



## St George's School

### CHEMISTRY

#### KS4 Curriculum

<b>PRIOR KNOWLEDGE</b> <i>Knowledge and skills developed in KS3</i>	<p>Chemistry specific knowledge as detailed in our KS3 curriculum maps.</p> <p>Skills developed:</p> <ul style="list-style-type: none"><li>• Knowledge of key facts</li><li>• Describing concepts using models</li><li>• Scientific method - linking experiment to hypothesis</li><li>• Describing, explaining and sequencing steps in a process</li><li>• Linking causes to effects</li><li>• Practical skills (required practical)</li><li>• Interpretation of data in tables and graphs</li><li>• Numerical and logic skills</li><li>• Research skills</li></ul>
<b>COURSE DELIVERY &amp; STRUCTURE</b> <i>How the curriculum is delivered</i>	<p><b>Lessons:</b> 1.5 hours a week / <i>2.5 hours a week (yr10) &amp; 2 hours a week (yr11)</i></p> <p><b>Grouping:</b> Setting based on previous year results and teacher assessment / <i>Separate Science Class</i></p> <p><b>Structure:</b> Theory lessons and practical based lessons</p> <p><b>Prep:</b> 1 prep per week (<i>2 for separate</i>) with 1 assessed homework per chapter</p>
<b>QUALIFICATION</b> <i>Exam Board, aim and objectives</i>	<p><b>AQA</b> GCSE (9-1) in Combined Science (8464), GCSE (9-1) in Chemistry (8462)</p> <p><b>Qualification aims and objectives:</b></p> <p>GCSE specifications in combined award science should enable students to:</p> <ul style="list-style-type: none"><li>• develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics</li><li>• develop understanding of the nature, processes and methods of science, through different types of scientific enquiries that help them to answer scientific questions about the world around them</li><li>• develop and learn to apply observational, practical, modelling, enquiry and problem -solving skills, both in the laboratory, in the field and in other learning environments</li><li>• develop their ability to evaluate claims based on science through critical analysis of the methodology, evidence and conclusions, both qualitatively and quantitatively</li></ul>
<b>ASSESSMENT</b> <i>Internal monitoring and final assessment</i>	<p><b>Internal Assessment:</b> End of Topic Tests for each chapter, Year 10 Exam, Yr 11 Mock Exam</p> <p><b>Final assessment:</b> GCSE Exams: 2 exams - 1 hour 15 mins each / <i>2 exams - 1 hour 45 mins each</i></p>
<b>BREADTH</b> <i>Opportunities, trips, wider reading, cultural capital</i>	

SUBJECT KNOWLEDGE <i>Overview of topics</i>		SKILLS & STRATEGIES <i>Procedural knowledge</i>
<b>Autumn Y10</b>	Chapter 3 – Structure and Bonding  Chapter 5 – Chemical Changes Required practical 1 - Making copper sulfate	<ul style="list-style-type: none"> <li>• Knowledge of key facts</li> <li>• Describing concepts using models</li> <li>• Scientific method - linking experiment to hypothesis</li> <li>• Describing, explaining and sequencing steps in a process</li> <li>• Linking causes to effects</li> <li>• Practical skills (required practical)</li> <li>• Interpretation of data in tables and graphs</li> <li>• Numerical and logic skills</li> <li>• Research skills</li> </ul>
<b>Spring Y10</b>	Chapter 4 – Chemical Calculations <i>Required practical 2 - Titration</i>  Chapter 10 – Chemical Analysis ( <i>Chapter 12 for separate science</i> )  Required practical 6 - Chromatography <i>Required practical 7 - Identification tests</i>	<ul style="list-style-type: none"> <li>• Knowledge of key facts</li> <li>• Describing concepts using models</li> <li>• Scientific method - linking experiment to hypothesis</li> <li>• Describing, explaining and sequencing steps in a process</li> <li>• Linking causes to effects</li> <li>• Practical skills (required practical)</li> <li>• Interpretation of data in tables and graphs</li> <li>• Numerical and logic skills</li> </ul>
<b>Summer Y10</b>	Study Leave and mock exams  Chapter 8a – Rates of Reaction Required practical 5a and b - Measuring rate of reaction (2 methods)  <i>Chapter 10 - Organic Chemistry</i>  <i>Chapter 11 - Polymers</i>	<ul style="list-style-type: none"> <li>• Knowledge of key facts</li> <li>• Describing concepts using models</li> <li>• Scientific method - linking experiment to hypothesis</li> <li>• Describing, explaining and sequencing steps in a process</li> <li>• Linking causes to effects</li> <li>• Practical skills (required practical)</li> <li>• Interpretation of data in tables and graphs</li> <li>• Numerical and logic skills</li> </ul>
<b>Autumn Y11</b>	Chapter 6 – Electrolysis Required practical 3 - Electrolysis of solutions  Chapter 7 – Energy Changes Required practical - Temperature change of a reaction  Study Leave and Mock Exams	<ul style="list-style-type: none"> <li>• Knowledge of key facts</li> <li>• Describing concepts using models</li> <li>• Scientific method - linking experiment to hypothesis</li> <li>• Describing, explaining and sequencing steps in a process</li> <li>• Linking causes to effects</li> <li>• Practical skills (required practical)</li> <li>• Interpretation of data in tables and graphs</li> <li>• Numerical and logic skills</li> </ul>
<b>Spring Y11</b>	Chapter 8b – Equilibria  Chapter 2 – The Periodic Table	<ul style="list-style-type: none"> <li>• Knowledge of key facts</li> <li>• Describing concepts using models</li> <li>• Scientific method - linking experiment to hypothesis</li> <li>• Describing, explaining and sequencing steps in a process</li> <li>• Linking causes to effects</li> <li>• Practical skills (required practical)</li> <li>• Interpretation of data in tables and graphs</li> <li>• Numerical and logic skills</li> </ul>
<b>Summer Y11</b>	Revision  Study Leave and GCSE exams	<ul style="list-style-type: none"> <li>• Knowledge of key facts</li> <li>• Describing concepts using models</li> <li>• Scientific method - linking experiment to hypothesis</li> <li>• Describing, explaining and sequencing steps in a process</li> <li>• Linking causes to effects</li> <li>• Practical skills (required practical)</li> <li>• Interpretation of data in tables and graphs</li> <li>• Numerical and logic skills</li> </ul>

