Curriculum Summary Document

Year 9 – Science

Module/Unit of Learning	Taught During	What will students learn?	How does this help to build a broad and strong foundation?	Links to other subjects
Cell Biology	HT1	Students will study content from the AQA GCSE Cell Biology module, including cell structure, microscopy, cell division, stem cells, diffusion, osmosis and active transport.	Develops understanding of the fundamental building blocks of life. Provides essential knowledge for understanding human biology, genetics, disease and the functioning of living organisms.	Maths (magnification and calculations), PE (muscle cells), Geography (plant adaptations).
Atomic Structure 9 (Chemistry)	HT2	Students will learn about the structure of atoms, subatomic particles, atomic number, mass number, isotopes, electronic structure and the development of the atomic model.	Establishes the fundamental principles of chemistry. Provides the knowledge needed to understand the periodic table, chemical bonding, reactions and the properties of elements.	Maths (numbers and calculations), History (development of scientific models), Physics (atomic structure).
Energy	HT2	Students will study energy stores and transfers, conservation of energy, efficiency, power, heating and energy resources.	Develops an understanding of how energy is transferred and conserved in everyday situations. Provides a foundation for understanding electricity, forces, motion and energy use in society.	Maths (equations, percentages and graphs), Geography (renewable energy and sustainability), Design Technology (energy efficiency).
Particle Model	HT3	Students will learn about the arrangement and movement of particles in solids, liquids and gases, changes of state, internal energy, specific heat capacity, latent heat and gas pressure.	Builds understanding of the behaviour of matter and provides the foundation for studying physical and chemical changes, thermal physics and the properties of materials.	Maths (calculations and graphs), Geography (weather and atmospheric pressure), Design Technology (materials).
Radiation	HT3	Students will study types of nuclear radiation, including alpha, beta and gamma radiation, radioactive decay, half-life, nuclear	Develops understanding of atomic processes, nuclear energy and the applications of radiation in medicine, industry and scientific	Maths (half-life calculations and graphs), History (nuclear developments),

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		equations, uses and dangers of radiation.	research. Encourages students to consider the benefits and risks of scientific developments.	Geography (nuclear energy and environmental impact).
Infection and Response	HT4	Students will learn about communicable diseases, pathogens, how infections spread, the human defence systems, vaccination, antibiotics and drug development.	Develops understanding of human health, disease prevention and the importance of the immune system. Builds scientific knowledge that supports informed decisions about health and medicine.	PE (health and fitness), Maths (data analysis), PSHE (personal health and wellbeing).
Chemical Analysis	HT5	Students will study pure substances and formulations, chromatography, identification of common gases and chemical tests used to identify ions.	Develops practical laboratory skills, observation and analytical thinking. Enables students to identify unknown substances and apply chemical knowledge to real-world situations.	Maths (calculations, ratios and interpreting results), Geography (water quality and pollution), Food Technology (food testing).
Ecology	HT6	Students will learn about ecosystems, communities, biodiversity, food chains and food webs, adaptations, sampling techniques, nutrient cycles and human impacts on the environment.	Develops understanding of the relationships between organisms and their environment. Encourages environmental awareness and an understanding of sustainability, conservation and human responsibility.	Geography (ecosystems and climate change), Maths (sampling and statistics), Citizenship (sustainability and environmental responsibility).