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
Week 1	Introduction to science (expectations, standards, health and safety, introduction of key skills and assessing prior knowledge).
Week 2	What is a pure substance and what is a formulation?
Week 3	How can we separate mixtures using chromatography? **Required practical: Chromatography.**
Week 4	How can we write a method to describe how to carry out an experiment?
Week 5	How do we test for gases? How do we conduct a flame test?
Week 6	How do we test for metal hydroxides? How do we test for metal carbonates, halides and sulphates?
Week 7	**Required practical: Identifying unknown ions.** What are instrumental methods?
Half Term 2	
Date	**Topic**: Organic Chemistry
Week 8	How is crude oil formed and why is it an important resource? How do we separate crude oil?
Week 9	What are alkanes? What are the properties of hydrocarbons?
Week 10	How do we make more useful hydrocarbon molecules? What are alkenes?
Week 11	How do alkenes react? What are alcohols?
Week 12	What are carboxylic acids? How do we make plastics? How is DNA made?
Week 13	**Mock examinations**
Week 14	
Half Term 3	
Date	**Topic**: Using resources
Week 15	How do we use the Earth's resources? What is potable water and how is it made?
Week 16	How do we make a pure sample of water? **Required practical: Water purification.**
Week 17	How do we treat our waste water? What is a LCA and why do we use them? How and why do we recycle?
Week 18	How do we extract metal from low-grade ores? What is corrosion and how do we prevent it?
Week 19	What is an alloy and how do we use them? How do we use ceramics, polymers and composites?
Week 20	
Half Term 4	
Date	**Topic**: Consolidation
Week 21	How has the model of the atom changed? What is an isotope?
Week 22	What is an ionic bond? What is a covalent bond?
Week 23	What are the properties of giant covalent structures? What are nanoparticles?
Week 24	**Required practical: Titration** How do we predict volumes for neutralisation?
Week 25	**Required practical: Making a soluble salt.**
Week 26	**Required practical: Electrolysis**
Half Term 5	
Date	**Topic**: Consolidation
Week 27	**Walking talking mocks**
Week 28	Revision and recap of key knowledge and required practicals
Week 29	
Week 30	
Week 31	GCSEs begin, Exam timetable and extra revision for assessments
Week 32	
Half Term 6	
Date	**Topic**: Exam season
Week 33	
Week 34	
Week 35	
Week 36	
Week 37	
Week 38	
Week 39	