FARINGDON COMMUNITY COLLEGE

Year 10 Chemistry – Outline Programme of Study

	Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
Big ideas/ topics	Chapter 1 – Atomic structure and the periodic table. Covers the structure of atoms, reactions of elements, the periodic table and mixtures.	Chapter 2 – Bonding, structure and the properties of matter. Covers Ionic, molecular, giant covalent and metallic substances as well an overview of types of bonding and strictures, nanoscience and the different forms of carbon.	Chapter 3 – Quantitative Chemistry. Covers relative mass, moles conservation of mass, reacting masses, yield, atom economy, gas volumes and the concentration of solutions.	Chapter 4 – Chemical Changes. Covers reaction and extraction of metals, reactions of acids, making salts and electrolysis.	Chapter 5 – Energy Changes Covers exothermic and endothermic reactions. Chemical cells and fuel cells.	Reviewing Paper 1 content (Chapters 1-5) and End of Year Exam
Key Knowledge	• Structure of atoms (subatomic particles and electron configurations) • Development of the atomic model. • Development of the periodic table. • Describe and explain trends in reactions and properties of group 1 and group 7. • (Chemistry single) The properties of transition metals compared to group 1.	• How ionic bonds form. • Describe and explain the properties of ionic compounds. • How covalent bonds form. • Describe and explain the properties of giant covalent structures. • Describe and explain the properties of simple covalent molecules. • How metallic bonds form. • Describe and explain the properties of giant metallic structures. • (Chemistry single) • Description and application of nanotechnology.	• Use of concept of conservation of mass. • Determination of relative atomic (Ar) and formula (Mr) mass. • Definition and use of the mole (as a quantity) • Use of equation mass=Mr x Moles • Calculation of masses required in reactions. • Determination of limiting reactants via calculation. • Determining balanced formulae from masses. • Use of concentration= moles/volume	• Determination and use of the reactivity series of metals. • Predicting displacement reactions. • Use of terms oxidation and reduction. • How metals are extracted from ores. • Definitions of types of acids and bases. • Naming salts made from the reactions of acids with metals, metal oxides/hydroxides and metal carbonates. • Definition of electrolysis. • Predicting the products of electrolysis. •	• Definitions of exothermic and endothermic reactions. • Drawing and annotating reaction profile diagrams. • Calculating energy changes of reactions. • Identifying chemical cells and fuel cells and recalling the reactions that happen in them.	This will cover content from the previous five chapters.

Further information and reading list

- AQA Trilogy (8464) or AQA Chemistry (8462) specifications.
- CGP AQA Trilogy (8464) or CGP AQA Chemistry (8462) revision guides
- CGP AQA Trilogy (8464) or AQA Chemistry (8462) flashcards
- Educake
- Focus elearning
- https://www.bbc.co.uk/bitesize/examspecs/z8xtmnbBBC bitesize
- Physics maths tutor
- Savemyexams
- Freesciencelessons.co.uk
- Malmesbury Science
- Biology /Chemistry/ physics textbooks
- AQA Command words Subject specific vocabulary

Ways to support and extend student learning in this subject

- All lesson resources available on google classroom
- Use educake to reinforce key knowledge
- Pearsons target grade books. Trilogy Chemistry
- New scientist
- Trilogy past papers
- Chemistry past papers
- Youtube sites
- Christmas lectures
- Lesson powerpoints and other resources are also put onto google classroom.