



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 |
| WC 29/08 | Introduction to science (expectations, standards, health and safety, introduction of key skills and assessing prior knowledge). |
| WC 05/09 | What are metal oxides? What is oxidation and reduction? |
| WC 12/09 | How do metals react? What is the pH scale and how do we neutralise substances? |
| WC 19/09 | What is the difference between strong and dilute acids? Required practical: Titration |
| WC 26/09 | How do we make a salt using metal carbonate and acid? Required practical: Making a soluble salt. |
| WC 03/10 | What is the reactivity series? What is a displacement reaction? |
| WC 10/10 | What is electrolysis? Required practical: Electrolysis |
| Half Term 2 | |
| Date | Topic: Energy changes & Quantitative chemistry |
| WC 31/10 | How do we extract reactive metals from their ores? |
| WC 07/11 | What happens when brine is electrolysed? |
| WC 14/11 | How does energy change in reactions? |
| WC 21/11 | What reaction would be best for a hand warmer? |
| WC 28/11 | What do we use exothermic and endothermic reactions for? |
| WC 05/12 | How do reactions occur? Which fuel releases the most energy? |
| WC 12/12 | Where does the energy in a reaction come from? How do we make a battery? |
| Half Term 3 | |
| Date | Topic: Quantitative chemistry |
| WC 02/01 | Can we make cells that are better for the environment? |
| WC 09/01 | How do we balance equations? |
| WC 16/01 | How do I calculate relative formula mass and percentage by mass? |
| WC 23/01 | What happens to mass when a gas is made? |
| WC 30/01 | What are moles? |
| WC 06/02 | How do we calculate percentage yield? |
| Half Term 4 | |
| Date | Topic: Quantitative chemistry & The rate and extent of chemical change |
| WC 20/02 | How do we use amounts of substances in equations? How can reactions be limited? |
| WC 27/02 | What is atom economy? How do we calculate and use concentration? How do we calculate volumes of gases? |
| WC 06/03 | How can the rate of a reaction be measured and how can it be calculated? |
| WC 13/03 | How do the key factors affect the rate of a reaction? (temperature, concentration, surface area, catalyst) |
| WC 20/03 | Required practical: Investigating rates of reaction |
| WC 27/03 | How do we draw an effective table to represent data from an experiment? |
| Half Term 5 | |
| Date | Topic: The rate and extent of chemical change & Chemistry of the atmosphere |
| WC 17/04 | What is a reversible reaction? |
| WC 24/04 | How does an energy change affect a reversible reaction? What is equilibrium? |
| WC 01/05 | How does changing a condition affect the position of equilibrium? |
| WC 08/05 | How has the atmosphere evolved? How are pollutants produced? |
| WC 15/05 | How do pollutants cause problems for humans? |
| WC 22/05 | What is the greenhouse effect and how is it caused? |
| Half Term 6 | |
| Date | Topic: Chemistry of the atmosphere & Chemical analysis |
| WC 05/06 | How are we making the greenhouse effect worse and how will it affect us? |
| WC 12/06 | What is a carbon footprint and why is it important? |
| WC 19/06 | What is a pure substance and what is a formulation? |
| WC 26/06 | How can we separate mixtures using chromatography? Required practical: Chromatography. |
| WC 03/07 | How can we write a method to describe how to carry out an experiment? |
| WC 10/07 | How do we test for gases? How do we conduct a flame test? How do we test for metal hydroxides? |
| WC 17/07 | How do we test for metal carbonates, halides and sulphates? Required practical: Identifying unknown ions. What are instrumental methods? |