CURRICULUM PROGRESSION PATHWAYS **SUBJECT: SCIENCE** **HOD: Ms C Jones** **2020/21**	**Quality of Education:** *Curriculum is planned and sequenced so that new **knowledge** and **skills** build on what has been taught before and leads towards a clearly defined end points.* ***Vision:** The Science department at Six Villages has a vision to provide a broad curriculum that covers the knowledge, specialist practical skills and scientific literacy that will empower and impassion students to engage with the world around them with in an informed and evaluative way. The curriculum aims to provide students with all of the skills and knowledge needed to follow career paths whether up to college or university level further education.*

KS3			**KS4 GCSE**		**FE Careers**
Yr7	**Yr8**	**Yr9**	**Year 10:**	**Year 11:**	
Knowledge: Lab safety Biology: Cells and tissues, organ systems, Reproduction, Health and disease, Bioenergetics, Ecosystems. Chemistry: Atoms and bonding, Periodic table, Reactions, Salts, Reactivity Physics: Energy and states, Electricity, Forces, Waves, Space. **Skills:** Selecting variables, method writing, identifying and minimising risks, conducting practical experiments, using scientific terminology, drawing simple conclusions, plotting accurate graphs, identifying trends in data, rearranging formula, working with means and decimal places.	**Knowledge:** Biology: Cells and tissues, Organs and disease, Reproduction, Bioenergetics, Ecosystems. Chemistry: Atoms and bonding, Periodic table, Reactions, Salts, Reactivity Physics: Energy and states, Electricity, Forces, Waves, Space. **Skills:** Identifying variables, method writing and experimental design, identifying and minimising risks, conducting practical experiments, using scientific terminology, drawing simple conclusions, designing accurate graphs, identifying trends in data, evaluating, rearranging formula, working with means, significant figures and standard form.	**Knowledge:** Biology: Cellular Transport, Microbes. Chemistry: Reactivity and Electrolysis, Rates of reaction. Physics: Radioactivity, Forces. **Skills:** Identifying variables, method writing and experimental design, identifying and minimising risks, conducting practical experiments, using scientific terminology, drawing detailed conclusions, designing graphs, identifying and describing trends in data, comparing and evaluating, rearranging formula, working with means, significant figures and standard form.	**Knowledge:** Biology: Cell Biology, Genes, Chromosomes, Mitosis, Transport in cells, Enzymes and digestion, Heart, blood, vessels and gas exchange, Non-Communicable Diseases, Plant structure, Photosynthesis and respiration Infection, Response, Communicable diseases Chemistry: Atomic Structure, The Periodic Table, Bonding, Structure and Properties, Chemical calculations, reversible reactions and analysis, Chemical Changes, Electrolysis, Reactions of Acids, Energy Changes Physics: Energy Stores, Conservation of energy, Energy resources, Current Electricity, Mains Electricity, Particle Model of Matter, Radiation **Skills:** Identifying variables, writing and improving methods, identifying and minimising risks, conducting practical experiments, using scientific terminology to describe concepts, drawing detailed conclusions, designing graphs, identifying and describing trends in data, comparing and evaluating, rearranging formula, working with means, significant figures and standard form.	**Knowledge:** Biology: The human nervous system, Hormonal co-ordination, Reproduction, Genetics and evolution, Adaptations, interdependence and competition, Feeding relationships, Biodiversity and ecosystems. Physics: Forces, motion and elasticity, Properties of Waves, Magnetism & Electromagnetism, Space and Pressure (Triple only) Chemistry: Rates and Equilibrium, Crude oil and Fuels, Organic Reactions, Chemical Analysis, The Earth's Atmosphere, The Earth's Resources **Skills:** Identifying variables, writing and improving methods, identifying and minimising risks, conducting practical experiments, using scientific terminology to describe concepts, drawing detailed conclusions, designing graphs, identifying and describing trends in data, comparing and evaluating, rearranging formula, working with means, significant figures and standard form.	A wide array of UK science apprenticeships leading to start in animal husbandry, construction and T Level qualifications. Also a firm foundation for A Level Science and Psychology for careers in Police, Nursing, Health Care, Technicians in hospitals, Mechanics as well as Electricians and Plumbers