Physical chemistry 1 Amount of substance

Ionic equations

- Sometimes you can simplify the equation by considering the ions present. •
- Sometimes ions don't take part in the reaction they're called spectator ions.
- E.g. HCl(aq) + NaOH(aq) \rightarrow NaCl(aq) + H₂O(I)
 - $\circ \quad H^+ + Cl^- + Na^+ + OH^- \rightarrow Na^+ + Cl^- + H_2O$
 - $H^+(aq) + OH^-(aq) \rightarrow H_2O(I)$
 - This is whenever an acid reacts with an alkali.
- The total of charges on each side must be equal.

Working out amounts

- Use a balanced symbol equation to work out how much product is formed from a reaction.
- E.g. 0.12 Mg excess HCl MgCl₂ = Xg
 - 1. $Mg(s) + HCl(aq) \rightarrow MgCl_2(aq) + H_2(g)$

 - \mathbb{D} r of $\sqrt{3}C_2 = 24.3 + (2)$ 0
 - Mass of $MgCl_2 = 95.3*0.0049 = 0.48g$.

Finding concentrations using titrations

• Need to know concentration of reactant 1 and the equation for the reaction.