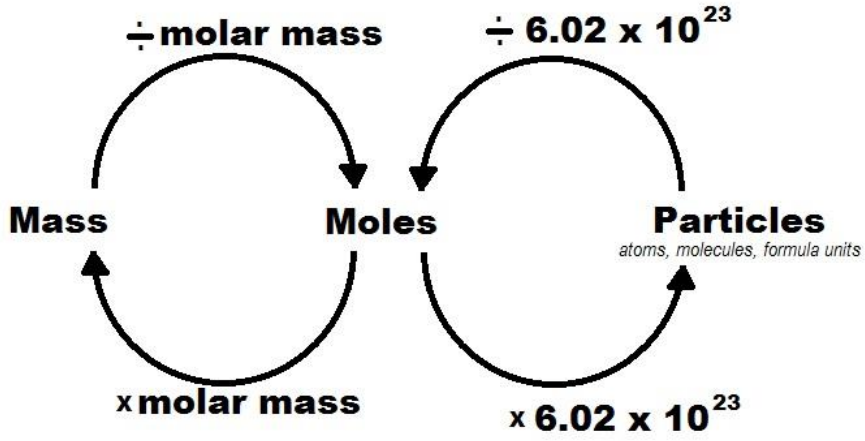
Chemistry Topic 3: Quantitative chemistry

1. Keywords	
Conservation of mass	No atoms are made or lost during a chemical reaction. The mass before the reaction must equal the mass after a reaction IN A CLOSED SYSTEM
Closed system	A container which no chemicals can escape. Eg a sealed bottle
Relative formula mass (Mr)	Sum of relative atomic masses from periodic table
Balanced equation	When the sum of the Mr on the left equals the sum of the Mr on the right
Uncertainty	The percentage of a result that might be wrong. Shown from differences between repeats
Limiting reactant	The reactant which runs out first

2. Moles (HT ONLY)	
Mole	The number of particles needed to make the mass equal the atomic mass
Avogadro constant	6.022×10^{23} particles in 1 mole



3a. Concentration		
	Concentration	g/dm^3
	mass	g
	volume	dm^3 (litres)

3b. Concentration (HT ONLY)		
	Concentration	g/dm^3
	mole	
	volume	dm^3 (litres)

4. Percentage yield (TRIPLE ONLY)		
	Percentage yield	%
	Mass of product actually obtained	g
	The theoretical maximum mass possible	g

5. Atom economy (TRIPLE ONLY)		
	Percentage atom economy	%
	Relative formula mass of the product you want	g/mol
	The total of all the react Mr added together	g/mol

6. Volume of gases (TRIPLE HT ONLY)	
1 mole of gas occupies 24 dm^3	If 20°C and 1 atmosphere pressure
Equal moles occupy the same volume	