

CHEMISTRY 5 Year curriculum Overview

Broader concepts:	
Atoms, elements and compounds States of Matter Reactions of metals	Chemical Bonds Mass in reactions Acids and alkalis
Skills:	Knowledge:
<p><u>Choose</u> correct answers</p> <p><u>Complete</u> diagrams and descriptions</p> <p><u>Write / Give</u> short answers using key words</p> <p><u>Measure</u> volumes, masses and temperatures</p> <p><u>Name</u> processes and appliances</p> <p><u>Sketch</u> accurate diagrams</p>	<p>Be able to define elements, compounds and mixtures and give examples of each.</p> <p>Be able to name the 3 types of chemical bonds and describe some of their properties.</p> <p>To be able to measure changes in mass during reactions.</p> <p>To be able to use tests to identify chemicals as acids or alkalis. To recall the patterns shown in the reactions of metals.</p>
Recall:	
<p>From Y6</p> <p>Pupils will know that some materials will dissolve in liquid to form a solution, and be able to describe how to recover a substance from a solution.</p> <p>Pupils will be able to use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p>	

Broader concepts:	
Structure of atoms, separation techniques, chemical bonds, periodic table, atomic masses, materials and changes.	
Skills:	Knowledge:
<p>Carry out <u>multistep calculations</u>, that can include <u>converting</u> units of measurement</p> <p><u>Predicting</u> the outcomes of investigations using understanding of physical processes.</p> <p><u>Planning</u> methods to obtain valid results..</p> <p><u>Plotting</u> scatter graphs and <u>drawing</u> lines of best fit.</p> <p><u>Describing</u> patterns shown by collected data.</p>	<p>Physical and chemical changes.</p> <p>Structure of atoms and subatomic particles.</p> <p>The development of atomic structure and the periodic table.</p> <p>Relative masses.</p> <p>Types of chemical bonds.</p>
Recall:	
<p>This year builds on the basic knowledge and skills that were developed in year 7 and 8. Notably; being able to define elements, compounds and mixtures and give examples of each. Being able to name the 3 types of chemical bonds and describe some of their properties. Being able to measure changes in mass during reactions.</p>	

Broader concepts:	
Chemical Tests Resources and Sustainability.	Atmosphere and Pollution
Skills:	Knowledge:
<p>Clearly <u>show</u> how you have carried out multistep <u>calculations</u>.</p> <p><u>Evaluate</u> experiments and processes</p> <p>Produce detailed <u>explanations</u> of processes</p> <p>Produce detailed <u>descriptions</u> of data.</p> <p><u>Comparing</u> processes, structures and data</p> <p><u>Suggest</u> how core physics content links to new and unfamiliar situations.</p>	<p>Being able to carry out and recall the steps in carrying out various chemical tests.</p> <p>Be able to explain how and why the Earth's atmosphere has developed over the last 4.6bn years.</p> <p>To identify and evaluate the impact that human activities have on the Earth.</p>
Recall:	
<p>This year builds on the basic knowledge and skills that were developed in year 7 and 8. Notably; Be able to test for and identify different substances.</p> <p>To be able to understand how burning fuels and using resources will affect the environment.</p> <p>The second half of the year will be focussed on bringing together all of the different skills and content covered from Y7-Y11.</p>	

Broader concepts:	
Energy Changes in Reactions Chemical Tests	Reaction Rates Fuels, Pollution and recycling.
Skills:	Knowledge:
<p><u>Calculating</u> mean averages and percentages.</p> <p><u>Describing</u> how forces interact and how waves transfer energy.</p> <p>Accurately <u>defining</u> key physical terminology.</p> <p><u>Plotting</u> scatter graphs and bar charts.</p>	<p>Be able to make a range of measurements during chemical reactions.</p> <p>Be able to test for and identify different substances.</p> <p>To be able to understand how burning fuels and using resources will affect the environment.</p>
Recall:	
<p>This year builds on the skills developed in Y7 and KS2 knowledge. Notably; Pupils will be able to explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</p>	

Broader concepts:	
Chemical Changes Rates of Reaction	Energy Changes in Reactions Hydrocarbons
Skills:	Knowledge:
<p>Use data from graphs and tables to carry out multistep <u>calculations</u></p> <p><u>Evaluate</u> experiments and processes</p> <p>Produce detailed <u>explanations</u> of processes</p> <p>Produce detailed <u>descriptions</u> of data.</p> <p><u>Comparing</u> processes, structures and data</p>	<p>Taking various measurements during reactions and using these to identify the type of reactions taking place and the rate of reactions taking place.</p> <p>To be able to carry out and explain the mechanism of electrolysis.</p> <p>Being able to explain how crude oil is the source of fuels and various other essential organic chemicals.</p>
Recall:	
<p>This year builds on the basic knowledge and skills that were developed in year 7 and 8. Notably; To be able to use tests to identify chemicals as acids or alkalis. To recall the patterns shown in the reactions of metals. Be able to make a range of measurements during chemical reactions.</p>	

