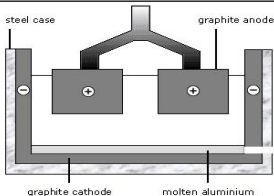
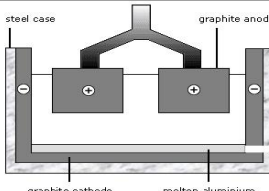
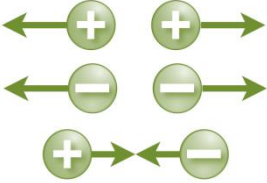
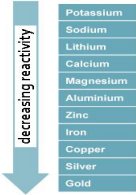
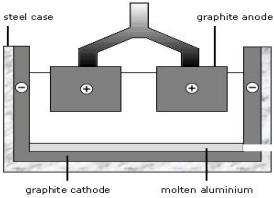
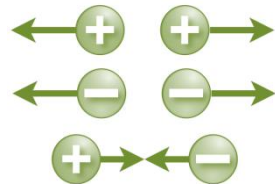
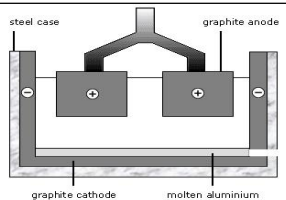





H	1	2	3	4	5	6
1	<b>Ionic compound</b>	<b>Bauxite</b>	$Zn + H_2SO_4 \rightarrow ZnSO_4 + H_2$ reduced? oxidised?	<b>Opposite charges attract</b>	<i>Soluble metal hydroxide</i>	$Al^{3+} + 3e^- \rightarrow Al$
2	<i>Anode</i>	<i>OILRIG</i>	<i>Will not pass electric current in solid state</i>	<i>Metal oxides</i>		Reduction
3	<i>Metal extraction</i>	<i>Cryolite</i>	<i>Anode must be periodically replaced</i>	<i>Cathode</i>	<i>Stainless Steel</i>	<i>E.g. improves the appearance of an object or improves its resistance to corrosion</i>
4	<i>Pig Iron</i>	<i>Gain of electrons</i>	<i>Anode half equation for the electrolysis of molten zinc chloride?</i>	<i>displacement</i>	<i>Extraction of Al from its ore</i>	<i>Supplies electrons</i>
5	<b>reactivity series</b>	<b>OILRIG</b>		<b>Downside of electrolysis</b>	<i>Gain of O2</i>	<i>Electrolyte</i>
6	<i>Oxidation</i>	<i>Electrostatic attractions</i>	<i>Half equation</i>	<i>High carbon steel</i>	<i>Electrons are removed here</i>	<i>Manganese</i>

H	1	2	3	4	5	6
1	<b>Ionic compound</b>	<b>Bauxite</b>	Used to make soap and paper	?	Explain why electrolysis of	$Al^{3+} + 3e^{-} \rightarrow Al$
2	<b>Anode</b>	$\underline{\quad} O^{2-} \rightarrow \underline{\quad} + \underline{\quad} e^{-}$	<i>Will not pass electric current in</i>	Used to sterilise drinking water and in plastics manufacture	$KCl_{(l)}$ yields $K_{(l)}$	?
3	<b>Metal extraction</b>	<b>Cryolite</b>	?	<b>Cathode</b>	<i>Saves a large amount of energy</i>	<i>E.g. improves the appearance of an object or improves its resistance to corrosion</i>
4	?	cathode half equation for electrolysis of molten lead bromide?	<b>Anode half equation for the electrolysis of molten zinc chloride?</b>	<i>Products from electrolysis of copper sulfate solution?</i>	<b>Extraction of Al from its ore</b>	<i>Supplies electrons</i>
5	Describe how to electroplate a nickel bracelet with silver metal. Why is this useful?	<b>OILRIG</b>		Downside of electrolysis	?	<b>Electrolyte</b>
6	<b>Oxidation</b>	?	<b>Half equation</b>	<i>How is copper purified using electrolysis?</i>	<b>Electrons are removed here</b>	$2H^{+}_{(g)} + \underline{\quad} \rightarrow \underline{\quad}$

