



Lessons Sequence							
TOPIC (S) Chemical Reactions	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;"> 1. Atoms, Elements and Compounds 2. Physical and Chemical Reactions 3. Word and Symbol Equations 4. Acids and Bases </td> <td style="width: 33%;"> 5. pH Scale and Indicators 6. Neutralisation 7. Antacids 8. Metals and Acids </td> <td style="width: 33%;"> 9. Making Salts 10. Oxidation and Reduction 11. Thermal Decomposition 12. Exothermic and Endothermic Reactions </td> </tr> </table>	1. Atoms, Elements and Compounds 2. Physical and Chemical Reactions 3. Word and Symbol Equations 4. Acids and Bases	5. pH Scale and Indicators 6. Neutralisation 7. Antacids 8. Metals and Acids	9. Making Salts 10. Oxidation and Reduction 11. Thermal Decomposition 12. Exothermic and Endothermic Reactions			
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Knowledge & Skills development	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> - State the definitions of atoms, elements and compounds - Identify atoms, elements and compounds using particle diagrams - Describe what happens to atoms in chemical reactions. - Explain why chemical reactions are useful. - Compare chemical reactions to physical changes. - Identify chemical and physical reactions from practical observations. - Identify reactants and products in word & symbol equations. - Write word & symbol equations to represent chemical reactions. - Represent practical observations using word & symbol equations. - Compare the properties of acids and alkalis. - Describe differences between concentrated and dilute solutions of an acid. - Use the pH scale to measure acidity and alkalinity. - Describe how indicators categorise solutions as acidic, alkaline, or neutral. - Identify the likely pH of a solution using experimental observations. - Describe how pH changes in neutralisation reactions. - State examples of useful neutralisation reactions. - Design an investigation to find out which indigestion remedy is 'better'. </td> <td style="width: 50%; vertical-align: top;"> <ul style="list-style-type: none"> - Compare the reactions of different metals with dilute acids. - Explain the test for hydrogen gas. - Describe what a salt is. - Predict the salts that form when acids react with metals or bases. - Present observations from the practical investigation as word equations. - To define oxidation and reduction in terms of loss or gain of oxygen - Predict products of combustion reactions. - Categorise oxidation reactions as useful or not. - Identify decomposition reactions from word equations. - Use a pattern to predict products of decomposition reactions. - Describe the characteristics of exothermic and endothermic changes. - Classify changes as exothermic or endothermic. - Calculate the temperature change and make a conclusion in a range of familiar exothermic and endothermic changes. </td> </tr> </table>	<ul style="list-style-type: none"> - State the definitions of atoms, elements and compounds - Identify atoms, elements and compounds using particle diagrams - Describe what happens to atoms in chemical reactions. - Explain why chemical reactions are useful. - Compare chemical reactions to physical changes. - Identify chemical and physical reactions from practical observations. - Identify reactants and products in word & symbol equations. - Write word & symbol equations to represent chemical reactions. - Represent practical observations using word & symbol equations. - Compare the properties of acids and alkalis. - Describe differences between concentrated and dilute solutions of an acid. - Use the pH scale to measure acidity and alkalinity. - Describe how indicators categorise solutions as acidic, alkaline, or neutral. - Identify the likely pH of a solution using experimental observations. - Describe how pH changes in neutralisation reactions. - State examples of useful neutralisation reactions. - Design an investigation to find out which indigestion remedy is 'better'. 	<ul style="list-style-type: none"> - Compare the reactions of different metals with dilute acids. - Explain the test for hydrogen gas. - Describe what a salt is. - Predict the salts that form when acids react with metals or bases. - Present observations from the practical investigation as word equations. - To define oxidation and reduction in terms of loss or gain of oxygen - Predict products of combustion reactions. - Categorise oxidation reactions as useful or not. - Identify decomposition reactions from word equations. - Use a pattern to predict products of decomposition reactions. - Describe the characteristics of exothermic and endothermic changes. - Classify changes as exothermic or endothermic. - Calculate the temperature change and make a conclusion in a range of familiar exothermic and endothermic changes. 				
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Assessment / Feedback Opportunities	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 16.6%;">Targeted questioning throughout topic</td> <td style="width: 16.6%;">Teacher assessment of practical skills during investigation - verbal</td> <td style="width: 16.6%;">AWOL assessment – formative teacher assessment in students books</td> <td style="width: 16.6%;">Mid topic assessment – formative assessment</td> <td style="width: 16.6%;">Homework topic quiz – formative assessment</td> <td style="width: 16.6%;">End of topic assessment – teacher summative assessment</td> </tr> </table>	Targeted questioning throughout topic	Teacher assessment of practical skills during investigation - verbal	AWOL assessment – formative teacher assessment in students books	Mid topic assessment – formative assessment	Homework topic quiz – formative assessment	End of topic assessment – teacher summative assessment
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Cultural Capital	<ul style="list-style-type: none"> • • 						
SMSC / Promoting British Values <small>(Democracy, Liberty, Rule of Law, Tolerance & Respect)</small>	<ul style="list-style-type: none"> • Listening to others during presentations • Working in groups during practicals or research tasks 						

Reading opportunities	<ul style="list-style-type: none"> • Horrible Science: Chemical Chaos by Nick Arnold (Author), Tony De Saulles (Illustrator) • Various reading and comprehension activities embedded within scheme of work including current news articles
Key Vocabulary	<p>Independent Variable, Dependent Variable, Control Variables, Method, Conclusion, Precaution, Evaluation, Reliable, Precision, Valid, Anomaly</p> <p>Atoms, Elements, Compound, Chemically, Molecules, Physical, Chemical, Melting, Evaporating, Condensation, Freezing, Compound, Rearrange, Properties, Reactant, Product, Acid, Base, Alkali, Indicator, Scale, Universal, Neutralisation, Neutral, Antacids, Indigestion, Symptoms, Treatment, Reactivity, Reactant, Product, Salt, Excess, Oxidation, Reduction, Observation, Thermal, Decomposition, Exothermic, Endothermic</p>
Digital Literacy	<p>SharePoint resources including topic quiz</p> <p>Possible use of excel to plot graphs and analyse data, PowerPoint, word, etc to present information, internet for research</p>
Cross-Curricular Links	Numeracy/Maths – averages (means), reading scales, graph plotting, lines of best fit, using and rearranging equations, using scientific calculators
Careers	Materials Scientist, Physical Properties Chemist, Analytical Chemist, Health and Safety Specialist, Chemical Flavourist,, Hospital Pharmacist, Public Pharmacist, Experimental Chemist