

Subject: KS5 Y13 Chemistry (Teacher 1)		Year Group: 13
Term 1 Key Focus/Topic(s) Inorganic chemistry - Acids <ul style="list-style-type: none"> • Strong and Weak acids (Bronsted-Lowry) • Acid Base titrations 	Term 2 Key Focus/Topic(s) Inorganic chemistry - Further energetics <ul style="list-style-type: none"> • Born-Haber cycles • Entropy • Gibbs energy 	Term 3 Key Focus/Topic(s) Inorganic chemistry – Further Kinetics <ul style="list-style-type: none"> • Rate equations, constant and orders of a reaction. • Mechanism of rate equations. • Activation energy and catalysis • Effect of temperature on the rate constant.
Term 2 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on extended open response questions (exam prep). • Core practical 9: Finding the K_a of a weak acid 	Term 2 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on constructing Born-Haber cycles and using them to calculate enthalpy changes. Another focus is understanding and recognising changes in entropy. 	Term 3 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on explaining methods for determining rates of reactions and explaining the order of reactions. • Core Practical 13a: Following the rate of iodine-propanone reaction by a titrimetric method. • Core practical 14: Finding the activation energy of a reaction.
Term 4 Key Focus/Topic(s) Inorganic chemistry – Further redox and transition metals <ul style="list-style-type: none"> • Standard Electrode Potential • Storage cells and fuel cells • Redox titrations • Principles of transition metal chemistry 	Term 5 Key Focus/Topic(s) Inorganic chemistry - transition Metals <ul style="list-style-type: none"> • Transition metal reactions • Transition metals as catalysts. 	
Term 4 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on calculating standard electrode potentials in different situations, and identifying the shape of transition metal complexes. • Core practical 10: Investigating some electrochemical cells. • Core practical 11: Redox Titration. 	Term 5 Assessment Opportunities: <ul style="list-style-type: none"> • Classwork with a particular focus on the reactions of transition metals, and how they behave as catalysts. • Core practical 12: The preparation of a transition metal complex. 	

Long term overview for Year 13 Chemistry (1)

Rationale:

All of the topics covered in Year 13 require higher levels of abstract thinking from students which will build upon and extend the knowledge learnt in Year 12. For example students have previously learnt Kinetics equilibrium constants and energetics in Year 12. Year 13 then extends that knowledge further by introducing other aspects, for example entropy, Gibbs energy, electrochemical cells and orders of rates. The learning of this content would not be possible without the foundations of Year 12 in place.

In Year 13 Chemistry we place a particular focus on:

- Independent learning – Students are expected to read up on a subject ahead of time to ensure the student is thinking more critically in the lesson and by coming prepared with questions.
- Mathematical skills in chemistry – applying different concepts and ideas to solve multi-step problems, using data to support their scientific conclusions.

Practical Skills – Understanding the scientific method, processing and presenting data, forming conclusions

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.
- Assessment of practical skills by performing the following Common Practical Assessment Criteria (CPAC) – 9, 10, 11, 12, 13a
- Book scrutiny, lesson observations and collegial discussions will be used to quality assure teaching and learning. Gap analysis on mock papers.