**CHEMISTRY – Year 10**

| Course title: GCSE Chemistry | Exam board: AQA | Specification code: 8462 |
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**How will students be assessed?**

Students will sit two external exams at the end of Year 11. Each paper is worth 50% of their final GCSE grade. Both exams will be 1 hour and 45 minutes in length requiring students to answer multiple choice, structured, closed short answer and open response questions. Questions will be knowledge based as well as drawing on the practical work that students have completed throughout the course.

**Paper 1**: This will assess the topic areas of atomic structure, the periodic table, bonding, structure, the properties of matter; quantitative chemistry, chemical changes and energy changes.

**Paper 2**: This will assess the topic areas of organic chemistry, the rate and extent of chemical change, chemical analysis, chemistry of the atmosphere and how we use natural resources.

In year 9 students began the GCSE course and studied atomic structure and the periodic table. At the end of each topic students will carry out a STAR assessment in class.

| Half term | Key content |
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| 1 | **Atomic Structure**<br>Recap of work covered in year 9.<br><br>**Covalent Bonding**<br>Students will analyse structures that show atoms arranged as molecular structures. Theories of bonding explain how atoms are held together in these structures.<br><br>**Organic Chemistry**<br>Students will learn about the chemistry of carbon compounds including how they are modified in many ways to make new and useful materials such as polymers, pharmaceuticals, perfumes and flavourings, dyes and detergents.<br><br>**Organic Chemistry Assessment** |
| 2 | **Chemistry of the Atmosphere**<br>Students will learn how the Earth's atmosphere is dynamic and forever changing. They will study the impact of human activity on the atmosphere and the effect this is having on our environment.<br><br>**Chemistry of the Atmosphere Assessment**<br><br>**Metallic Bonding** |

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| | Students will analyse structures that show atoms arranged as giant structures. Theories of bonding explain how atoms are held together in these structures.<br><br>**Chemical Changes (Part 1)**<br>Students will learn about the reactions of metals. They will complete a large quantity of practical experiments and analyse their observations, writing chemical equations to support their analysis. |
| 3 | **Ionic Bonding**<br>Students will analyse structures that show atoms arranged as giant structures. Theories of bonding explain how atoms are held together in these structures.<br><br>**Chemical Changes (Part 2)**<br>Students will learn about the reactions of a number of groups of chemicals including acids, bases and salts. They will complete a large quantity of practical experiments and analyse their observations, writing chemical equations to support their analysis.<br>**Required practical 1 - Making Salts**<br>**Required practical 2 - Neutralisation**<br><br>**Chemical Changes Assessment** |
| 4 | **Chemical Changes (Part 3)**<br>Students will learn how electrolysis involves using electricity to break down electrolytes to form elements. The products of electrolysis can be predicted for a given electrolyte.<br>**Required practical 3**<br><br>**Electrolysis Assessment** |
| 5 | **Quantitative Chemistry**<br>Students will use quantitative analysis to determine the formulae of compounds and the equations for reactions. Given this information, students can then use quantitative methods to determine the purity of chemical samples and to monitor the yield from chemical reactions.<br><br>**Quantitative Assessment** |
| 6 | **Year 10 Exams**<br><br>**Energy Changes**<br>Students will carry out practical work and calculations to determine the energy changes in a range of chemical reactions.<br>**Required practical 4** |