

Chemistry 1 a Week Activity		Higher Answers	3 rd Week
Name:		Class:	
What colour flame would sodium ions produce?	State the formula of ammonium sulfate.		
Yellow	(NH₄)₂SO₄		
A reaction of nickel oxide and carbon produces nickel and carbon monoxide.			
$\text{NiO} + \text{C} \rightarrow \text{Ni} + \text{CO}$			
Calculate the percentage atom economy for the reaction to produce nickel.			
Relative atomic masses (Ar): C = 12 Ni = 59 O = 16			
Give your answer to 3 significant figures.			
Atom economy = Mr of useful product ÷ Mr of all reactants			
Atom economy = 59 ÷ 87			
Atom economy = 67.8 %			
Balance the following equations.			
$\text{Na}_2\text{S}_2\text{O}_3(\text{aq}) + 2\text{HCl}(\text{aq}) \rightarrow 2\text{NaCl}(\text{aq}) + \text{SO}_2(\text{g}) + \text{H}_2\text{O}(\text{l}) + \text{S}(\text{s})$			
$2\text{NO}_2(\text{g}) \rightarrow \text{N}_2 + 2\text{O}_2(\text{g})$			
State the conditions for the Haber process.	Explain how a catalyst increases the rate of a reaction.		
Pressure = 200 atmospheres of pressure	It <u>lowers the activation energy</u> and <u>provides an alternative pathway</u> for the reaction.		
Temperature = 450 °C			
Catalyst = Iron catalyst			
Draw the structural diagram for a molecule of methane.	A cream precipitate is formed in a reaction. Which ion is shown to be present by the cream precipitate?		
$\begin{array}{c} \text{H} \\ \\ \text{H}-\text{C}-\text{H} \\ \\ \text{H} \end{array}$	Bromide ion.		
What are isotopes?	What ion makes a substance acidic?		
Isotopes are atoms of the same element with the <u>same number of protons</u> but a <u>different number of neutrons</u>.	H⁺		
	Accept: hydrogen ion.		