

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Year 7</b>	<p><b>Introduction to KS3 Science</b> What a scientist does, laboratory rules and safety and get an opportunity to work with a bunsen burner.</p> <p><b>Cells</b> Basic structure of a cell, how to observe them using a microscope, cell adaptations and more.</p> <p><b>Speed</b> Calculate the speed of an object and the ways to represent a journey using graphs.</p> <p><b>Gravity</b> Representing forces in diagrams, gravity and gravitational fields.</p>	<p><b>Particle Model</b> States of matter and how they can change from one state to another.</p> <p><b>Separating Mixtures</b> Methods used to separate different mixtures filtration, distillation and chromatography.</p> <p><b>Variation</b> Variation in a species and how this can be measured or surveyed and the causes of variation.</p> <p><b>Human Reproduction</b> Structures of the male and female reproductive systems, and the growth and development of the foetus.</p>	<p><b>Voltage</b> Energy in electrical circuits and how it can be measured.</p> <p><b>Resistance &amp; Current</b> The flow of electrons around an electrical circuit and the idea of resistance in conductors and insulators.</p> <p><b>Sound</b> Sound waves and how the properties of sound relates to the waves.</p> <p><b>Light</b> How light behaves and how we perceive the world, including reflection, refraction and colour filters.</p>	<p><b>Interdependence</b> Food chains and webs and the availability of food in an ecosystem.</p> <p><b>Plant Reproduction</b> The structures and adaptations of plants that allow them to reproduce using the wind, water and other animals or insects.</p> <p><b>Metals &amp; non-metals</b> The properties of metals and non-metals and the many reactions they can undergo such as oxidation.</p> <p><b>Acids &amp; Alkalis</b> Acids, alkalis and indicators and where these can be found in the home, and how these chemicals can neutralise each other.</p>	<p><b>Energy costs</b> Energy in the home, energy efficiency and the cost of electricity.</p> <p><b>Energy transfer</b> The different stores of energy and how energy can be transferred when changes happen.</p> <p><b>Earth Structure</b> The structure of the earth and the properties and formation of different types of rocks.</p> <p><b>Universe</b> The Earth in space and other objects such as stars, and how these objects in space move around.</p>	<p><b>How science works</b> How to present data in various tables and graphs, identify trends in data, draw conclusions and relate this to various experiments.</p>
<b>Year 8</b>	<p><b>Periodic Table</b> The periodic table and the patterns within it.</p> <p><b>Elements</b> Elements, compounds and interesting materials such as polymers.</p> <p><b>Contact Forces</b> The effects of forces on and between objects such as compression, friction and drag.</p> <p><b>Pressure</b> Pressure, floating and sinking and how forces oppose each other.</p>	<p><b>Breathing</b> How we inhale and exhale, and the effects of asthma and other respiratory diseases.</p> <p><b>Digestion</b> The digestive system, diet, nutrition and the effects of an unbalanced diet.</p> <p><b>Chemical Energy</b> Reaction energy and the role of catalysts.</p> <p><b>Types of Reaction</b> Types of reactions such as combustion and thermal decomposition.</p>	<p><b>Magnetism</b> Magnetic fields and how magnetic poles attract and repel.</p> <p><b>Electromagnetism</b> Magnetic fields caused by wires carrying a current and the uses of electromagnets.</p> <p><b>Evolution</b> Natural selection and evolution and the importance of biodiversity.</p> <p><b>Inheritance</b> Chromosomes and DNA, and how to model inheritance using diagrams.</p>	<p><b>Respiration</b> Aerobic respiration, anaerobic respiration and fermentation.</p> <p><b>Photosynthesis</b> Photosynthesis and the plant adaptations that make photosynthesis more efficient.</p> <p><b>Climate</b> The Earth's climate, the carbon cycle and climate change.</p> <p><b>Earth's Resources</b> The Earth's resources such as fossil fuels, metal ores and water, the extraction process and the importance of recycling.</p>	<p><b>Work</b> Using forces to transfer energy, calculating 'work done' and using machines and other objects which act as force multipliers.</p> <p><b>Heating &amp; Cooling</b> Thermal energy, insulation and how thermal energy relates to temperature.</p> <p><b>Wave Effects</b> How ultrasound and UV can be used practically, and how sound equipment works.</p> <p><b>Wave Properties</b> The differences between longitudinal and transverse waves, and what happens when waves combine.</p>	<p><b>How science works</b> Planning investigations and assessing experiments with an eye for safety, fair testing and appropriate equipment.</p>
<b>Year 9</b>	<p><b>B5 Communicable Disease</b> Pathogens, how they can travel between people and the diseases they cause.</p> <p><b>C12 Chemical Analysis</b> The tests used to separate and detect specific chemicals.</p> <p><b>C13 The Earth's Atmosphere</b> The Earth's historic and current atmosphere, greenhouse gases and climate change.</p>	<p><b>B6 Preventing Disease</b> How vaccination and immunisation works, how old drugs were discovered and how new drugs are developed.</p> <p><b>C14 The Earth's Finite Resources</b> The limited resources on Earth and how we reuse those resources through water treatment and recycling.</p>	<p><b>B7 Non-communicable diseases</b> How our lifestyles affect our risk of developing non-communicable diseases such as cancer and diabetes.</p> <p><b>C5 Chemical Changes</b> The reactivity series, reactions involving acids that produce various salts and neutralisation.</p>	<p><b>B18 Biodiversity and Ecosystems</b> The importance of biodiversity and the effects of the human population on the world in the form of land, air and water pollution.</p> <p><b>P2 Energy Transfer by Heating</b> How thermal conductivity and specific heat capacity, as well as how to insulate the home.</p> <p><b>B17 Organising an Ecosystem</b> Interdependence in an ecosystem, in the form of food webs, the water cycle and the carbon cycle.</p>	<p><b>How Science Works</b> The scientific method as a whole - starting from the principles of making good scientific predictions, risk assessments,, fair testing and data analysis/presentation.</p> <p>How to draw conclusions from data and evaluate their own experiments for accuracy and identify errors.</p> <p>Consider reliability, reproducibility and the importance of peer review.</p>	<p><b>Exam Technique, Revision and Assessments</b> Common revision techniques, reviewing exam-style questions and undergoing both 'content' and 'skill' assessments.</p>