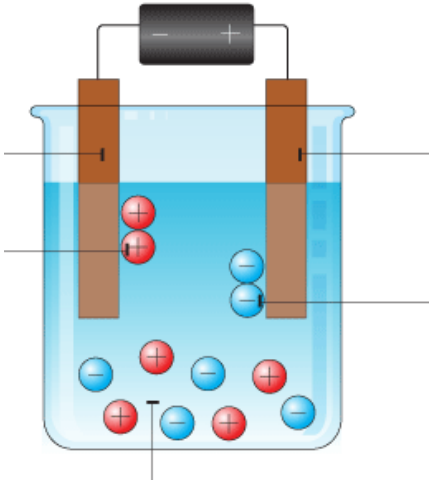
Electrolysis Key Ideas Notes

Electrolysis is used to _____ an _____ compound into it's _____ using _____.

1. Label the electrolysis apparatus:



2. An electrolyte is _____
_____
_____
_____.

It is usually an _____ compound.

Positive ions are attracted to the _____ electrode (_____).

Examples of positive ions:-

Negative ions are attracted to the _____ electrode (_____).

Examples of negative ions:-

3. a) What are the products when molten lead bromide is electrolysed?

b) Write half equations, including state symbols, for the reactions at the anode and cathode.

Anode:

Cathode:

*Remember gases are diatomic

General questions

1. Why must the ionic substance be molten or in solution?

2. Why do the ions move to the electrodes?

General questions

3. What are the two types of solutions that are electrolysed?

4. What are the electrodes made of?

5. Why are some metals extracted from their ores by electrolysis?

Aqueous Solutions

The products formed are based on the r_____ s_____.

a) At the negative electrode:-

H^+ forms _____ gas, unless ____ and ____ are present in solution, as these metals are less reactive than H^+.

b) At the positive electrode:-

OH^- produces _____ gas, unless ___ or ___ are present in solution.

c) Write half equations, including state symbols, for the reactions at the anode and cathode.

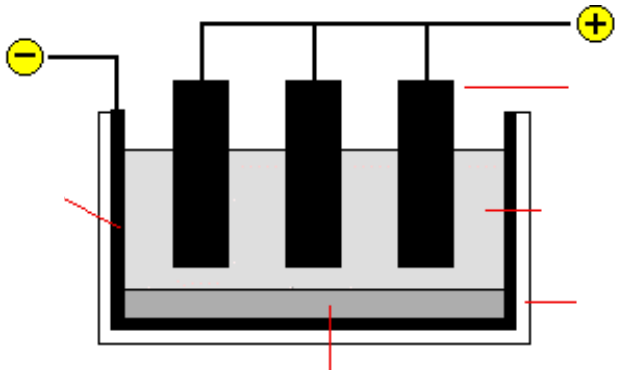
Anode:

Cathode:

*Remember gases are diatomic

Electrolysis of molten aluminium oxide

1. What is the name of the ore containing aluminium?
2. What is added to Al_2O_3 to reduce its melting temperature?
3. Write a half equation to show what happens at the cathode
4. Write a half equation to show what happens at the anode



Electrolysis of copper sulfate solution

1. What happens to the colour of the copper sulfate solution as electrolysis happens?
2. Which metal is formed at the negative electrode? Write a half equation for this.
3. What is the gas formed at the positive electrode? Write the half equation for this.