicitly (for example, in the context of enzymes speeding up the rate of reaction in 8.09), they are focused on in this unit for the first time. Students measure how surface area, temperature and catalysts affect rates of reaction. Knowledge or rates will help students with their DIY skills as they will understand the different effects of varying amounts of primer for two part adhesives as well as helping them understand the effects of different cooking methods on the speed of preparation for different foods. Or the need to attend to basic maintenance such as corrosion protection for locks/pipes etc around the home.	electromagnets and the principles of DC motors. Students will also understand why their mobile phones can damage speakers including speakers in headphones or why magnets can damage your oyster card and stop it working.	unit Communicable diseases as well as students own future health.		Space in year 11. **9.11** Trends and Energetics **9.11**. Students develop their understanding of the atomic model (9.03) with electrons arrangement and how electron structure explains the trends in reactivity seen in 9.07. The concepts and ideas met here are essential to understanding the rates units at GCSE in year 11's Controlling reactions as well as more advanced study for students who go on to take Chemistry post 16. Even those (such as builders/other trades) who may not initially realise the importance of chemical reactions within different industries such as catering, construction and beauty.
Term	**1**	**2**		**3**		**4**	**5**		**6**

Year 10	Cellular Life Here students pull together the ideas about cells from KS3 and start looking at the differences between Prokaryotic and Eukaryotic cells. This will enhance their knowledge about their own health as they start to understand more about how the cells in our bodies work. What matter is Students revisit substances and their physical properties and how these can be trends can be described in the periodic table (9.03). This will enhance student's ability to spot and analyse trends in data – an increasingly important skill for lots of jobs in the future.	Matter explained Students build on knowledge of temperature and matter (8.01) and are taught about specific latent heat and specific heat capacity (SHC.) They also revisit and embed knowledge of density and pressure. Knowledge of SHC will help students with decisions such as buying storage heaters /oil filled heater or Metal Vs electric kettles because of the differences in running costs/safety issues with children in the home. Exchange and transport Students revisit and deepen their understanding of how cells get what they need (7.05) with all types of transport: diffusion, osmosis, and active transport. Understanding how our cells work is crucial to understanding how our bodies work and therefore how to stay healthy as we age.		Chemical reactions Students broaden their understanding of displacement (9.07) reactions to consider redox reactions. They are also taught about electrolysis. Both these reactions are increasingly important in industry and vital for further study in chemistry post 16. Students will now be able to understand the push for replacing traditional iron and steel production methods with newer technologies that off a potential carbon free alternative and the political arguments for/against government support for these transitions. What forces do Students revisit forces and speed (8.03) and are taught about velocity, acceleration, and velocity-time graphs. Students also build their understanding of work done, elasticity and Hooke's law (8.07). Studying this unit will help students understand the link between speed and stopping/braking distances should they choose to learn to drive. They will also be able to understand the effects of passengers and loads on the performance of their vehicle and adapt their driving to compensate.	Biological molecules Students revisit digestion and enzymes (7.05) and deepen this knowledge to include lock and key theory, named enzymes and word equations. This can be linked to the products for respiration. This will help deepen their knowledge of how their bodies work and therefore enhance their understanding of various health issues as well as helping them understand the pros and cons o biological Vs normal washing powder as well as the need for different temperatures for each. Chemical bonding Students revisit the idea of intermolecular forces of attraction in the context of the particle model (7.01) and then develop their understanding of the atomic model (9.11) by learning about metallic bonding, giant ionic structures, and covalent structures. This unit will help students understand the importance and use of metals in our society as well as equipping students with the knowledge to evaluate different options such as materials for car parts (e.g. Steel vs iron brake discs) or even speaker wires (copper vs aluminium wires vs silver wires.)	Electricity Healthy organisms.) Students are introduced to the idea of non-communicable diseases and communicable diseases. They consider the risk factors for non-communicable diseases such as cardiovascular disease and cancer. They consider communicable diseases in plants and animals, and how organisms defend against them, including vaccinations in humans. They are taught how diseases are treated in humans with the use of drugs. This unit and knowledge about it will help students take a more active role in discussions about health issues with medical professionals in the future. Chemistry by numbers (11) Students are taught how an amount of a substance can be expressed in moles. This unit		Nuclear Physics Students will look at nuclear power and the issues associated with it such as radioactive waste disposal. Students will learn how to calculate half life and understand the risks and dangers associated with nuclear medicine. For example, the risks associated with frequent x-Rays or the political arguments for/against increased nuclear power station builds. Ecology By studying the ecology unit students will learn about human impact on the environments as well as how we are now having a negative impact on our own food chains. Students will learn about the ways scientists investigate ecosystems and how conservation efforts can benefit humans.

