

## What are the aims and intentions of this curriculum?

Continuation of the GCSE AQA Science course. Developing students understanding of key scientific ideas and their ability to investigate scientifically and have an in depth understanding of their findings.

Term	Topics	Knowledge covered	Skills developed	Assessment
<b>Autumn 1</b>	Homeostasis Chemical bonding Energy Maths skills	Nervous system, endocrine system, controll of internal environments Atomic structure, metallic bonding, ionic bonding, covalent bonding, relating bonding to properties Energy transfers, types of energy and calculations, reducing energy losses	Use of standard form and significant figures. Graph plotting and analysis. Using and rearranging equations Drawing and annotating scientific diagrams	Written assessment using GCSE exam questions on topics covered so far in years 9 and 10
<b>Autumn 2</b>	Bioenergetics Chemical bonding and energy changes in chemistry Particles	Photosynthesis, factors affecting photosynthesis, aerobic respiration, anaerobic respiration Endothermic and exothermic reactions, energy in bonds Particle models of matter, state changes, pressure	Practical skills - planning investigations using terminology for variables Collecting valid results and observations	
<b>Spring 1</b>	Bioenergetics Organic chemistry Electricity	Photosynthesis, factors affecting photosynthesis, aerobic respiration, anaerobic respiration Crude oil, fractional distillation, alkanes, alkenes Circuit symbols, charge, current, resistance	Practical skills - planning and carrying out investigations Setting up electrical circuits and recording accurate measurements	Written assessment using GCSE exam questions on topics covered so far in years 9 and 10
<b>Spring 2</b>	Organisation Chemical analysis Electricity	Digestive system, enzymes, circulatory system, respiratory system, plant organs Formulations and purity, identifying unknown substances IV characteristics, wiring a plug, fuses, national grid	Practical skills - observation skills in identification practicals Analysing and evaluating results Wiring a plug	
<b>Summer 1</b>	Organisation Chemistry of the atmosphere Magnetism	Digestive system, enzymes, circulatory system, respiratory system, plant organs Composition of the atmosphere, how the atmosphere has changed, human impacts on the atmosphere Magnets, magnetic fields, wires, the motor effect	Practical skills - planning investigations using correct terminology for variables. Understanding accuracy and reliability. Collecting valid results. Plotting and analysing graphs. Ecology - sampling techniques and statistics	Mock exams using past exam papers for Biology (paper 1), Chemistry (paper 1) and Physics (paper 2)
<b>Summer 2</b>	Practical skills Improving learning from year 10 topics	EBI work - developing skills and knowledge covered over the year so far that are shown to be areas of weakness, based on QLA from assessment	EBI work - developing skills and knowledge covered over the year so far that are shown to be areas of weakness, based on QLA from assessment	