CC9 Calculations involving masses

Topic Progression Checklist

I know this → colour green	I'm not sure → colour yellow	I don't know this → colour red

Subtopics and Learning Objectives	Start	End
CC9a Masses and Empirical Formulae		
Calculate the relative formula mass of a substance from relative atomic masses.		
Calculate the empirical formula of a compound from the masses of the elements it contains.		
Explain the difference between an empirical formula and a molecular formula.		
Deduce the empirical formula from a molecular formula.		
Deduce the molecular formula for a compound from its empirical formula and its relative formula mass.		
Describe an experiment to determine the empirical formula for a compound.		
CC9b Conservation of Mass		
Explain the law of conservation of mass in a closed system.		
Explain the law of conservation of mass in a non-enclosed system.		
Calculate the mass of product formed from a given mass of reactant, using a balanced equation.		
Calculate the mass of a reactant needed to produce a given amount of product, using a balanced equation.		
Calculate the concentration of a solution in g dm^{-3}.		
CC9c Moles (H)		
H Describe what is meant by a mole of particles.		
H Calculate the number of moles of particles in a given mass of a certain substance and vice versa.		
H Calculate the number of particles in a given number of moles or mass of a substance and vice versa.		
H Explain that the mass of a product formed in a reaction is controlled by the mass of reactant that is not in excess.		
H Deduce the balanced equation for a reaction from the masses of reactants and/or products.		