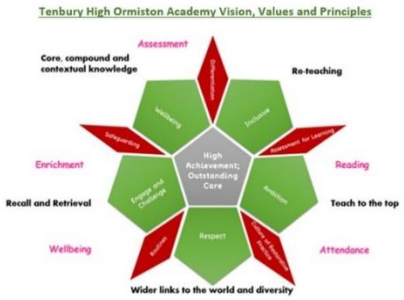
TENBURY HIGH
ORMISTON ACADEMY



Curriculum Overview for Chemistry
Year 10

Half Term 5: quantitative chemistry **Substantive Knowledge:** ➔ Higher: Use balanced symbol equations to calculate mass of reactants and products. ➔ Balance an equation given the masses of reactants and products. ➔ Higher: Describe with examples what is meant by a limiting reactant. ➔ Higher: Explain the effects of a limiting quantity of reactants on the amount of product. ➔ Describe how concentration of solutions can be measured. ➔ Higher: Explain how the mass of a solute and the volume of a solution is related to the concentration of the solution. ➔ Higher: Describe how equal amounts in moles of gases occupy the same volume under the same conditions of temperature and pressure. Disciplinary Knowledge: → write and balance symbol equations. →Change the subject of a mathematical equation. →calculate the mass of solute in a given volume of solution of known concentration. →Higher: calculate the volume of gas at room temp and pressure from its mass and relative formula mass. →Higher: calculate volumes of gaseous reactants and products from a balanced equation and a given volume of a gaseous reactant and product.		Skim and Scan of source information Decoding terms Etymology of key terms
		Concentration, Limiting reactant Mole, Relative formula mass, Thermal decomposition, uncertainty
		Baseline Recall questions to start every lesson End of unit assessment
		Revision Card preparation for every lesson Repetition of use of revision cards for end of unit assessment Exam questions - application
Half Term 6: Energy changes **Substantive Knowledge:** ➔ Draw and label exothermic reaction profile with activation energy, reactants, products and energy released. ➔ Draw and label an endothermic reaction profile with activation energy, reactants, products and energy absorbed. ➔ Identify examples of exothermic and endothermic reaction. ➔ Describe a method on how to measure temperature change. **Disciplinary Knowledge:** ➔ HT – Calculate bond energies to identify exothermic or endothermic reactions. ➔ Draw reaction profiles with and without catalysts. Triple additional: **Substantive Knowledge:** ➔ Describe how to test for pure water. ➔ Describe how to make potable water ➔ Describe ease of obtaining potable water from waste, ground and salt water. ➔ HT- Explain bioleaching and Phytomining. ➔ HT- Evaluate alternative biological methods of extracting metals. ➔ Compare LCA for plastic and paper bags. ➔ Evaluate ways of reducing the use of limited resources. **Disciplinary Knowledge:** ➔ Evaluate ways of reducing the use of limited resources.		Skim and Scan of source information Decoding terms Etymology of key terms
		Endothermic, Exothermic, Activation energy, Reactants, Products, Catalysts, Overall energy change, Reaction profile Triple: Bioleaching, Desalination, Displacement, Finite resources, Ground water, Life cycle assessment (LCA), Ore, Phytomining, Potable water, Renewable resources
		Baseline Recall questions to start every lesson End of unit assessment
		Revision Card preparation for every lesson Repetition of use of revision cards for end of unit assessment Exam questions - application