



Year 10 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 changes
Week 1	Introduction to science (expectations, standards, health and safety, introduction of key skills and assessing prior knowledge).
Week 2	What are metal oxides? How do metals react? What is the pH scale and how do we neutralise substances?
Week 3	What is the difference between strong and dilute acids? Required practical: Titration
Week 4	How do we make a salt using metal carbonate and acid? Required practical: Making a soluble salt.
Week 5	What is the reactivity series? What is a displacement reaction?
Week 6	What is electrolysis? Required practical: Electrolysis
Week 7	How do we extract reactive metals from their ores?
Half Term 2	
Date	Topic: Energy changes
Week 8	How does energy change in reactions?
Week 9	What reaction would be best for a hand warmer?
Week 10	What do we use exothermic and endothermic reactions for?
Week 11	How do reactions occur? Which fuel releases the most energy?
Week 12	Where does the energy in a reaction come from? How do we make a battery?
Week 13	
Week 14	
Half Term 3	
Date	Topic: Quantitative chemistry
Week 15	How do we balance equations? How do I calculate relative formula mass and percentage by mass?
Week 16	What happens to mass when a gas is made? What are moles?
Week 17	How do we calculate percentage yield?
Week 18	How do we use amounts of substances in equations? How can reactions be limited?
Week 19	What is atom economy? How do we calculate and use concentration? How do we calculate the volume of gases?
Week 20	
Half Term 4	
Date	Topic: The rate and extent of chemical change
Week 21	How can the rate of a reaction be measured and how can it be calculated?
Week 22	How do the key factors affect the rate of a reaction? (temperature, concentration, surface area, catalyst)
Week 23	Required practical: Investigating rates of reaction
Week 24	What is a reversible reaction?
Week 25	How does an energy change affect a reversible reaction? What is equilibrium?
Week 26	How does changing a condition affect the position of equilibrium?
Half Term 5	
Date	Topic: Chemistry of the atmosphere
Week 27	How has the atmosphere evolved? How are pollutants produced?
Week 28	How do pollutants cause problems for humans?
Week 29	What is the greenhouse effect and how is it caused?
Week 30	How are we making the greenhouse effect worse and how will it affect us?
Week 31	What is a carbon footprint and why is it important?
Week 32	Year 10 Mock exams.
Half Term 6	
Date	Topic: Chemical analysis
Week 33	Year 10 Mock exams
Week 34	What is a pure substance and what is a formulation?
Week 35	How can we separate mixtures using chromatography? Required practical: Chromatography.
Week 36	How can we write a method to describe how to carry out an experiment?
Week 37	How do we test for gases? How do we conduct a flame test? How do we test for metal hydroxides?
Week 38	How do we test for metal carbonates, halides and sulphates? Required practical: Identifying unknown ions.
Week 39	What are instrumental methods?
Week 33	