

Long-term planning

Science - Chemistry - Year 9

	Autumn term 1	Autumn term 2	Spring term 1	Spring term 2	Summer term 1	Summer term 2
Topic	Chemistry: Matter					
	Atomic structure			Structure and Bonding		
Year 9 Themes	- A simple model of the atom, symbols, relative atomic mass, electronic - charge and isotopes - The Periodic Table - Properties of transition metals			- Chemical bonds, ionic, covalent, and metallic - How bonding and structure are related to the properties of substances - Structure and bonding of carbon - Bulk and surface properties of matter including nanoparticles		
	Vocabulary and the concepts they link to					
	Atoms, Elements, Compounds, Groups, Electron, s Neutron,, Protons Mixtures, Nucleus, Periodic Table, Conservation of mass, Reactants, Products , Word Equations, Symbol equation, State symbols, Aqueous solutions, Chromatography, Atomic number, Mass Number, Ion, Isotopes, Shells, Electronic structure, Universal indicator, Alkali Metals, Halogens, Transition Metals.					
	Assessment					
	End of unit assessment Key piece x2			End of unit assessment Key piece x2		
	Diversity & development of cultural capital					
	Opportunities to Explore Diversity 1. Highlight diverse contributions to chemistry, such as Dmitri Mendeleev’s periodic table and Marie Curie’s work on radioactivity. 2. Discuss global approaches to materials, such as indigenous uses of elements in art and traditional tools. 3. Explore ethical and cultural implications of resource extraction and the environmental impact of mining element.					
	Cross-curricular opportunities and enrichment					



Cross-Curricular Opportunities

1. History: Study the evolution of atomic theory, from ancient Greek ideas to quantum models.
2. Geography: Link element distribution to geological processes and the role of mining in global economies.
3. Design and Technology: Develop practical applications, such as creating models of atomic structures or investigating materials science.

Enrichment Opportunities

1. Field Trips: Visit chemistry labs or factories to explore material production and applications.
2. Competitions: Participate in events like the UK Chemistry Olympiad or local STEM challenges.
3. Advanced Practical Work: Conduct in-depth experiments, such as testing material properties or synthesising simple compounds.