

Subject	Year 8 Chemistry content – Spring Term	How to support students' learning
Reactions of metals	<p data-bbox="450 236 1128 264"><u>Properties of metals and reactions of metals with oxygen</u></p> <ul data-bbox="499 272 1167 491" style="list-style-type: none"> <li data-bbox="499 272 947 301">• Carrying out oxidation reactions</li> <li data-bbox="499 309 1167 416">• Use appropriate techniques, apparatus and materials during laboratory work paying attention to health and safety</li> <li data-bbox="499 424 1077 491">• Make and record observations and suggest possible improvements</li> </ul> <p data-bbox="450 499 663 528"><u>Metals and water</u></p> <ul data-bbox="499 536 1167 786" style="list-style-type: none"> <li data-bbox="499 536 1144 603">• Make predictions using scientific knowledge and understanding</li> <li data-bbox="499 611 1167 716">• Use appropriate techniques, apparatus and materials during laboratory work paying attention to health and safety</li> <li data-bbox="499 724 1099 786">• Make and record observations for different investigations</li> </ul> <p data-bbox="450 794 943 823"><u>Reactions of metals with steam and acids</u></p> <ul data-bbox="499 831 1167 1161" style="list-style-type: none"> <li data-bbox="499 831 1077 898">• Describe reactions of acids with metals to produce a salt and hydrogen</li> <li data-bbox="499 906 1144 973">• Make predictions using scientific knowledge and understanding</li> <li data-bbox="499 981 1167 1086">• Use appropriate techniques, apparatus and materials during laboratory work paying attention to health and safety</li> <li data-bbox="499 1094 1010 1161">• Make and record observations during investigations</li> </ul> <p data-bbox="450 1169 689 1198"><u>The reactivity series</u></p> <ul data-bbox="499 1206 1151 1307" style="list-style-type: none"> <li data-bbox="499 1206 1151 1235">• Order metals and carbon in the reactivity series</li> <li data-bbox="499 1243 1128 1307">• Describe the use of carbon in obtaining metals from metal oxides</li> </ul>	<ul data-bbox="1249 563 1973 1278" style="list-style-type: none"> <li data-bbox="1249 563 1973 700">• Encourage your child to visit the BBC bitesize website to learn about the various reactions with metals and the reactivity series <a href="#">Reactions of metals with acids - KS3 Chemistry - BBC Bitesize - BBC Bitesize</a></li> <li data-bbox="1249 1139 1962 1278">• Encourage your child to watch this video from the royal society of Chemistry about the reactivity series and displacement reactions <a href="#">Reactivity series of metals - YouTube</a></li> </ul>

	<p><u>Displacement reactions investigation</u></p> <ul style="list-style-type: none"> <li>• Carry out displacement reactions</li> <li>• Understand the order of metals and carbon in the reactivity series</li> <li>• Make predictions using scientific knowledge and understanding</li> <li>• Use appropriate techniques, apparatus and materials during laboratory work, paying attention to health and safety</li> <li>• Present reasoned explanations in relation to predictions</li> </ul> <p><u>Recycling materials</u></p> <ul style="list-style-type: none"> <li>• Explain why the recycling of some materials is particularly important</li> <li>• Describe how Earth's resources are turned into useful materials or recycled</li> </ul> <p><u>Polymers, ceramics and composites</u></p> <ul style="list-style-type: none"> <li>• Know the properties of ceramics, polymers and composites</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage your child to talk about methods of recycling you use at home and the types of materials that can be recycled – they could produce a poster or leaflet from their findings</li> </ul>
Chemical Reactions 2	<p><u>Thermochemistry</u></p> <ul style="list-style-type: none"> <li>• Apply mathematical concepts and calculate results</li> <li>• Present observations and data using appropriate methods, including tables and graphs</li> <li>• Interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions.</li> <li>• Describe and give examples of exothermic and endothermic chemical reactions</li> </ul> <p><u>Carbonates</u></p> <ul style="list-style-type: none"> <li>• Use appropriate techniques, apparatus and materials during fieldwork and laboratory work, paying attention to health and safety</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage your child to watch this revision monkey video about exothermic and endothermic reactions <a href="#">Exothermic and Endothermic Reactions - YouTube</a></li> </ul>

	<ul style="list-style-type: none"> <li>• Make and record observations using a range of methods for different investigations, and evaluate the reliability of methods and suggest possible improvements</li> <li>• Representing chemical reactions using formulae and using equations</li> </ul> <p>Carry out thermal decomposition reactions</p> <p><u>Rate of reaction</u></p> <ul style="list-style-type: none"> <li>• Select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables, where appropriate</li> <li>• Make predictions using scientific knowledge and understanding</li> <li>• Present observations and data using appropriate methods, including tables and graphs</li> <li>• Present reasoned explanations, including explaining data in relation to predictions and hypotheses</li> </ul> <p><u>Catalysts</u></p> <ul style="list-style-type: none"> <li>• Make and record observations and measurements using a range of methods for different investigations</li> <li>• Make predictions using scientific knowledge and understanding</li> <li>• Interpret observations and data, including identifying patterns and using observations, measurements and data to draw conclusions.</li> <li>• What catalysts do</li> <li>• Representing chemical reactions using formulae and equations</li> </ul>	<ul style="list-style-type: none"> <li>• Encourage your child to visit the BBC bitesize website to learn what happens when a carbonate reacts with an acid <a href="#">Reactions of acids with carbonates - Acids and alkalis - AQA Synergy - GCSE Combined Science Revision - AQA Synergy - BBC Bitesize</a></li> <li>• Encourage your child to watch this video about rates of reaction <a href="#">Chemistry KS3/GCSE: Rates of reactions - BBC Teach</a></li> </ul>
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### Acids and alkalis

- Make predictions using scientific knowledge and understanding
- Present reasoned explanations, including explaining data in relation to predictions and hypotheses
- Defining acids and alkalis in terms of neutralisation reactions
- The pH scale for measuring acidity/ alkalinity; and indicators

### Making salts

- Select, plan and carry out the most appropriate types of scientific enquiries to test predictions, including identifying independent, dependent and control variables.
- Make predictions using scientific knowledge and understanding
- Describe reactions of acids with alkalis to produce a salt plus water
- Use appropriate techniques, apparatus and materials during fieldwork and laboratory work, paying attention to health and safety
- Pay attention to objectivity and concern for accuracy, precision, repeatability and reproducibility
- Apply mathematical concepts and calculate results

Encourage your child to visit the BBC bitesize website to learn about acids, the pH scale and neutralisation reactions [Acids and alkalis - KS3 Chemistry - BBC Bitesize](#)