



KEY STAGE 5

SPRING 2
C4 Chemical Changes - Pupils will learn about Acids and Alkali substances and how to test for pH. We will learn how to make soluble salts and how different metals react. We will also introduce and learn the basics of electrolysis.
P2 Circuits - Pupils will review current, potential difference and resistance and how these change in series and parallel circuits. We will discuss LDRs and Thermistor components. We will also learn about energy in the home and understand the purpose and components of the national grid.

SUMMER 1
C5 Energy Changes - Pupils will learn about energy changes in reactions and link this to the terms exothermic and endothermic, we will look at the reaction profiles of these reactions and the energy contained within the bonds of different compounds.
B3 Infection and Response - Pupils will compound knowledge on communicable and non-communicable diseases. We will learn how bacteria and viruses make you ill and how to our bodies prevent diseases. We will learn about vaccines and the origins of drugs and how they are developed.

SUMMER 2
C6 The Rate and Extent of Chemical changes - We will learn the effects of pressure, surface area, concentration and temperature on chemical reactions. We will also learn about reversible reactions and Le Chatelier's principle.
P3 the particle Model of Matter - Pupils will learn what is meant by density and how to calculate this in both regular and irregular objects. We will also learn about latent heat and particle motion in gases

AUTUMN 1
C7 Organic Chemistry - We will review the process of fractional distillation of crude oil and link this to the varying properties of alkanes and alkenes that are produced and how these are cracked.
B4 Bioenergetics - Pupils will review key aspects of photosynthesis and link this to the structure of a leaf and key specialised cells. We will review the properties of aerobic and anaerobic respiration and link this to exercise
P4 Atomic Structure - Pupils will discover the history of the atom, review isotopes, nuclear decay and irradiation and contamination

SUMMER 1
Revision and Examinations - Revision on key identified areas based on lesson observations, exam practice books and mock examinations. We will also complete independent exam practice.
AUTUMN 2
C8 Chemical Analysis - Pupils will learn about purity and formulations and further expand their knowledge of Chromatography. We will also learn how to test for common gases.
B5 Homeostasis and Response - Pupils will learn how our body maintains various levels necessary to human life. We will explore the role of hormones in glucose control and how our bodies respond to stimuli.
P5 Forces - Pupils will review everything forces. We will learn how to interpret velocity and distance time graphs

SPRING 1
C9 Chemistry of the Atmosphere - Pupils will learn how the gases in our current atmosphere have evolved throughout the Earth lifetime and review the causes behind climate change.
B6 Inheritance, Variation and Evolution - Pupils will compound knowledge on DNA, mitosis and reproduction. We will review chromosomes and inheritance in view of variation and explore selective and genetic breeding.
P6 Waves - Pupils will compound their knowledge on waves and calculate wave speed. We will also review the Electromagnetic spectrum and its uses.

SPRING 1
C3 Quantitative Chemistry - Pupils review and calculate the relative formula mass of different compounds. Pupils will learn what is meant by a mole and how to calculate moles in given substances as well as determine limiting reactants.
B2 Organisation - Students will learn the structure and functions of the lungs, Heart and blood vessels. We will learn about communicable and non-communicable diseases and how are bodies combat the different types of pathogens.

AUTUMN 2
C2 Structure and Bonding - Pupils will learn how atoms bond to form different substances ionically, covalently and metallically. We will also learn what is meant by allotropes of carbon.
P1 Energy - Pupils will review energy stores and transfers. We will learn about Specific heat capacity, and efficiency. We will also review renewable and non-renewable energy resources and evaluate their properties and uses in different situations.

AQA GCSE Combined Science Trilogy
AUTUMN 1
C1 Atomic Structure - Pupils will expand their knowledge on the structure of atom and the properties of the subatomic particles. We will also learn how to calculate the number of each of these particles using the atomic mass and atomic number of elements and their electronic structure
B1 Cell Biology - Pupils will compound knowledge on structures and functions of sub cellular structures in plant and animal cells including specialised cells for each, we will also learn the steps of mitosis, what chromosomes are and begin to understand the use of stem cells.

