Know the facts		Key words	
1	The law of conservation of mass states that no atoms are lost or made during a chemical reaction so the mass of the products equals the mass of the reactants.	1	**Avogadro constant** the number of atoms, molecules, or ions in a mole of any substance (i.e., 6.02×10^{-23} per mol)
2	In a balanced chemical equation, the sum of the relative formula masses of the reactants in the quantities shown equals the sum of the relative formula masses of the products in the quantities shown.	2	**mole** the amount of substance in the relative atomic or formula mass of a substance in gram. The symbol for the unit mole is mol
3	When a metal reacts with oxygen the mass of the oxide produced is greater than the mass of the metal	3	**concentration** the amount of a substance dissolved in a given volume of liquid
4	In thermal decompositions of metal carbonates carbon dioxide is produced and escapes into the atmosphere leaving the metal oxide as the only solid product.	4	**limiting reactant** the reactant in a chemical reaction that when used up causes the reaction to stop
5	The masses of reactants and products can be calculated from balanced symbol equations. Chemical equations can be interpreted in terms of moles $Mg + 2HCl \rightarrow MgCl_2 + H_2$ shows that one mole of magnesium reacts with two moles of hydrochloric acid to produce one mole of magnesium chloride and one mole of hydrogen gas.	5	**percentage yield** the actual mass of product collected in a reaction divided by the maximum mass that could have been formed in theory, multiplied by 100 The amount of a product obtained is known as the yield $\%\ Yield = \frac{Mass\ of\ product\ actually\ made}{Maximum\ theoretical\ mass\ of\ product} \times 100$
6	In a chemical reaction involving two reactants, it is common to use an excess of one of the reactants to ensure that all of the other reactant is used.	6	**relative formula mass M_r** the total of the relative atomic masses, added up in the ratio shown in the chemical formula, of a substance
7	The percentage atom economy of a reaction is calculated using the balanced equation for the reaction as follows: $\frac{Relative\ formula\ mass\ of\ desired\ product\ from\ equation}{Sum\ of\ relative\ formula\ masses\ of\ all\ reactants\ from\ equation} \times 100\%$	7	**relative atomic mass A_r** the average mass of the atoms of an element compared with carbon-12 (which is given a mass of exactly 12). The average mass must take into account the proportions of the naturally occurring isotopes of the element