Armfield Academy – Department of Science

Year 11 Chemistry Curriculum Overview

- ✓ Each lesson will start with a series of questions linked to both the previous lesson and topics studied previously.
- ✓ Formative assessment of skills linked to practical work will enable students to demonstrate their acquisition of new skills.
- ✓ Students are encouraged to consolidate learning at least once a week and seek tutor help if unsure on any topics.
- ✓ Within each unit, time will be allocated for consolidation and recall before assessment, this includes for mock exams.
- ✓ The following questions will be explored within the units
- ✓ Content in blue is only taught to the A pathway (students on the triple science route)

Half Term 1	
Date	**Topic**: Chemical Analysis
WC 29/08	Introduction to science (expectations, standards, health and safety, introduction of key skills and assessing prior knowledge).
WC 05/09	What is a pure substance and what is a formulation?
WC 12/09	How can we separate mixtures using chromatography? **Required practical: Chromatography.**
WC 19/09	How can we write a method to describe how to carry out an experiment?
WC 26/09	How do we test for gases? How do we conduct a flame test?
WC 03/10	How do we test for metal hydroxides? How do we test for metal carbonates, halides and sulphates?
WC 10/10	**Required practical: Identifying unknown ions.** What are instrumental methods?
Half Term 2	
Date	**Topic**: Organic Chemistry
WC 31/10	How is crude oil formed and why is it an important resource? How do we separate crude oil?
WC 07/11	What are alkanes? What are the properties of hydrocarbons?
WC 14/11	How do we make more useful hydrocarbon molecules? What are alkenes?
WC 21/11	How do alkenes react? What are alcohols?
WC 28/11	What are carboxylic acids? How do we make plastics? How is DNA made?
WC 05/12	**Mock examinations**
WC 12/12	
Half Term 3	
Date	**Topic**: Using resources
WC 02/01	How do we use the Earth's resources? What is potable water and how is it made?
WC 09/01	How do we make a pure sample of water? **Required practical: Water purification.**
WC 16/01	How do we treat our waste water? What is a LCA and why do we use them? How and why do we recycle?
WC 23/01	How do we extract metal from low-grade ores? What is corrosion and how do we prevent it?
WC 30/01	What is an alloy and how do we use them? How do we use ceramics, polymers and composites?
WC 06/02	
Half Term 4	
Date	**Topic**: Consolidation
WC 20/02	How has the model of the atom changed? What is an isotope?
WC 27/02	What is an ionic bond? What is a covalent bond?
WC 06/03	What are the properties of giant covalent structures? What are nanoparticles?
WC 13/03	**Required practical: Titration** How do we predict volumes for neutralisation?
WC 20/03	**Required practical: Making a soluble salt.**
WC 27/03	**Required practical: Electrolysis**
Half Term 5	
Date	**Topic**: Consolidation
WC 17/04	**Walking talking mocks**
WC 24/04	Where does the energy in a reaction come from? Can we make cells that are better for the environment?
WC 01/05	**Required practical: Investigating rates of reaction**
WC 08/05	How does changing conditions affect dynamic equilibrium?
WC 15/05	What is the greenhouse effect? How are we making the greenhouse effect worse?
WC 22/05	**Required practical: Chromatography** **Required practical: Identifying unknown ions.**
Half Term 6	
Date	**Topic**: Exam season
WC 05/06	
WC 12/06	
WC 19/06	
WC 26/06	
WC 03/07	
WC 10/07	
WC 17/07	