SUMMER 2 -
C4 - Useful chemical reactions - Pupils will further expand their understanding of the properties of different metals and their subsequent uses. We will also learn how to calculate relative formula mass and product percentages,
P4 - Electricity and magnetism - Pupils will expand upon previous knowledge of Current, Potential difference and Resistance. We will learn how to calculate current and Potential difference in both series and parallel circuits. We will also review real world uses of electromagnets.

SUMMER 1 -
P3 Waves, Sound and light - Pupils will apply what they have learnt about light and sound waves. We will also review and expand our knowledge on colours within the visible light spectrum and introduce the Electromagnetic spectrum.
B4 - Variation and natural selection - Pupils will expand on previous knowledge around inherited characteristics and review and make predictions using dot and cross diagrams.

SUMMER 1 -
P3 - Motion and pressure - Pupils will learn the pressure of gas depends on temperature and volume and why atmospheric pressure changes with height. We will also learn how forces make objects move, turn and pivot.
B4 - Inheritance - Pupils will learn about characteristics and determine whether they are inherited or environmental. We will also learn about the evolution of species through the process of natural selection.

SUMMER 2
C4 - The Earth - Pupils will learn how Carbon atoms move through and between our atmosphere, the Earth and the sea. We will review the impact increasing Carbon levels have on climates and environments
Revision - We will review year 8 curriculum learning. Specific focus will be given to individual need driven by observation and assessment.

AUTUMN 1 -
B1 - Cells - Students will learn about the development of microscopes and understand specialised and adapted cells in greater detail. We will also learn about prokaryotic cells and investigate diffusion and active transport.
C1 - Particle model and state change - Pupils will learn about each state of matter in greater detail as well as changes of state. We will also begin to review the limitations of the particle model.

AUTUMN 2 -
P1 - Forces and motion - Pupils will be expanding their knowledge of motion and graphs and Newtons laws. We will also be learning about resultant forces and the difference between scalar and vector quantities.
B2 - Cell systems - We will learn more detail about the levels or organisation in the human body. We will look at how different surfaces in plants and animals are adapted for their function and link this to the movement of substances.

SPRING 1 -
C2 - Atoms and periodic table - Pupils will learn about the idea of atoms in greater detail and investigate into the position and properties of subatomic particles. We will also begin to look at the different ways atoms bond together.
P2 - Energy - Pupils will build on their knowledge or energy stores and transfers and apply this to various data. We will also learn about how power stations produce energy and thermal and electrical transfer.

SPRING 2 -
B3 - Fertilisation and implantation - Pupils will compare how plants and animals reproduce, we will review methods of contraception and key stages within the menstrual cycle.
C3 - Chemical changes - We will build on pupils existing knowledge of chemical and physical properties. We will practice writing word equations and balanced symbol equations for these.

SPRING 2 -
B3 - Ecosystems and adaptation - Pupils will learn about the feeding relationships and food chains in different ecosystems. We will also learn what is meant by interdependence and how different food webs are affected by this.
C3 - Metals and other materials - Pupils will learn about the properties of metals, ceramics, polymers and composites. We will review patterns in these properties to determine the origin of the materials.

SPRING 1 -
C2 - Separation techniques - Pupils will learn about mixtures and how they relate to compounds. Pupils will be reviewing and completing various techniques to separate soluble and insoluble materials from substances as well as chromatography.
P2 - Energy - Pupils will learn about energy in foods in and fuels and compare its production in both renewable and non-renewable sources. Pupils will also learn about energy transfers in different systems.

AUTUMN 2 -
P1 - Electricity and magnetism - Pupils will learn about current, potential difference and resistance in electrical circuits. We will also look at magnetic fields and apply them to both permanent and induced magnets.
B2 - Biological processes - Pupils will learn how plants make food through the process of photosynthesis and how their leaves are adapted to maximise this reaction. We will also learn how energy is transferred through food in respiration reactions.

