

Year 7: Chemistry	Curriculum Intent: Students will secure a strong grounding in the fundamental principles of Chemistry. This includes the Particle Model, the Periodic Table, Chemical Reactions and Earth and Environmental Science. These areas will be further built upon in Year 8, so a strong grasp of the key questions and the key practical skills are crucial. This core knowledge and procedural knowledge will be taught and revisited, ensuring the key questions are the central focus of lesson content. The knowledge developed will be constantly in use as the topics link together, along with the core topics in both Biology and Physics. Students will get the opportunity to demonstrate their knowledge through practical investigations and challenging tasks.			
	<p align="center">Topic 1 Particles</p>	<p align="center">Topic 2 Periodic table</p>	<p align="center">Topic 3 Chemical reactions</p>	<p align="center">Topic 4 Earth and environmental science</p>
<p align="center">Key ideas</p>	<ul style="list-style-type: none"> • Pure/mixtures • Atom • Particles • States of matter 	<ul style="list-style-type: none"> • Atomic structure • PEN • Non-metal/metal • Group 1 and 7 	<ul style="list-style-type: none"> • Exo/endo • pH scale • Neutralisation • Conservation of mass 	<ul style="list-style-type: none"> • Atmosphere • Pollution • Climate change • Rock cycles
<p align="center">Sequence of Learning - Key Questions</p>	<ol style="list-style-type: none"> 1. What are solid, liquids and gases? 2. What are particles? 3. How are particles arranged in solids, liquids and gases? 4. What make up particles? (atoms) 5. What are the symbols of some of the atoms? 6. What is a pure substance? 7. What is a mixture? 	<ol style="list-style-type: none"> 1. What are particles made of? 2. What atoms look like? 3. How do you read the periodic table? (symbols and numbers) 4. How to use PEN? 5. Where to find metals and non-metals? 6. What is in group 1? 7. What is in group 7? 	<ol style="list-style-type: none"> 1. What is a chemical reaction equation? 2. What is mass? 3. What happens to the atoms in a chemical reaction? 4. What are signs of a chemical reaction? 5. What are exothermic reactions? 6. What are endothermic reactions? 7. What are acids? 8. What are alkalis? 9. How do you determine between acids and alkalis? 10. What is neutralisation? 	<ol style="list-style-type: none"> 1. What does the earth the look like? 2. What are the structure of the earth? 3. What are the different types of rocks? 4. How does the rock cycle recycle atoms? 5. What is in the atmosphere? 6. What are the different pollutants? 7. What is a greenhouse gas? 8. What is the greenhouse effect? 9. What are effects of climate change? 10. How can you slow down climate change?

<p style="text-align: center;">Vocabulary</p>	<p>Solid Liquid Gas Particle Atom Pure Impure Mixture Chemical symbol</p>	<p>Atoms Protons Electrons Neutrons Nucleus Shells Orbit Periods Groups Periodic table Element Metal Non-metal</p>	<p>Chemical equation Mass Endothermic Exothermic Acid Alkali Base Neutralisation pH pH scale neutral conservation Indicator</p>	<p>Inner core Outer core Mantle Crust Atmosphere Nitrogen Oxygen Greenhouse gases Climate change Sedimentary Igneous Metamorphic Sedimentation Deposition Lava/magma Erosion/weathering Acid rain Pollutants Transportation Compression</p>
<p style="text-align: center;">Practical Skills</p>	<ul style="list-style-type: none"> • OObleck – descriptions • Balloon skewer – explanation • Molybds – making mixtures and pure substances 	<ul style="list-style-type: none"> • Alkali metal demo – observations • Halogen displacement – identifying reactions • Metal displacement – identifying reactions • Flame tests 	<ul style="list-style-type: none"> - Types of chemical reactions circus - Endo/exo circus - Red cabbage indicator - Universal indicator neutralisation - Most reactive acid 	<ul style="list-style-type: none"> - Rock cycle - Combustion demo - Gas tests

<p style="text-align: center;">Assessment (Related to mastery grids)</p>	<p>Analysis of heating curve to identify:</p> <ul style="list-style-type: none"> - Pure/impure - Description of the substance at each state along the curve - Identify the atoms that make up the substance. 	<p>Quiz</p>	<p>Most reactive acid project</p> <ul style="list-style-type: none"> - Complete bar chart - Make a conclusion - Is it endo/exo - How do you know it is an acid? - Weigh before and after and explain why it has lost mass - 	<p>Research project 2D or 3D earth structure including:</p> <ul style="list-style-type: none"> - Where rocks are made - What gases in the atmosphere? - Labels describing the green house effect.
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