

Careers in Chemistry including R&D, chemical engineering, biocides, food scientist, forensic scientist

Careers in Biology including Marine engineer, Geneticist Climate Scientist, Botanist

Careers in Physics including Laser physicist, Astronaut, Acoustic engineer, renewable energy

Future careers in the automotive industry, beauty, Geologists archaeologist, astronomer, animal technologist

Future careers in the NHS

YEAR 11

Responsive revision of the Science curriculum

Forces: Scalar and vector quantities, Contact and non-contact forces, Resultant forces, Distance and displacement, Speed and velocity, The distance-time relationship, Acceleration, Stopping distances, Maths skills, Interactions, Newton's Laws Force, mass and acceleration, Speed moments and pressure, Distance-time graphs, Using formulae

Inheritance, variation and evolution, Classification of living organisms, evolution and variation and genetic engineering, Using the Earth's resources, Obtaining potable water, Sewage, Life cycle assessment and recycling

Magnetism and Electromagnetism: Permanent and induced magnetism, magnetic fields and the motor effect, Fleming's left hand rule, Organic Chemistry, Carbon compounds as fuels and feedstock

Homeostasis and response: The human nervous and hormonal system, controlling blood sugar levels, the menstrual cycle and controlling fertility, negative feedback, Chemical Analysis: Purity of Substances, formulations and Chromatography (Required Practical Rf Values)

Electricity: Electrical current, potential difference and resistance, domestic uses and safety, energy transfers in everyday appliances

Chemistry of the atmosphere: Evolution of the Earth's atmosphere carbon cycle, greenhouse gases

Waves: Waves in air, fluids and solids and the Electromagnetic spectrum

Ecology: Biodiversity, the impact of environmental change and the effect of human interaction on ecosystems.

Quantitative Chemistry: Chemical measurements, conservation of mass and the quantitative interpretation of chemical equations, use of amount of substance in relation to masses of pure substances, yield and using concentrations of solutions.

Infection and Response: Types of pathogens, Communicable and non-communicable diseases and plant diseases.

Rate and extent chemical change Rate of reactions, reversible reactions and dynamic equilibrium.

EOY 10 Exam, Full AQA Paper 1

Trial Exam, Full AQA Paper 1 Mocks

Trial Exam, Full AQA Paper 1 Mocks

YEAR 10

Supplementary Physics: Particle Model of Matter, Density, Required Practical calculating the density of regular and irregular shapes, changes of state including specific heat and latent heat, temperature changes in a system, particle model and pressure in gases

Supplementary Chemistry: Bonding, structure, and the properties of matter ionic, covalent and metallic bonding, States of matter, polymers, diamond, Graphite, graphene, silicon dioxide and fullerenes, nanoparticles and alloys

Supplementary Biology: Organisation the heart and heart disease, cancer, plant tissues, organs and systems, diffusion, osmosis, active transport and Required Practical food tests and digestion and an investigation into the effect of pH on the rate of reaction of amylase enzyme.

Bioenergetics: Photosynthesis and factors that affect the rate of photosynthesis (Required Practical the effect of light on the rate of photosynthesis), Aerobic and anaerobic respiration, response to exercise and metabolism

Chemical Changes and Energy Changes: Reactivity of metals in oxygen, acid and water, Making salts (Required Practical) Reactivity series, metal extraction, reactions of acids, pH scale, weak and strong acids and electrolysis of molten and aqueous ionic compounds (Required Practical) Exothermic and endothermic reactions, Energy reaction profiles (Required Practical) and calculation of overall bond enthalpies for reactions using bond energy values

Atomic Structure: Atoms and isotopes, development of the atom (common content with Chem) Radiation, hazards and uses of radioactive emissions, half lives, background radiation and radioactive contamination

Infection and Response: Types of pathogens, Communicable and non-communicable diseases and plant diseases.

Rate and extent chemical change Rate of reactions, reversible reactions and dynamic equilibrium.

