THE ABBEY SCHOOL
A BUSINESS & ENTERPRISE ACADEMY

Subject: Chemistry

Year 11
Scheme of Learning 2025-2026

Subject leader: Mr S Brock

Topics by term	Topic overview for Year 11					
	Term 1	**Term 2**	**Term 3**	**Term 4**	**Term 5**	**Term 6**
Topics taught	**Chemistry** – C7; Hydrocarbons Revision for MOCKS	**Chemistry** – MOCKS – Paper 1 C8; Chemical Analysis	**Chemistry** – – C9; Chemistry of the atmosphere Revision for MOCKS MOCKS – Paper 2	**Chemistry** – – C10; Using Resources Revision for GCSE examinations	**Chemistry** – Revision for GCSE examinations GCSE paper 1 examination	**Chemistry** – – GCSE paper 2 examination
Prerequisites	**Vital Prerequisites –** Good understanding of bonding and	**Vital Prerequisites –** Good understanding of the concept of a	**Vital Prerequisites –** Good knowledge of the composition of	**Vital Prerequisites –** An understanding of Earth as a source of	**Vital Prerequisites –** A good understanding of the basic principles	**Vital Prerequisites –** A good understanding of the basic principles

	properties of long chain polymers learnt in C2 during year 9. Some understanding of simple distillation which was learnt during KS3 and C1 in year 9. Good knowledge of chemical formulae and the naming of molecules with specific formulae learnt in KS3 and early KS4.	pure substance, and being able to identify a pure substance. Learnt in KS3 and C4. Knowledge of mixtures and impure substances, with understanding of simple techniques for separating mixtures such as filtration, evaporation, distillation and chromatography. Learnt in KS3 and C1. Understanding of diffusion in terms of the particle model. Learnt in KS3.	Earth and its atmosphere, also a good knowledge of the structure of Earth. Learnt in KS3. An understanding of the rock cycle and the formation of igneous, sedimentary and metamorphic rocks. Learnt in KS3.	limited resources and the efficacy of recycling, linking to the production of carbon dioxide by human activity and the impact of Earth's climate. Learnt in KS3.	to all topics from KS3 and covering topics 1-10 throughout KS4.	to all topics from KS3 and covering topics 1-10 throughout KS4.
	Why are we teaching this now?	**Why are we teaching this now?**	**Why are we teaching this now?**	**Why are we teaching this now?**	**Why are we teaching this now?**	**Why are we teaching this now?**
	To have a stronger understanding of the bonding of carbon leading to the large number of different natural and synthetic organic compounds that occur due to the ability of carbon to form similar compounds, chains and rings.	Students will need to distinguish between pure and impure substances, using their understanding of the properties of pure and impure substances. Students will need to have a strong knowledge of all techniques used to separate mixtures and be able to describe,	Students will need to use evidence to support their knowledge and understanding of the development of the Earth's atmosphere since its formation. Students will need to have a good understanding of the evidence and the uncertainties of some	Students will need to know the life cycle assessment and recycling to assess the environmental impacts of the stages of a products life. Students will need to know about the Earth's water resources, how it is treated and how to	To ensure students have all the knowledge and understanding that is covered in all topics of chemistry. To ensure students are confident and competent in their ability to recall key information and knowledge of required practicals.	To ensure students have all the knowledge and understanding that is covered in all topics of chemistry. To ensure students are confident and competent in their ability to recall key information and knowledge of required practicals.

	Students need to have a good knowledge of the process of separating large carbon polymers such as crude oil, using fractional distillation and cracking techniques.	explain and outline how to use scientific equipment to practically be able to separate a mixture using a variety of the techniques learnt. Students will also need to be able to use quantitative interpretation of balanced equations and concentrations of solutions.	evidence for causes of climate change. The effects of carbon dioxide and methane on the Earth's atmosphere, as well as some of the common pollutants such as sulphur dioxide, oxides of nitrogen, particulates and there sources.	obtain potable water.		

