Science

Curriculum intent:

To provide a high-quality science education in accordance with the Catholic ethos and charisms of the school. We believe that science provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity; all pupils are taught essential aspects of the knowledge, methods, processes and uses of science to enrich their lives and understand the world around them. Through building up a body of key knowledge and concepts, pupils will be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They will be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. We will use a wide range of methods to assess pupils learning so that we can best support pupils in their journey.

Year 10

	Content	Concepts and Skills
TERM 1	**Biology** – Photosynthesis, Respiration **Chemistry – Chemical Calculations, Electrolysis, Energy Changes** **Physics – Energy stores and transfer mechanisms. Electricity and simple circuits**	**Biology: Maths – prefixes/suffixes, Converting units** Calculating surface area and volume Investigating photosynthesis and respiration **Chemistry: Maths – rearranging and applying equations** Combining equations. Converting units. **Physics: Maths – standard form. Fractions. Graph skills** Quantitative comparisons
TERM 2	**Biology – Communicable diseases, Preventing and treating disease, Non-communicable diseases, The Nervous System** **Chemistry – Rates and equilibrium** **Physics –** Particle model and the atomic model	**Biology:** Maths- basic statistics, Graph skills Investigating pathogens and the treatment of disease **Chemistry:** Maths - calculating the gradient of a line Drawing tangents to curves Investigating factors that affect the rate of a reaction **Physics**: Maths – vectors and scalar quantities Algebra
TERM 3	**Biology – Hormonal coordination, Reproduction, Variation and evolution, Genetics and evolution** **Chemistry – Crude oil and fuels** **Physics – Motion, Force and motion**	**Biology:** Maths – interpreting graphs Percentages, Understanding how hormones control processes in the human body **Chemistry:** Maths – algebra Formulas **Physics:** Maths – using and rearranging equations Conversion of units