

Chemistry 1 a Week Activity Higher Answers		34 th Week
Name: Class:		
State the functional group of a carboxylic acid. COOH	What is the general formula of an alkane? C_nH_{2n+2}	
Fluorine gas reacts vigorously with iron to produce iron(III) fluoride, FeF ₃ . Write the balanced equation for this reaction. 2Fe + 3F₂ → 2FeF₃		
State the formula of an ammonium ion. NH₄⁺	Name the positive electrode used in electrolysis. The anode	
Calculate the relative formula mass of calcium carbonate, CaCO ₃ . 100	Give the electronic configuration of an ion of calcium. 2, 8, 8	
Hydrochloric acid reacts with a solution of sodium carbonate. 2HCl(aq) + Na₂CO₃(aq) → 2NaCl(aq) + CO₂(g) + H₂O(l) Write the ionic equation for this reaction. 2H⁺ (aq) + ~~2Cl⁻ (aq)~~ + ~~2Na⁺ (aq)~~ + CO₃²⁻ (aq) → ~~2Na⁺ (aq)~~ + ~~2Cl⁻ (aq)~~ + CO₂ (g) + H₂O (l) 2H⁺ (aq) + CO₃²⁻ (aq) → CO₂ (g) + H₂O (l) (Must include state symbols)		
The figures below show the structures for butane and pentane. H H H H H—C—C—C—C—H H H H H butane H H H H H H—C—C—C—C—C—H H H H H H pentane		
Explain, using these formulae, why butane and pentane are neighbouring members of the same homologous series. They have the same general formula, C_nH_{2n+2}. They differ by CH₂ or that they differ by one carbon atom or that pentane has one more carbon.		
State the products of the electrolysis of molten sodium chloride. <u>Sodium</u> (metal) and <u>chlorine</u> (gas)	State the products of the electrolysis of aqueous sodium chloride. <u>Sodium hydroxide</u>, <u>chlorine gas</u> & <u>hydrogen</u>	