

Year 8

Separation

Pure & Impure Substances
Filtering & Evaporation
Distillation
Chromatography

Metal Reactions

Properties Of Metals
Metals & Alloys
Chemical Reactions In Acids,
Oxygen & Water

Periodic Table

Developing The Periodic Table
Alkali Metals
Shells

Atoms, Elements & Compounds

Structure Of The Atom
Periodic Table
Metals & Non-metals
Reacting Elements
Compounds & Mixtures



Knowledge	Attributes / Character	Skills	Experiences
<p>Atoms, Elements, Compounds, and Mixtures:</p> <ul style="list-style-type: none"> Understanding the structure and properties of atoms. Differentiating between elements, compounds, and mixtures. Knowing methods of separation such as dissolving, filtering, evaporation, and distillation. Identifying risks and hazards associated with distillation processes. <p>Periodic Table:</p> <ul style="list-style-type: none"> Understanding the layout and organisation of the periodic table. Recognizing trends in chemical properties across periods and groups. Using chemical formulae and equations to describe reactions. Applying the principle of conservation of mass in chemical reactions. <p>Non-metals and Metals:</p> <ul style="list-style-type: none"> Understanding the properties and reactivity of non-metals and metals. Exploring reactions of metals with oxygen, acids, and water. Using word equations to predict and describe reactions, especially between metals and water. 	<p>Confidence</p> <p>The Year 8 science curriculum builds confidence through hands-on experiments and understanding complex concepts like atoms, elements, and chemical reactions. Successfully performing these tasks reinforces students' belief in their scientific abilities.</p> <p>Organisation</p> <p>Students develop organisational skills by planning and conducting systematic experiments. Learning to use the periodic table and applying principles like conservation of mass requires structured thinking and precise record-keeping.</p> <p>Resilience</p> <p>The curriculum fosters resilience as students face and overcome challenges in understanding and applying new scientific concepts. They learn to persist through trial and error, refining their methods and embracing mistakes as learning opportunities.</p> <p>Empathy</p> <p>Collaborative learning and discussions about the environmental impact of chemical reactions encourage empathy. Group projects help students appreciate diverse perspectives and the importance of teamwork, fostering a sense of empathy towards peers and the broader community.</p>	<p>Methods: Following precise procedures in experiments.</p> <p>Hazards: Identifying and managing risks in the lab.:</p> <p>Critical Thinking: Analysing chemical reactions and data.</p> <p>Problem-Solving: Applying scientific principles to solve problems.</p> <p>Scientific Understanding: Grasping concepts like atoms, compounds, and periodic trends.</p> <p>Lab Techniques: Mastering techniques such as dissolving and distillation.</p> <p>Equipment Handling: Safely using and maintaining lab equipment.</p> <p>Writing: Writing clear scientific reports.</p> <p>Oral Communication: Presenting findings and discussing concepts effectively.</p> <p>Calculations: Analysis of experimental data.</p> <p>Data Interpretation: Understanding and interpreting data from graphs.</p> <p>Ethical: Understanding environmental impacts of chemical processes.</p> <p>Sustainability: Promoting sustainable practices in scientific inquiry.</p> <p>Feedback: Providing and receiving constructive feedback</p>	<ul style="list-style-type: none"> Science club Thinktank visit Crime scene investigation project British Science Week Design and technology links