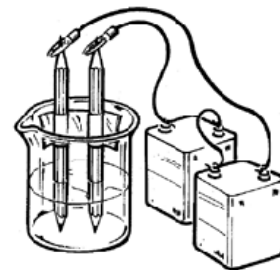


Electrolysis



The key areas of study in this topic are:

- Electrolysis
- Chemical cells and fuel cells

By the end of this topic I should be able to:

	Start	End
3.22 Recall that electrolytes are ionic compounds in the molten state or dissolved in water		
3.23 Describe electrolysis as a process in which electrical energy, from a direct current supply, decomposes electrolytes		
3.24 Explain the movement of ions during electrolysis, in which: <ul style="list-style-type: none"> • positively charged cations migrate to the negatively charged cathode • negatively charged anions migrate to the positively charged anode 		
3.25 Explain the formation of the products in the electrolysis, using inert electrodes, of some electrolytes, including: <ul style="list-style-type: none"> • copper chloride solution • sodium chloride solution • sodium sulfate solution • water acidified with sulfuric acid • molten lead bromide (demonstration) 		
3.26 Predict the products of electrolysis of other binary, ionic compounds in the molten state		
3.27 Write half equations for reactions occurring at the anode and cathode in electrolysis		
3.28 Explain oxidation and reduction in terms of loss or gain of electrons		
3.29 Recall that reduction occurs at the cathode and that oxidation occurs at the anode in electrolysis reactions		
3.30 Explain the formation of the products in the electrolysis of copper sulfate solution, using copper electrodes, and how this electrolysis can be used to purify copper		
<i>3.31 Core Practical: Investigate the electrolysis of copper sulfate solution with inert electrodes and copper electrodes</i>		
5.4C Explain how electroplating can be used to improve the appearance and/or the resistance to corrosion of metal objects		
5.25C Recall that a chemical cell produces a voltage until one of the reactants is used up		
5.26C Recall that in a hydrogen–oxygen fuel cell hydrogen and oxygen are used to produce a voltage and water is the only product		
5.27C Evaluate the strengths and weaknesses of fuel cells for given uses		