Subject: **KS4 Separate Chemistry**		Year Group: **10**
Term 1 Key Focus/Topic(s) **Acids & Alkalis, making salts & solubility (topic 3)** ● Reactions of acids with bases/carbonates. ● Two core practicals ● Neutralisation ● Solubility	Term 2 Key Focus/Topic(s) **Rates of reactions & Dynamic Equilibrium (topic 4)** ● Rate at which chemical reactions occur ● 2 core practicals ● Reversible reactions ● Exothermic & endothermic reactions ● Le Chatlier's principle	Term 3 Key Focus/Topic(s) **Electrolysis (topic 3)** ● Electrolysis, and it's products ● Electrolysis core practical ● Reactivity ● Oxidation and reduction ● Life cycle assessment
Term 1 Assessment Opportunities: ● Classwork with a particular focus on the trends of the properties of these groups. ● Core practical: preparing copper sulfate ● Core practical: investigating neutralisation ● End of topic test covering Acids and Alkalis	Term 2 Assessment Opportunities: ● Classwork with a particular focus on the reactions of acids with different reactants. ● Core practical: Investigating reaction rates (surface area) ● Core practical: investigating reaction rates (temperature) ● End of topic test for rates of reaction topic.	Term 3 Assessment Opportunities: ● Classwork with a particular focus on electrolytic methods and products, reactivity of metals, corrosion and how to prevent it. ● Core practical: electrolysis of copper sulfate solution. ● End of topic test for electrolysis, and a separate end of topic test for obtaining and using metals.
Term 4 Key Focus/Topic(s) **Calculations involving masses (Topic 1).** ● Conservation of mass ● Calculation of moles ● Empirical formulae	Term 5 Key Focus/Topic(s) **Fuels & atmospheric science (topic 8)** ● Hydrocarbons ● Alkanes & alkenes ● Combustion ● Cracking ● The changing atmosphere	Term 6 Key Focus/Topic(s) **Revision, end of year assessments and core practical consolidation**

	● Climate change	
Term 4 Assessment Opportunities: ● Focus on calculations of masses showing all stages of working. ● End of topic assessment for calculations from masses.	Term 5 Assessment Opportunities: ● Classwork with a particular focus on how fuels are used, combusted and the impact on the atmosphere ● End of topic test for fuels and atmosphere	Term 6 Assessment Opportunities: ● End of year assessment.

Rationale:
Year 10 Chemistry is a step up in terms of difficulty compared to Year 9 as concepts will start to become explained in more detail. The topics aim to build up on skills introduced in Year 9. For example, more complex equations are introduced such as balanced symbol equations, ionic equations and half-equations. These ideas are also revisited throughout the topics in Year 10, with the aim that students will be confident with these types of equations by the end of Year 10. There are more core practical activities in Year 10 which allow students to improve their practical skills, and start to think about other aspects of an investigation such as a risk assessment, and planning a method. The topics of rates of reactions and mass calculations which are introduced later in the year are heavily mathematical based, and so practice is key in understanding and mastering these topics.

In Year 10 Chemistry we place a particular focus on:

- Mathematical skills in Chemistry – Recognising the data displayed and using the appropriate equation(s) to work out the correct answer.
- Practical Skills – Being able to safely and effectively use practical work to accompany their classwork to further their understanding of the content. Mathematical and literacy skills factor heavily in Year 10 practical write-ups. For example, students are expected to support their conclusions with evidence from their data and calculations.

Evaluation:

- Assessment opportunities will involve teacher, self and peer assessment. The assessment will focus around work produced in lessons where the students are required to demonstrate their fundamental scientific knowledge and understanding as well as their mathematical skills within chemistry.
- Practical work will be assessed through the core practical investigations linked to acids and bases, electrolysis and rates of reaction, and other experiments carried out in class.
- Book scrutiny, lesson observations and collegial discussions will be used to quality assure teaching and learning. Gap analysis on end of topic tests and mock papers.