Science

Science is essentially the study of the world around us. We live in an increasingly complex scientific and technological society, and Science teaching has a vital role to play in enabling and encouraging pupils to make informed choices in everyday situations based on sound scientific principles. Here at CHS we aim to broaden the Scientific understanding of all pupils through the use of active learning strategies. Science is a practical subject by its nature and we incorporate practical activities to enhance pupil experiences and to develop skills such as problem solving, managing information and working with others.

Key Stage 3



During the 3 years of KS3, pupils study a range of topics covering the main areas of Science. There are around 7 units per year including topics such as Growing Up (Biology), Acids and Alkalis (Chemistry) and Electricity and Magnetism (Physics). Most pupils will continue with GCSE Science after KS3 and this course provides a good background as well as a scientific knowledge of how the world around us works.

Pupils will be taught to carry out practical work safely, work with others and use evidence from practical investigations to answer problems.

Key Stage 4

Single Award Science

The course offers all GCSE grades up to A*. There are 3 modular exams worth 25% each over 2 years (Biology, Chemistry and Physics). Practical Skills unit is externally assessed and is comprised of a practical skills assessment worth 7.5% and an external written exam worth 17.5%.

What will I study?

Students will study the CCEA Specification comprising of a wealth of topics from all three Science disciplines: Biology, Chemistry and Physics.

Modular exams are taken in February of Year 11, November of Year 12 and May of Year 12. Practical exams will be in January of Year 12 and June Year 12.

Double Award Science

Double Award Science covers extensive topics from Biology, Chemistry and Physics and allows pupils to progress to study Science at KS5. It involves practical investigations and application of knowledge. It prepares pupils for the Scientific Age within which we are constantly evolving. Pupils will sit modular exams during Year 11 and Year 12 in Units B1, C1 and P1, and will then have 3 terminal exams at the end of year 12 in each Units B2, C2 and P2. Practical skills will be assessed through 3 practical activities followed by a written external examination.

What will I study?

Biology:

Unit B1:

Cells, Photosynthesis and Plant Leaves, Food and Energy, Digestion, the Respiratory System and Cell Respiration, Co-ordination and Control, Ecological Relationships and Energy Flow



Unit B2:

Osmosis and Plant Transport, the Circulatory System, the Genome, Chromosomes, DNA and Genetics, Reproduction, Fertility and Contraception, Variation and Natural Selection, Health, Disease, Defence Mechanisms and Treatments.

Chemistry:

Unit C1:

Atomic Structure, Bonding, Structures and Nanoparticles, the Periodic Table, Quantitative Chemistry 1, Acids, Bases and Salts, Chemical Analysis, Assessing Purity and Separating Mixtures.

Unit C2:

Metals and the Reactivity Series, Redox, Rusting and Iron, Rates of Reaction, Equilibrium, Organic Chemistry, Quantitative Chemistry 2, Electrochemistry, Energy Changes in Chemistry and Gas Chemistry.

Physics:

Unit P1:

Forces, Motion, Applications of Forces, Energy, Density, Atomic and Nuclear Physics.

Unit P2:

Waves, Light, Electricity, Electricity in the Home, Magnetism, Electromagnetism and Space Physics.