Hazelwick
Sixth Form

effort achieves

Chemistry

Why study Chemistry?
Chemistry is sometimes known as the “central science" because it helps to connect physical sciences, like maths and physics, with applied sciences, like biology, medicine and engineering. You will develop imaginative, logical and critical thinking skills. You will then demonstrate the wider application of chemical knowledge, showing appreciation for social, environmental, economic and technological contributions to society.

What skills will I gain from studying Chemistry?
Chemistry is an academically challenging subject but it integrates theory with experimental work. You will develop investigative and manipulative skills. You are encouraged to develop your scientific communication skills through research, discussion and written work. Chemistry helps to you challenge ideas and show how you worked things out through logic and step-by-step reasoning. Chemistry often requires teamwork and communication skills too, which is great for project management.

Having studied Chemistry what opportunities will be open to me?
Chemistry is an important subject for careers in medicine, environmental science, engineering, toxicology, developing consumer products, metallurgy (studying how metals behave), space exploration, developing perfumes and cosmetics, pharmaceuticals, energy, teaching, science writing, software development and research. Students who study Chemistry at A level have various career opportunities open to them. These may be within the fields of: research chemistry; pharmaceutical chemistry; analytical chemistry; biochemistry; environmental chemistry; medicinal chemistry; material science; chemical engineering.

Entry requirements
6 in Triple Science Chemistry **or** 6-6 in Combined Science and 5 in Maths.

Exam Board – AQA **Specification code/no. -** 7405

Topics covered in Year 12
Topics covered include: Atomic Structure, Amounts of Substance, Periodicity; Bonding, Energetics, Kinetics, Chemical Equilibria, Alkanes, Halogenoalkanes, Alkenes, Alcohols, Organic analysis and Redox. Alongside the theory, there are six ‘Required Practicals’. The practical skills will be documented in a lab book.

Topics covered in Year 13
Topics covered include: Thermodynamics, Rate Equations, Equilibrium constants, Electrode potentials, Acids and Bases, Periodicity, Optical isomerism, Aldehydes and ketones, Carboxylic acids and derivatives, Aromatic chemistry, Amines, Polymers, Amino acids, Proteins and DNA, Organic synthesis, Nuclear magnetic resonance spectroscopy and Chromatography. In the second year there will be further ‘Required Practicals’, again documented in your lab book.