AUTUMN 1 -
B1 - Health and Lifestyle - Pupils will review the components of a balanced diet and healthy lifestyle. We will study the main organs in the digestive systems and role enzymes play in digestion. We will also look at the effects of drugs on the body focusing on smoking and alcohol.
C1 - The periodic table - Pupils will learn about metal and nonmetal elements and their properties. We will also look at how the elements are arranged in the periodic table to show patterns and properties.

SUMMER 2 -
P4 - Space - Pupils will learn about what we see in the night sky, and how far away things are. We will learn about the planets and the formation of our solar system. We will review seasons, why we have them, and why they are different in different places. We will also look at the phases of the moon and why there are eclipses.
Revision
Pupils we recap key information taught in each topic through each term.

SUMMER 1 -
P3 - Light - Pupils will learn about where it comes from, and the journey it takes from a source to a detector, like an eye or a camera. We will look at colours and filters and how they can be used to change the way that objects look.
C4 - Acids and alkalis - Pupils will learn about acids, bases and alkalis. We will use indicators and the pH scale to find out how acidic or alkaline a solution is, and how to work safely with these solutions.

AUTUMN 1 -
B1 - Cells - Pupils will be learning about the building blocks that make all living organisms. Using microscopes, we will observe cells and their structures and discuss the special jobs that some of these cells do.
C1 - Particles and their behaviour - Pupils will learn how the arrangement, movement and separation of particles give their substances properties - as well as what happens when substances melt, boil and condense

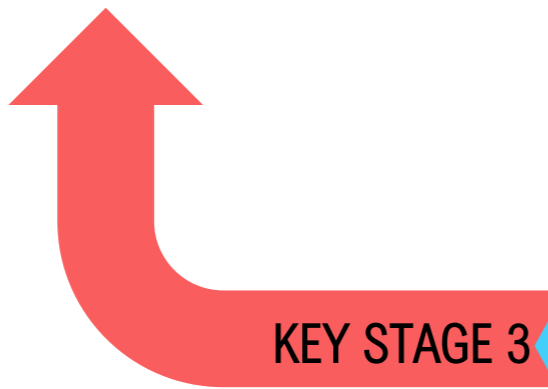
AUTUMN 2 -
P1 - Forces - Pupils will begin to learn about different types of forces and where they come from. They will find out about contact and non-contact forces and how you know that forces are there.
B2 - Structure and function of bodily systems - Pupils will look at the levels of organisation that

SPRING 1 -
C2 - Elements, atoms and compounds - Pupils learn about atoms that make up elements and how they join in different combinations to make up all the substances on Earth and the universe.
P2 - Sound - Pupils will learn how sound is produced, how it travels, and its speed. We will begin to link this to wave properties, how we hear and how sound is used in ultrasound in everyday life.

SPRING 2 -
B3 - Reproduction - Pupils will learn about the biology of sexual reproduction between a male and female. We will also look at the physical and emotional changes that take place in males and females during adolescence.
C3 - Reactions - Pupils will learn about chemical reactions. We will look at how atoms join differently to make new substances, and why the total mass does not change. We will also introduce word equations to classify chemical reactions.

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SUMMER 2
Biology – Fossils - investigating fossils, their formation and how this has happened.
Biology – Adaptations - Charles Darwin and his theory of natural selection and finches.
Enquiry Type -Research and pattern seeking

SUMMER 1
Biology - Variation -investigating the variations and characteristics that can be seen in both plants and humans.
Biology – Adaptations - Students review how different plants and animals are adapted to survive in different conditions.
Enquiry Type -Pattern seeking

SPRING 2
Biology - Diet, drugs and lifestyle. -Diet, drugs, cigarettes, heart rate.
Biology – Circulatory system –components of the blood both oxygenated and deoxygenated/structure of the heart (yr6)
Enquiry Type -Fair test/Research

SPRING 2
Biology – Animals Including Humans – life cycles, babies, children, puberty, elderly, gestation (yr5)
Biology – Life Cycles of mammals, frogs, insects and birds (yr5)
Enquiry Type – Pattern seeking and research

SUMMER 1
Biology – Reproduction A – reproduction in plants and mammals (yr5)
Enquiry Type – Identifying, grouping and classifying/Observation over time.

