

KEVICC KS3 Curriculum:	Subject: Science	Key terms and vocabulary.
Year: 9 Term: Across the year	Topic: Chemistry	<i>Which words will be explicitly taught & how frequently will understanding be checked? How will assimilation of new vocab be checked?</i>
<p>What is the essential knowledge from this unit? What do students need to remember and understand?</p> <p>Autumn term – Atom structure</p> <p>This unit introduces students to the fundamental particles that make up all matter, the history of their discovery and how they are arranged to make atoms. Symbol equations are introduced and processes to separate different types of particles are investigated</p> <p>Key Practicals – different techniques for separating mixtures.</p> <p>Spring Term – The Periodic Table</p> <p>Students learn about the arrangement of the elements on the periodic table and its history. The link between the structures of the atoms and their position on the table is explained. The patterns of properties in chemical groups 1 and 7 are demonstrated.</p> <p>Key practical – investigating the properties of elements in group 1 and 7.</p> <p>Summer term – Structure and Bonding</p> <p>Students will look at how different atoms are bonded together and how that relates to the physical properties of those materials. The relationship between types of bonding and forces and states of matter is explained.</p> <p>Key practicals: Investigating heating and cooling; testing conductivity.</p>		<p>Keywords:</p> <p>aqueous solution, atom, atomic number, balanced symbol equation, biofuel, chromatography, compound, electron, electronic structure, element, group, ion, isotope, law of conservation of mass, mass number, neutron, noble gases, nucleus (of an atom), periodic table, product, proton, reactant, shell, state symbol, symbol equation, word equation.</p> <p>alkali metal, halogens, transition element, universal indicator.</p> <p>alloy, covalent bond, covalent bonding, delocalised electron, dot and cross diagram, fullerene, gases, giant covalent structure, giant lattice, giant structure, intermolecular forces, ionic bond, liquids, nanoscience, particle theory, polymer, solids, states of matter</p>
<p>What prior learning supports understanding of this content?</p> <p>Atom structure – from Y7 students have already studied the particle nature of materials and how materials are classified.</p> <p>The Periodic Table - In Y8 students were introduced to the periodic table and arrangements of groups and periods.</p> <p>Structure and Bonding – In Y7 students looked at the basics of the arrangement of particles in solids, liquids and gases.</p>	<p>How does this content link to future learning?</p> <p>Atom structure – students go on to look at look at how atom structure varies with different isotopes and ions.</p> <p>The Periodic Table – students learn to use the periodic table to predict element properties and how to use the information in the table to calculate masses in reactions and chemical formulae</p> <p>Structure and Bonding – the GCSE Chemistry course looks at structures of plastics, ceramics and alloys.</p>	
<p>Reading: <i>Where in the unit are students supported to read complex academic text?</i></p> <p>Reading activities from textbook and comprehension activities in the integrated Skills Tests that run throughout the year. Scientific literacy also includes reading graphs and tables in order to extract meaning from data.</p>	<p>Writing: <i>Independent writing tasks and how they are structured</i></p> <p>Writing skills include concise and accurate communication that includes appropriate keywords. Scientific literacy includes the ability to draw graphs and tables to effectively communicate data. Conclusions to practical work is the most important form of scientific communication.</p>	
<p>Key assessments:</p> <p>Biology questions in Autumn , Spring 1, Spring 2 and Summer assessments</p> <p>Skills tests 1 to 13 which are set as independent learning tasks.</p> <p>How will feedback be received? Students will be given feedback via DIRT sheets after each topic, regular feedback on skills tasks 12 times a year and tests 4 times a year. The students will be actively involved in all of these processes via 'purple pen'.</p> <p>What will be seen in books? Books will include notes on the content and practical/skills along with feedback via DIRT sheets (see above), skills sheets and tests will be found with purple pen relating to them all.</p>		<p>Vocabulary will be modelled by teachers and tested in periodic short tests and scientific literacy is marked during feedback.</p> <p>Scientific communication is directly reported to parents as part of the college report.</p>