							helps students apply their GCSE Maths knowledge in a new context, giving them extra practice at some of the skills needed to succeed in GCSE maths.		Knowledge form this unit and the issue sit raises will allow students to make informed decisions on everything from the type of wood used for the furniture they buy, the type of food (organic vs non-organic, local vs imported etc) to how small changes we make to our own gardens can have a big impact on the local ecosystem.
Year 11	Earth's Resources Students will be taught how the atmosphere evolved. They will review content from previous units and consolidate knowledge of climate change, its impacts and mitigations. They will be taught about potable water and managing waste. Issues that are increasingly becoming political issues in the UK. For example, with discussions around renationalising Thames water, building homes in areas prone to flooding etc. Predicting Forces and their effects To date, students have represented forces with arrows in single dimensions; they apply this to two dimensions. They are also introduced to momentum. These ideas will not only be built upon in post 16 Physics courses but they allow students to understand the rules on speed and its effect on accident rates if they choose to learn to drive.	Coordination and control in Humans Students revisit what organisms (and cells) need to survive (7.01) and are taught how receptors and the nervous and hormonal systems maintain homeostasis. Organic Chemistry Students revisit polymers (7.07) and are introduced to hydrocarbon molecules and their properties. They are taught how crude oil is separated into hydrocarbons through fractional distillation, and how large hydrocarbons are broken down into smaller ones through cracking. By studying this unit students will understand how our modern lifestyles are made possible through the use of crude oil and its products. Hoe for example, we rely on oil for the manufacture of almost all of our medicines and single use plastics. Magnetism and Electricity Students revisit electromagnets and the principles of DC motors (9.08) and are formally introduced to the motors effect,	**Mock 1**	Growth and Development Students revisit the genome and inheritance (7.08) and are taught about inheritance, genotype and phenotype; predicting gene expression; and genetic disorders. Controlling conditions of reactions Students build their understanding of reaction rates (9.07) with collision theory. They also see reversible reactions and dynamic equilibrium. This unit introduces fundamental ideas that will be built upon in post 16 Chemistry courses or units within other courses such as construction and the beauty industry with its increasing reliance on chemical products and increasing need for knowledge technicians who can safely apply the chemicals used in the beauty industry.	**Mock 2**	Waves Students build on their knowledge of light when they are introduced to electromagnetic waves and the electromagnetic spectrum, which includes visible light and infrared. They compare electromagnetic waves to sound waves. Variation and Evolution Students revisit the ideas of variation, advantageous adaptations, and evolution by natural selection (8.06, Y10), and build on this with causes of genetic variation and mutations; evidence for evolution from the fossil record; and selective breeding. They also consider genetic, evolutionary relationships and how organisms may need to be reclassified. Studying this unit helps students understand our		

		electromagnetic induction and how DC motors work. Studying this unit will equip students with the knowledge required ot make informed decisions on the purchase of any appliance or vehicle using electric motors. For example understanding the difference between a brushless motor and motor with brushes and how this will impact the longevity of the motors and their efficiency.				place as humans in the wide context of the Earth and life on Earth as well as possible changes in the distribution of plants and animals due to climate change and how this might for example impact our food supplies or the presence of invasive species /new diseases (such as Covid-19) given the changing evolutionary pressure humans are placing on our environment.		

Impact:

- ***The main measure will be via KPI's and tests. A good measure will be an increase in the uptake of triple Science at KS4, an increase in students taking higher paper at GCSE and those choosing science subjects post 16 as measure by the school's destinations data will also show this is working.***
- ***Students are being offered the chance to join a Science club – an increase in interest in the Science club will be a good measure at KS3 of the impact of this curriculum.***