Curriculum Overview: Triple Chemistry
Year group 10

- **What we are learning**: The topic or focus for the half term.
- **Key knowledge & skills**: What students should understand and be able to do.
- **How we assess learning**: knowledge checks, practical tasks, written responses and formal assessments.
- **Key words to know**: Vocabulary students will learn and use.

What your child will learn each half term
This overview shows the key topics, skills, and knowledge your child will be learning in Triple Chemistry in Y10. It helps families understand what's being taught, how it builds on previous learning, and how you can support your child at home.

- **How science works skills**
- Use and rearrange equations confidently in Chemistry and Physics topics.
- Link graphs and data to scientific models, drawing conclusions from evidence.
- Develop skills in planning, carrying out, and analysing required practicals.
- Apply practical skills: selecting equipment, measuring accurately, and identifying variables to control in an investigation.
- Communicate scientific ideas clearly in extended written answers, using correct terminology.

Half term	What we are learning	Key knowledge and skills	How we will assess learning in this unit	Homework	Key vocabulary for this unit
HT 1 and 2	Atomic structure & periodic table (C1a, C1b) Bonding, structure & properties (C2) C3 Quantitative Chemistry	• Atomic structure & periodic table (C1a, C1b): structure of the atom, isotopes, ions, development of the periodic table, properties and trends in Groups 1, 7, and 0. • Bonding, structure & properties (C2): ionic, covalent, and metallic bonding, properties of simple molecules, polymers, and giant structures (diamond, graphite, graphene). • C3 Quantitative Chemistry: Conservation of mass, relative formula mass (Mr), moles, Avogadro constant, concentration, percentage yield, atom economy. Convert between mass, moles, and concentration, use balanced equations to calculate quantities, interpret low yield reasons.	Continuous formative assessment in lessons. End of topic tests. Question level analysis and feedback. Required practical assessment booklets.	Homework is set on a Monday and is due the following Monday. Homework will be set online using a website 'Educake' which pupils will receive their login details for.	**Atom, proton, neutron, electron, isotope, ion, periodic table, group, period, alkali metal, halogen.**
HT 3 and 4	C4a Chemical change C4b Electrolysis C5 Energy changes	• C4a Chemical Change: Reactivity series, acids and metals, neutralisation, pH, precipitation reactions. Predict reactions, balance equations, identify products, explain observations.	Continuous formative assessment in lessons. End of topic tests. Question level analysis and feedback.	Homework is set on a Monday and is due the following Monday.	Conservation of mass, Relative formula mass (Mr), Mole, Avogadro, Concentration, Yield, Atom economy,

		• C4b Electrolysis: Electrolytes, ions, electrodes, products of electrolysis. Predict products, write half-equations, use diagrams of electrolysis cells. • C5 Energy Changes: Exothermic vs endothermic reactions, bond energy, energy profile diagrams. Draw and interpret energy diagrams, calculate energy change from bond energies.	Required practical assessment booklets.	Homework will be set online using a website 'Educake' which pupils will receive their login details for.	Reactivity, Acid, Alkali, Neutralisation, pH, Precipitate, Electrolyte, Electrode, Ion, Anode, Cathode, Half-equation, Exothermic, Endothermic, Energy profile, Bond energy,
HT 5 and 6	C6 Rate and extent of Chemical Change	• C6 Rate and Extent of Chemical Change: Factors affecting rate (temperature, concentration, surface area, catalysts), reversible reactions, equilibrium, Le Chatelier's principle. Interpret graphs, predict effect of changes, explain shifts in equilibrium.	Continuous formative assessment in lessons. End of topic tests. Question level analysis and feedback. Required practical assessment booklets.	Homework is set on a Monday and is due the following Monday. Homework will be set online using a website 'Educake' which pupils will receive their login details for.	Rate, Temperature, Concentration, Surface area, Catalyst, Reversible, Equilibrium, Le Chatelier.