F	1	2	3	4	5	6
1	<b>Ionic compound</b>	Aluminium ore, primary source of $Al_2O_3$	Used to make soap and paper		Explain why electrolysis of molten potassium chloride produces potassium metal	<b>Inert</b>
2	<b>Anode</b>	$O_2$ gas produced at the anode reacts to form $CO_2$	<b>Will not conduct electricity when solid</b>	Used to sterilise drinking water and in plastic manufacture		$Al^{3+}$ ions gain $3e^-$ to make Al metal
3	<b>Metal extraction</b>	<b>Cryolite</b>	Why do calcium ions move to	<b>Cathode</b>	<b>Saves a large amount of energy</b>	<b>E.g. improves the appearance of an object or improves its resistance to corrosion</b>
4	$Cl^-$ ions lose an electron to form $Cl$ atoms		<b>Product at the anode in the electrolysis of molten zinc</b>	<b>Products from electrolysis of copper sulfate solution?</b>	<b>Extraction of Al from its ore</b>	<b>Supplies electrons</b>
5	Describe how to electroplate a nickel bracelet with silver metal.	<b>OILRIG</b>		<b>Downside of electrolysis</b>	Will conduct electricity if molten or in	<b>Electrolyte</b>
6	<b>Oxidation</b>	Products of electrolysis of	When the potassium ions reach the negative electrode they turn into	<b>How is copper purified using electrolysis?</b>	<b>Electrons are removed here</b>	<b>Name the 2 types of positive ion in sodium chloride solution</b>

F	1	2	3	4	5	6
1	<b>Ionic compound</b>	<b>Aluminium ore, primary source of Al<sub>2</sub>O<sub>3</sub></b>	?		Explain why electrolysis of molten potassium chloride produces potassium metal and	<b>Inert</b>
2	<b>Anode</b>	O <sub>2</sub> gas produced at the anode reacts to form CO <sub>2</sub>	<i>Will not conduct electricity when</i>	Used to sterilise drinking water and in plastic manufacture	chloride produces potassium metal and	Al ions gain 3e <sup>-</sup> to make Al metal
3	?	<b>Cryolite</b>	Why do calcium ions move to the	<b>Cathode</b>	<b>Saves a large amount of energy</b>	?
4	Cl <sup>-</sup> ions lose an electron to form Cl atoms	?	<i>Product at the anode in the electrolysis of molten zinc chloride?</i>	<i>Products from electrolysis of copper sulfate solution?</i>	<b>Extraction of Al from its ore</b>	<b>Supplies electrons</b>
5	Describe how to electroplate a nickel bracelet with silver metal.	<b>OILRIG</b>		?	Will conduct electricity if molten or in solution	<b>Electrolyte</b>
6	<b>Oxidation</b>	Products of electrolysis of	When the potassium ions reach the negative electrode they turn into potassium ____?	<i>How is copper purified using electrolysis?</i>	?	<i>Name the 2 types of positive ion in sodium chloride solution</i>

Chemistry 4.4.3 / Science Trilogy 5.4.3 Electrolysis revision checklist

Can you...			
a) define 'electrolysis' and state the requirements for the process to take place			
b) predict the products of the electrolysis of binary ionic compounds in the molten state			
c) describe the use of electrolysis of molten compounds in the extraction of metals			
d) explain how aluminium is extracted, in detail, and explain why the anode must be continually replaced			
e) predict the products of the electrolysis of aqueous solutions containing a single ionic compound			
f) represent the relevant reactions at the electrodes, for a given process, as half equations ( <b>HT only</b> )			

Also important:

*(Chemistry) Required practical 3: investigate what happens when aqueous solutions are electrolysed using inert electrodes.*

*This should be an investigation involving developing a hypothesis. AT skills covered by this practical activity: 3, 7 and 8*

*(Science Trilogy) Required practical 3: investigate what happens when aqueous solutions are electrolysed using inert electrodes. This should be an investigation involving developing a hypothesis. AT skills covered by this practical activity: 3*

*and 7*