



Year 10 Chemistry Course outline

Students have two lessons per cycle taught by specialist Chemistry teachers. Homework is set once per cycle.			
	Topic and approximate duration	Key learning areas	Assessed Homework
Autumn Term 1	Topic: Quantitative Chemistry	Students will learn about quantities in Chemistry. We will study the mole, and link this to the mass of a substance. We will then link this to working out the concentration of solutions in grams and moles. Students will use mathematics to work out the mass of substances that could be produced from starting reagent, the limiting reactant and the concentration of unknowns. We will calculate atom economy, yield and volumes of gases. Assessed practical: 2 - Use titration to investigate reacting volumes	Quantitative chemistry
	Nature of landmark assessment	Longer answer question mid topic assessment and short and longer answer questions end of topic assessment	
Autumn term 2	Topic: Chemical Changes	In this topic, we are concerned with the reactivity series. We will explore displacement reactions in terms of oxidation and reduction, and write ionic and half equations for redox reactions. Students will learn about acids and alkalis, and how we can make insoluble salts from these. We will discuss ways of extracting metals and explore electrolysis in detail. Assessed practical: 1 – Prepare a salt from an insoluble metal carbonate or oxide 3 - Investigate the electrolysis of a solution	Chemical changes
	Nature of landmark assessment	Longer answer question mid topic assessment and short and longer answer questions end of topic assessment	
Spring term1	Topic: Energy changes	During this topic, we will look at ways to classify reactions in terms of the energy change taking place. Students will compare exothermic and endothermic reactions, drawing reaction profiles for these. They will also work out the energy change in a reaction by using bond energy values. Finally, we will learn about chemical cells and fuels cells.	Energy changes

		Assessed practical: 4 – Investigating temperature changes	
	Nature of landmark assessment	Longer answer question mid topic assessment and short and longer answer questions end of topic assessment	
Spring term 2	Topic: The Atmosphere +revision for exam week	A major issue facing the world today is climate change. In this topic, we will be looking at the history of the atmosphere and how it might change in the future. We will discuss the human impact on the atmosphere, and ways in which we could limit this for future generations.	The Atmosphere
	Nature of landmark assessment	Longer answer question mid topic assessment and short and longer answer questions end of topic assessment on all topics studied in Year 9 and Year 10 during assessment week.	
Summer Term 1	Topic: Chemical analysis	In Chemistry, we need ways to analyse substances. Here we will be learning about ways in which we can do that. We will first look at chromatography as a way to separate mixtures. Then we will study tests for gases, positive ions and negative ions. Finally, we will compare instrumental techniques with the ones studied in class. Assessed practical: 6 – Calculate Rf values 7 – Use chemical tests to identify negative and positive ions	Chemical analysis
	Nature of landmark assessment	Longer answer question mid topic assessment and short and longer answer questions end of topic assessment	
Summer Term 2	Topic: Chemical analysis cont.	In Chemistry, we need ways to analyse substances. Here we will be learning about ways in which we can do that. We will first look at chromatography as a way to separate mixtures. Then we will study tests for gases, positive ions and negative ions. Finally, we will compare instrumental techniques with the ones studied in class. Assessed practical: 6 – Calculate Rf values 7 – Use chemical tests to identify negative and positive ions	Chemical analysis
	Nature of landmark assessment	Longer answer question mid topic assessment and short and longer answer questions end of topic assessment	