

# Acids and alkalis essay sample



**ASSIGN  
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1. Acids Definition : Acids are substances that produces hydrogen ions as the only positive ions in water. Properties Acid + Metal = Salt + Hydrogen gas  
 →Eg.  $Mg(s) + 2HCl(aq) = MgCl_2(aq) + H_2(g)$  →Hydrogen Test ◦Dissolve Magnesium Ribbon in dilute Hydrochloric Acid. Lit a burning splint and place it at the top of the tube. Test to see if there is a pop sound. The sound indicates the presence of the gas Hydrogen. Acid + Carbonate = Salt + Carbon Dioxide + Water →E. g  $CaCO_3(s) + 2HCl(aq) = CaCl_2(aq) + CO_2(g) + H_2O(l)$  →Carbon Dioxide Test ◦Dissolve Calcium Carbonate in Hydrochloric Acid. Bubble the gas produces through limewater. Check if a limewater turns milky. A white precipitate should form in the limewater should Carbon Dioxide be produced. Acid + Metal Oxide/Hydroxide = Salt + Water →E. g  $CuO(s) + H_2SO_4(aq) = CuSO_4(aq) + H_2O(l)$  Acids change the colours of indicators →Acids turn blue litmus paper red. They have a pH7. The higher the pH, the more alkaline the solution.

Uses Neutralise acids. → E. g Toothpaste (magnesium Hydroxide) The alkaline in toothpaste neutralises acids on our teeth produced by bacteria when they feed on sugars in our food. →E. g Medicine. Excess acids in our stomach causes gastric. The medicine for treating this includes alkali and carbonates which neutralises some acid. Dissolve dirt and grease. →E. g Soaps and detergents (sodium hydroxide) FYI, pH and agriculture. Most food crops will not grow well if the soil is too acidic or too alkaline. Soils become acidic due to excessive use of acidic fertiliser and acid rain. Farmers neutralise excess acidity by adding calcium hydroxide and this is often known as liming the soil. Exercises Hydrochloric acid + Zinc metal = Sulphuric acid + Magnesium metal = Potassium carbonate + Nitric acid =

Sulphuric acid + Magnesium carbonate = Zinc oxide + Sulphuric acid = Zinc  
hydroxide + Nitric acid = Sodium hydroxide + Ammonium Nitrate = Sodium  
hydroxide + Copper sulphate = Calcium hydroxide + Iron chloride =