SUMMER 2
Chemistry – Reversible and irreversible Changes – dissolving, solutions, evaporating, burning and acid (yr5)
Biology – Reproduction B – interpreting data from Summer 1 (yr5)
Enquiry Type – Identifying, grouping and classifying/Observation over time.

UKS2 (B)

AUTUMN 1
Biology – Living things and their habitats.
 –understanding the different kingdoms of living things, including the animal kingdom and being able to draw keys to describe the relationships within animals (yr6)
Enquiry Type – Identifying, grouping and classifying/Observation over time.

AUTUMN 2
Physics – Electricity, Renewable/Sustainable Energy – understanding the concept of electricity, including circuit diagrams and changing components within a circuit such as lightbulbs, cells and buzzers, voltage (yr6)
Physics - Forces - Investigate friction, air and water resistance.
Enquiry Type -Fair test

SPRING 1
Physics – Light – light and refraction and investigate shadows, light pollution (yr6)
Enquiry Type -Fair test

SPRING 1
Chemistry – Properties of Materials - testing materials including conductivity, insulation, hardness, transparency and use of everyday materials (yr5)
Enquiry Type – Comparative test

AUTUMN 2
Physics – Space – Solar system, the planets and motion, the moon, ideas over time and night and day (yr5)
Enquiry Type - Research

AUTUMN 1
Physics – Forces -Understanding different types of contact forces, being able to plan, investigate and evaluate the effects of air and water resistance (yr5)
Enquiry Type – Fair test

UKS2 (A)

SUMMER 2
Biology – The digestive system –Understanding how the digestive system works and how to keep it healthy (yr4)
Biology – Food Chains –Understanding food chains and how one small change can affect everything. This will link into grouping and classifying (yr4)
Enquiry Type – Research

SUMMER 1
Biology – Data Collection B/C –Understanding how to collect scientific data (yr4)
Biology – Habitats -living things and their habitats, classification keys (animals and plants) (yr4)
Enquiry Type – Research/observation over time

SUMMER 1
Biology – Plants - Parts of a plant and their functions, life cycle of plants (yr3)
Enquiry Type - Observation over time

SUMMER 2
Physics – Magnets – Magnetic/non-magnetic materials and metals, north and south poles (yr 3); Forces – friction (yr 3)
Enquiry Type - Pattern Seeking

UKS2 (B)

AUTUMN 1
Biology – Grouping and Classifying Living Things – animals and living things can be grouped and classified (yr4)
Biology –Data Collection A - Understanding how to collect scientific data (yr4)
Enquiry Type – Identifying, grouping and classifying/Observation over time.

AUTUMN 2
Chemistry – States of Matter – understanding the states of matter, changing state and the water cycle (yr4)
Enquiry Type – Fair test

SPRING 1
Physics – Sound – understanding how sound travels (yr4)
Enquiry Type – Fair test

SPRING 2
Physics – Electricity – series circuits, conductors and insulators (yr4).
Biology – Humans -Teeth, hygiene, food, exercise (yr2)
Enquiry Type – Pattern seeking

SPRING 2
Biology – Plants – explore plants and what they need to grow (yr 2); Soil – explore soil types (yr3)
Enquiry Type - Comparative test

SPRING 1
Biology – Fossils – explore fossils and their formation (yr 3)
Physics – Light – explore light and dark, how we see and shadows (yr 3)
Enquiry Type - Research and Fair test

AUTUMN 2
Biology - Animals need for survival - describe the basic needs of animals, including humans (yr 2)
Physics – Materials - Identify and compare the suitability of a variety of everyday materials (yr 2)
Enquiry Type - Comparative test

AUTUMN 1
Biology – Skeletons – identify the names and functions of bones in humans and animals; nutrition and diet – food groups and balanced diet (yr 3)
Enquiry Type - Identifying, grouping and classifying.

UKS2 (A)