Exam Board AQA							
Topic Big question	**Lesson questions**	**Lesson objective**	**Outcomes**	**Key Terms / Literacy** **Numeracy** **Practical activities**	**Assessment and homework tasks**	**Resources**	**Personal Development curriculum links (SMSC, British Values, PSHE)**
Term 4							
C2 recap – Ionic bonding							
How does the structure of a compound affect its properties?	How is an ion different to an atom?	To be able to explain how an ion is formed by the gain or loss of electrons, and work out the charge on any atom based on its group number.	- To know that metal atoms become positive ions and non-metals become negative ions. - To understand that the electronic structure of ions formed by group 1, 2,6 and 7 elements are the same as group 0 - To be able to work out the charge on the ions of metals and non-metals.	Atom Ion Anion Cation	Homework tasks linked to the lesson question. Plenary questions at the end of every lesson.	Knowledge organiser CGP textbook Lesson PowerPoint presentations	British values – respect through silence is a key aspect of the Abbey science lessons. – Students are expected to listen to, and respect others' opinions..
	What is an ionic bond?	To be able to represent an ionic bond using a dot and cross diagram.	- To draw diagrams of electronic structures and use them to show how ionic bonds form. - To draw dot and cross diagrams for ionic compounds formed from groups 1 and 2 metals and groups 6 and 7 non-metals.	Dot and cross Electron transfer Electrostatic attraction Ionic			

			- To describe how electrons are transferred in ionic bonds.				
	What properties do ionic compounds have in common?	To be able to describe the properties of giant ionic structures, and explain how they are linked to their structure.	- To recognise ball and stick diagrams, close-packed diagrams and two-dimensional (2D) and 3D representations showing giant structures having ionic bonding. - To explain that ionic compounds have high melting points because large amounts of energy are needed to overcome the strong electrostatic forces between the oppositely charged ions. - To explain that ionic compounds conduct electricity. -	Electrostatic attraction Ions free to move High melting point. Ionic compounds investigation to see in what state of matter they conduct electricity, **practical activity.**			
C4 – Chemical changes							
How do we know that chemical changes occur?	What is electrolysis?	To be able to describe the process of electrolysis in molten ionic compounds and predict what the properties would be at each electrode.	- To define the terms electrolysis and electrolyte, and be able to identify the positive and negative electrodes as the anode and cathode. - To understand that electrolysis occurs with molten or aqueous ionic compounds.	Anode Anion Cathode Cation Electrode Electrolysis Electrolyte	Homework tasks linked to the lesson question. Plenary questions at the end of every lesson.	Knowledge organiser CGP textbook Lesson PowerPoint presentations	British values – respect through silence is a key aspect of the Abbey science lessons. – Students are expected to listen to, and

			- To understand that the ions move to the oppositely charged electrode. - To predict the products at the anode and cathode for molten ionic compounds. - To describe what the observations would be at each electrode.				respect others' opinions..
	How can metal be extracted from an ore using electrolysis? *(Some higher content)*	To be able to describe the process of extracting aluminium from aluminium oxide using electrolysis.	- To describe the stages of extracting aluminium from molten aluminium oxide. - To explain what products form at the anode and cathode. - To explain why the anode eventually needs to be replaced. - *To write half-equations for the reactions happening at the anode and cathode*.	Anode Anion Cathode Cation Cryolite Electrode Electrolysis Electrolyte			
	What products occur from the electrolysis of aqueous solutions? *(Some higher content)*	To be able to describe the process of electrolysis in aqueous ionic compounds and predict what the properties would be at each electrode.	- To understand the difference between molten and aqueous substances. - To state that aqueous solutions also contain H^+ and OH^- ions which come from the water molecules. - To be able to predict whether hydrogen or the metal will be	Anode Anion Aqueous Cathode Cation Electrode Electrolysis Electrolyte			

			produced at the cathode and explain why. - *To write half-equations for the reactions happening at the anode and cathode*.				
Term 5							
This term is set aside for revision ahead of the GCSE examinations.							