









## Great Park Academy Science Curriculum Overview: Year 10 Chemistry

In year 10 we are pragmatic and focus on preparing for GCSE exams at the end of year 11. Year 10 **biology** starts with a working scientifically investigation, as part of this, pupils revisit and enhance some fundamental scientific skills, developing these up to GCSE level. **Biology** lessons are used for these scientific skills necessary across **biology**, **chemistry** and **physics** and these are reviewed regularly as part of lessons, across the sciences, not least through the GCSE required practicals. Building on **chemistry** topics from Y7-9, the sequencing of topics and lessons in Y10 have been carefully crafted to support learning and long-term memory, as well as being pragmatic with regards to organizing content in preparation for the structure of GCSE exam papers.

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
10	<p><u>1. C3 – Quantitative chemistry</u></p>  <p><u>Key questions of chemistry</u> - What is everything in the Universe made of?</p>  <p><u>Key questions of chemistry</u> - How do we make new substances?</p> <p>(a) Masses and moles. (b) Concentration. (c) Yields and atom</p>	<p><u>2. C4 – Chemical changes</u></p>  <p><u>Key questions of chemistry</u> - How do we make new substances?</p> <p>(a) Reactivity series, displacement reactions and extraction of metals. (b) Reactions of acids and making salts. (c) Electrolysis.</p>	<p><u>2. C4 – Chemical changes</u></p>  <p><u>Key questions of chemistry</u> - How do we make new substances?</p> <p>(a) Reactivity series, displacement reactions and extraction of metals. (b) Reactions of acids and making salts. (c) Electrolysis.</p>	<p><u>3. C5 – Energy changes</u></p>  <p><u>Key questions of chemistry</u> - How do we make new substances?</p> <p>(a) Exothermic and endothermic reactions. (b) Bond energy calculations. (c) Chemical cells and fuel cells.</p>	<p><u>4. C6 – Rate and extent of chemical reactions</u></p>  <p><u>Key questions of chemistry</u> - How do we make new substances?</p> <p>(a) Measuring and calculating rate of reaction. (b) Collision theory and factors impacting rate. (c) Reversible reactions, equilibria and Le Chatelier's principle.</p>	<p><u>5. C7 – Organic chemistry</u></p>  <p><u>Key questions of chemistry</u> - How can we take care of our planet while also using it to meet our needs?</p>  <p><u>Key questions of chemistry</u> - How do we make new substances?</p> <p>(a) Alkanes, crude oil and fractional distillation. (b) Cracking and alkenes. (c) Alcohols, carboxylic acids and esters</p>

	economy (separate chemistry only). (d) Gas calculations (separate chemistry only).					(separate chemistry only). (d) Polymers (separate chemistry only).
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