

Chemistry 1 a Week Activity		Higher Answers	32 nd Week
Name:		Class:	
H ₂ SO ₄ is a strong acid. What makes H ₂ SO ₄ a strong acid? H ₂ SO ₄ fully <u>dissociates/ ionises</u> in water. Forming two H ⁺ or hydrogen ions.	A solution of NaOH has a concentration of 0.92 mol/dm ³ . What is this in g/dm ³ ? g/dm ³ = mol/dm ³ × Mr g/dm ³ = 0.92 × 40 = 36.8 g/dm³		
The formula of titanium(IV) oxide is TiO ₂ . Deduce the charge of the titanium ion in titanium(IV) oxide. Ti ⁴⁺	Sodium reacts with chlorine to form sodium chloride. Give the electronic configurations of the ions formed. Na ⁺ = 2, 8 Cl ⁻ = 2, 8, 8		
Calculate the number of molecules in 0.11 g of carbon dioxide. Avogadro constant = 6.02 × 10 ²³ 0.11 ÷ 44 = 0.0025 0.0025 × 6.02 × 10 ²³ = 1.5 × 10²¹	Calculate the number of atoms in 0.11 g of carbon dioxide. Avogadro constant = 6.02 × 10 ²³ 1.5 × 10 ²¹ × 3 = 4.5 × 10²¹		
Magnesium burns in excess oxygen to form magnesium oxide. The balanced equation for this reaction is: 2Mg + O ₂ → 2MgO Starting with 1.35 g of magnesium, calculate the maximum mass of magnesium oxide that could be formed in this reaction. Mr of MgO = 24 + 16 = 40 Mr of Mg = 24 Moles of Mg = 1.35 ÷ 24 = 0.05625 Mass of MgO = mol × Mr = 0.05625 × 40 = 2.25 g			
Butane has the formula C ₄ H ₁₀ . Calculate the mass of carbon in 100 g of butane. Give your answer to three significant figures. 4 × 12 = 48 48 ÷ 58 × 100 = 82.759 = 82.8 g			
Large alkanes can be cracked into smaller alkanes and alkenes. Why are smaller alkanes in higher demand than larger alkanes? They are more useful as fuels as they burn quicker.			