
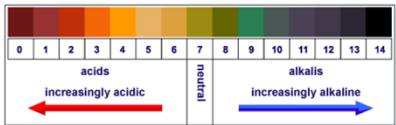



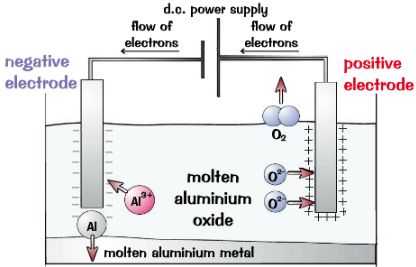


<h2 style="text-align: center;">C4 Chemical changes AQA Trilogy</h2>	<p>Delete as appropriate:</p> <p>When metals react they form positive / negative ions</p> <p>The more reactive a metal the more / less likely it is to form an ion</p> <p>Aqueous solutions of alkalis contain hydrogen / hydroxide ions</p>	<p>Define the following key terms:</p> <p>Oxidation</p> <p>Reduction</p> <p>Redox reaction</p> <p>Alkali</p> <p>Neutralisation</p>	<p>Define the following key terms:</p> <p>Ore</p> <p>Displacement</p> <p>Electrolysis</p>
<p>Metal + oxygen → Metal oxide</p> <p>Magnesium + oxygen →</p> <p>Zinc + oxygen →</p> <p>The above are oxidation reactions. Explain why</p>	<p>Reactive metal + water → metal hydroxide + hydrogen</p> <p>Lithium + water →</p> <p>Potassium + water →</p> <p>Calcium + water →</p> <p>Less reactive metals won't react with water</p>	<p>Metal + acid → salt + hydrogen</p> <p>Magnesium + hydrochloric acid →</p> <p>Zinc + sulfuric acid →</p> <p>Iron + hydrochloric acid →</p>	<p>Metal oxide + acid → salt + water</p> <p>Copper oxide + hydrochloric acid →</p> <p>Zinc oxide + sulfuric acid →</p> <p>Magnesium oxide + nitric acid →</p>
<p>Acid + base → salt + water</p> <p>Hydrochloric acid + sodium hydroxide →</p> <p><math>H^+_{(aq)} + OH^-_{(aq)} \rightarrow</math></p>	<p>Metal carbonate + acid → salt + water + carbon dioxide</p> <p>Calcium carbonate + hydrochloric acid →</p> <p>Copper carbonate + sulfuric acid →</p>	<p>Metal hydroxide + acid → salt + water</p> <p>Lithium hydroxide + hydrochloric acid →</p> <p>Sodium hydroxide + sulfuric acid →</p> <p>Potassium hydroxide + nitric acid →</p>	<p><b><u>RPA 8: Describe how to prepare a pure, dry sample of a soluble salt</u></b></p> 
<p>Name the salt produced when you use:</p> <ul style="list-style-type: none"> <li>Hydrochloric acid</li> <li>Sulfuric acid</li> <li>Nitric acid</li> </ul>	<p>The pH scale goes from ___ to ___</p> <p>Numbers of pH less than 7 are _____</p> <p>pH 7 is _____</p> <p>Numbers of pH above 7 are _____</p> 	<p>In relation to acids define the following terms:</p> <p>Dilute</p> <p>Concentrated</p> <p>Weak</p> <p>Strong</p>	<p>Write the symbols for:</p> <p>Hydrochloric acid</p> <p>Sulfuric acid</p> <p>Nitric acid</p> 

<h2 style="text-align: center;">C4 Chemical changes AQA Trilogy</h2>	<p>Write the reactivity series below and add on the symbols for each element</p>	<p>Electrolysis key terms: Electrolyte</p> <p>Cathode</p> <p>Anode</p> <p>Inert</p>	<p>In the electrolysis of lead bromide:</p> <p>What forms at the cathode?</p> <p>What forms at the anode?</p> <p>For electrolysis to occur the lead bromide must be solid/ molten</p>
<p>Unreactive metals such as _____ are found in the Earth as the metal itself.</p> <p>More reactive metals such as _____ are found in _____.</p> <p>Metals less reactive than carbon can be extracted using _____ with carbon.</p>	<p>Where does carbon fit into the reactivity series?</p> <p>Which metals can be extracted using carbon?</p>	<p><u>Using electrolysis to extract aluminium</u> Why is aluminium oxide (bauxite) mixed with cryolite?</p> <p>Why must the positive electrode (anode) be continually replaced?</p> <p>What forms at the anode?</p> <p>What forms at the cathode?</p>	<p><b>RPA 9: Electrolysis – investigate what happens when aqueous solutions are <u>Electrolysed</u>.</b></p> <p>In solutions that do not contain a halide ion (Cl<sup>-</sup>, Br<sup>-</sup>, I<sup>-</sup>) Which gas is produced at the: Anode Cathode</p> <p>In solutions that contain a halide ion (Cl<sup>-</sup>, Br<sup>-</sup>, I<sup>-</sup>) Which gas is produced at the: Anode Cathode</p> 
<p>Oxidation and reduction</p> <p>O I L R I G</p> 	<p style="text-align: center;"><u>Redox reactions</u></p> <p>The ionic equation for iron reacting with dilute hydrochloric acid is shown below</p> $\text{Fe} + 2\text{H}^+ \rightarrow 2\text{Fe}^{2+} + \text{H}_2$ <p>Iron is oxidised / reduced</p> $\text{Fe} - 2\text{e}^- \rightarrow \text{Fe}^{2+}$ <p>Hydrogen is oxidised / reduced</p> $2\text{H}^+ + 2\text{e}^- \rightarrow \text{H}_2$	<p><u>Using electrolysis to extract aluminium</u></p> 	<p>An aqueous solution of CuCl<sub>2</sub> is electrolysed using inert electrodes. Write the <u>half equations</u> for the</p> <p>anode</p> <p>cathode</p>
<p><u>Oxidation or reduction</u></p> $\text{Mg} + \text{O}_2 \rightarrow 2\text{MgO}$ <p>The magnesium is oxidised / reduced</p> $2\text{CuO} + \text{C} \rightarrow 2\text{Cu} + \text{CO}_2$ <p>The copper is oxidised / reduced</p>	<p><u>Displacement reactions</u></p> <p>More reactive metal will displace a less reactive metal</p> <p>Iron + copper sulfate →</p> <p>Magnesium + zinc chloride →</p> <p>Iron + zinc sulfate →</p>	<p>Write the words for the compounds below:</p> <p>NaOH</p> <p>CuCl<sub>2</sub></p> <p>KSO<sub>4</sub></p> <p>CaCO<sub>3</sub></p> <p>MgO</p>	<p>Write the words for the compounds below:</p> <p>HCl</p> <p>H<sub>2</sub>SO<sub>4</sub></p> <p>HNO<sub>3</sub></p> <p>Fe<sub>2</sub>O<sub>3</sub></p> <p>Ca(OH)<sub>2</sub></p>