

Year 10 Chemistry (AQA Triple Science)

Having started the GCSE curriculum in Year 9, students will now continue with the course beginning with the topic 'Energy Changes'. This year students will build on the key principles covered in Year 9 'Atomic Structure' and 'Chemical Bonding' and begin to look at types of chemical reaction and quantitative chemistry. There are six required practicals which must be completed in Year 10, all of which are examinable and so it is important that students complete these and understand the methods used.

Methods of deepening and securing knowledge:

Interleaving	Starter tasks are designed to check knowledge from not only the previous lesson but also lessons earlier in the topic and sometimes even other topics within chemistry which they will have covered previously.
Checkpoints/ mini plenaries	These are used within lessons to check understanding and address any misconceptions before moving on.
Independent Study	Educake questions are used as a means of low-stakes testing to consolidate learning and check understanding.
Assessment for Progress	Each of the topics will have an 'Even Better If' (EBI) assessment where students are provided with bespoke tasks designed to help them reach the next level in their learning.

	Autumn term 1	Autumn term 2	Spring term 1
Topic(s)	<p>Energy changes</p> <ul style="list-style-type: none"> Exothermic and endothermic reactions. Reaction profiles. Bond energy calculations. <p>Required practical: Temperature changes.</p>	<p>Quantitative chemistry</p> <ul style="list-style-type: none"> Relative formula mass. Concentration. Percentage composition. Moles. Reacting masses. Atom economy. Limiting reactants. Percentage yield. 	<p>Chemical changes</p> <ul style="list-style-type: none"> Extracting metals. Reactions of acids and metals. Acids and alkalis. Titrations. Electrolysis. Extraction of aluminium. <p>Required practicals: Making a salt. Electrolysis. Neutralisation.</p>

Assessment	End of unit test followed by EBI tasks.	End of unit test followed by EBI tasks.	End of unit test followed by EBI tasks.
CEIAG <i>(Careers that are linked to that topic)</i>	Chemical engineering.	Chemical engineering. Chemistry technician. Quality control chemist.	Metallurgy. Chemical engineering. Research and development chemist.

	Spring term 2	Summer term 1	Summer term 2
Topic(s)	Rates of reaction <ul style="list-style-type: none"> Collision theory. Factors that affect the rate of reaction. Catalysis. Reversible reactions and equilibrium. The effect of changing conditions on the position of equilibrium (higher tier only). Required practical: The effect of concentration on the rate of reaction.	Organic chemistry <ul style="list-style-type: none"> Hydrocarbons. Fractional distillation. Hydrocarbon fuels. Cracking. Alkenes. Alcohols. Carboxylic acids. Esters. Polymers. 	Chemical analysis <ul style="list-style-type: none"> Chromatography. Test for gases. Tests for positive and negative ions. Instrumental analysis. Required practicals: Chromatography. Identifying ions.
Assessment	End of unit test followed by EBI tasks.	End of unit test followed by EBI tasks. First pre-public examinations	End of unit test followed by EBI tasks.
CEIAG <i>(Careers that are linked to that topic)</i>	Chemical engineering.	Organic chemistry. Petrochemical engineering. Pharmaceuticals.	Chemical analyst. Quality control chemist.

Independent Study

Educake is used to set timely and relevant revision questions throughout the topic. There will be around 20 questions set and the difficulty will be tailored to the ability of the group. Students can immediately see their scores and also identify which areas are their strongest and weakest within the questions given. Senecalearning.com also provides an incredible revision resource to allow students to consolidate their learning at their own pace. Past exam questions may also be used to practise applying knowledge to different contexts.