EOY 9 Exam, Foundation/Supplementary topics AQA Paper 1

EOY 10 Exam, Full AQA Paper 1

Y10 mid-year Exam, Full AQA Paper 1

YEAR 9

Fundamentals in Chemistry: Atomic Structure Laboratory techniques and equipment, Particle theory, Atoms, elements compounds and mixtures, use of molybds to build chemical formula, Separating mixtures, Development of the periodic table, The development of the model of the atom, Size and mass of atoms, Groups 1, 7, 0 and transition metal

Fundamentals in Physics: Energy Stores and systems, Using formula, Changes in energy, power, energy transfers (Required Practical specific (required practical Specific heat capacity) and efficiency, national and global energy resources

Fundamentals in Biology: Starting small Eukaryotes and prokaryotes Animal and plant cells, using a microscope (Required Practical), cell specialisation, cell division (including mitosis and the cell cycle) and Stem cells, transport in cells, diffusion, osmosis and active transport

Energy/Waves: Fuels, explaining thermal energy, kinetic theory, energy transfer (conduction, convection and radiation), insulation, energy and temperature power and work done Effects of waves: waves and energy, modelling waves, transverse and longitudinal

Ecosystems: Photosynthesis and exploring how plants make food, transport of water and minerals, variables affecting photosynthesis in plants, chemosynthesis, aerobic and anaerobic respiration, investigating fermentation

EOY 8 exam all KS3 topics

Y9 mid-year Exam, Foundation topics AQA Paper 1

YEAR 8

Earth & Space: Structure, Rocks and weathering, The night sky, Satellites, Comets, The Solar System, The Earth's orbit, The Moon and eclipses

Genes: inheritance, natural selection, evolution, biodiversity and extinction

Forces: Measuring forces, balanced forces, drag, Hooke's Law, Pressure in solids, Liquids and gases

Organisms: Breathing and digestion, Healthy eating, digestion, understanding breathing, gas exchange and smoking.

Magnets and electromagnets: magnetic fields, attraction and repulsion, explaining and investigating electromagnets, strength of electromagnets and using electromagnets

Earth Resources: Natural and synthetic resources, extracting metals and other resources, recycling, the properties and uses of ceramics, polymers and Composites

Climate: The atmosphere, the carbon cycle and its disruption, climate change, global warming effects

Ecosystems: Food chains/webs, Ecological balance, Energy/Electromagnets, Electrical circuits, Current, Charge, Potential difference, resistance, Electrostatic force

Reactions: Introduction to Chemical reactions, Metals and reactions in oxygen, water, acid, Chemical equations, Introducing oxidation, Displacement and thermal, Decomposition, Acids & Alkalis: Indicators and pH, Neutralisation, Making salts

Energy: Stores and transfers, fuels, energy in the home, energy uses of appliances

Forces: Drag, Speed, distance and velocity time graphs, Balance and unbalanced, Understanding gravity

EOY 7 exam all topics

Year 8 mid-year exam, topics from Y7/Y8

YEAR 7

Introduction to Science: Asking Scientific questions supported with practical and mathematical skills

Building the foundations of science: Organisms – cells and movement, Matter-particle model and separating mixtures, Waves – sound and light

Cells: Microscope, Plant and animal cells, Specialised cells, Unicellular organisms

Partides: Particle model, States of matter, Changes of state, Diffusion and gas pressure

Separating Mixtures: Filtration, Distillation, Solubility, Evaporation, Chromatography

Waves: Different types of waves, Sound and Pitch, Structure of the ear, Echoes and ultrasound, Absorption of sound, Light: Reflection, Refraction, Structure of the eye, Seeing colour, Movement, Levels of organisation, Gas exchange, Skeleton, joints and muscles, Links to Sports science

Adolescence: Reproductive systems, Fertilisation and implantation, Development of a foetus, The menstrual cycle, Flowers and pollination, Fertilisation and germination, Seed dispersal, ur text here

Variation: Adaptations, Classification, measuring variation

Atoms: Comparing elements and compounds, Introduction to the Periodic Table, Chemical formulae

Year 7 baseline exam, topics from KS2

Year 7 mid-year exam, topics from Y7

Year 7 mid-year exam, topics from Y7