CC9: **Calculations Involving Masses** (Paper 1 and Paper 2)

Lesson	Objectives Tracker Sheet	Date covered	I know this well	I need to do more work on this
CC9a Masses and empirical formulae	C1.43 Calculate relative formula mass given relative atomic masses.			
	C1.44 Calculate the formulae of simple compounds from reacting masses and understand that these are empirical formulae.			
	C1.45 Deduce: A the empirical formula of a compound from the formula of its molecule B the molecular formula of a compound from its empirical formula and its relative molecular mass.			
	C1.46 Describe an experiment to determine the empirical formula of a simple compound such as magnesium oxide.			
CC9b Conservation of mass	C1.47 Explain the law of conservation of mass applied to: A a closed system including a precipitation reaction in a closed flask B a non-enclosed system including a reaction in an open flask that takes in or gives out a gas.			
	C1.48 Calculate masses of reactants and products from balanced equations, given the mass of one substance.			
	C1.49 Calculate the concentration of solutions in g dm–3.			
CC9c Moles	C1.50 **H** Recall that one mole of particles of a substance is defined as: A the Avogadro constant number of particles (6.02 × 1023 atoms, molecules, formulae or ions) of that substance B a mass of 'relative particle mass' g.			

	C1.51 **H** Calculate the number of: A moles of particles of a substance in a given mass of that substance and vice versa B particles of a substance in a given number of moles of that substance and vice versa C particles of a substance in a given mass of that substance and vice versa.			
	C1.52 **H** Explain why, in a reaction, the mass of product formed is controlled by the mass of the reactant which is not in excess.			
	C1.53 **H** Deduce the stoichiometry of a reaction from the masses of the reactants and products.			