



## Year 9 Curriculum Grid

# Separate Chemistry

Year/Term	Unit	Intent
<b>Curriculum purpose</b>		<ul style="list-style-type: none"> <li>Ensure students have a secure understanding of the key concepts of Chemistry, building on knowledge from KS3.</li> <li>Encourage students to carry out practical work safely with increasing independent skills.</li> <li>Enthuse students with a love of Chemistry by incorporating a holistic approach and relating concepts to actions and behaviours.</li> </ul>
<b>Autumn</b>	<b>SC1</b> - States of Matter <b>SC2</b> - Separating and Purifying Substances <b>SC3</b> - Atomic structure <b>SC4</b> - The periodic table	<ul style="list-style-type: none"> <li>Describe the arrangement, movement and the relative energy of particles in each of the three states of matter</li> <li>Explain the experimental techniques for separation of mixtures</li> <li>Evaluate the risks in a practical procedure and suggest suitable precautions for a range of practicals</li> <li>Describe the structure of an atom and isotopes</li> <li>Describe how Mendeleev arranged the elements in a periodic table and how he used his table to predict the existence and properties of some elements not then discovered</li> <li>Identify elements as metals or non-metals according to their position in the periodic table</li> </ul>
<b>Spring</b>	<b>SC5</b> - Ionic bonding <b>SC6</b> - Covalent bonding <b>SC7</b> - Types of substance	<ul style="list-style-type: none"> <li>Explain how ionic and covalent bonds are formed, including the use of dot and cross diagrams</li> <li>Recall the formulae of elements, simple compounds and ions</li> <li>Explain the properties of ionic compounds and typical covalent, simple molecular compounds</li> <li>Describe, that simple polymers consist of large molecules containing chains of carbon atoms</li> <li>Describe the structures of graphite, diamond, fullerenes and graphene and explain their properties in terms of structure and bonding</li> <li>Explain the properties of metals, including malleability and the ability to conduct electricity</li> </ul>
<b>Summer</b>	<b>SC9</b> - Calculations involving masses <b>SC10</b> - Electrolytic processes <b>SC1-SC7, SC9-SC10</b> Revision	<ul style="list-style-type: none"> <li>Calculate relative formula mass given relative atomic masses</li> <li>Explain the law of conservation of mass</li> <li>Calculate masses of reactants and products from balanced equations</li> <li>Recall that one mole of particles of a substance is defined as the Avogadro constant number of particles</li> <li>Describe electrolysis as a process in which electrical energy, from a direct current supply, decomposes electrolytes.</li> <li>Predict the products formed from binary ionic compounds and solutions</li> <li>Explain the electrolytic process used to purify copper</li> </ul>