AQA, OCR, Edexcel

GCSE Science

GCSE Chemistry

Electrolysis

Answers

Mathsmadeeasy.co.uk

Total Marks: /33

Q1: When an ionic compound is melted or dissolved in water, what happens to the ions?

A= The ions are free to move about within the liquid or solution.

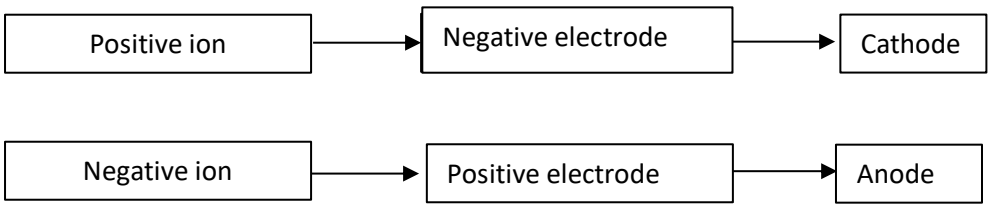
(1 mark)

Q2: Define an electrolyte.

A= Liquids or solutions (1 mark) that are able to conduct electricity (1 mark).

(2 marks)

Q3: Passing an electric current through electrolytes causes the ions to move to electrodes. Match up the boxes.



(4 marks)

Q4: What is the process called?

A= electroylsis

(1 mark)

Q5: If an ionic compound (a non-metal and a metal) is electrolysed at which electrode will the metal be produced and the non-metal.

Metal A= cathode (negative electrode)

Non-metal A= anode (positive electrode)

(2 marks)

Q6: When is electrolysis used to extract metals?

A= if the metal is too reactive to be extracted with by reduction with carbon (1 mark) or if the metal reacts with carbon (1 mark).

(2 marks)

Q7: What is the molten mixture used to manufacture aluminium through electrolysis?

A= aluminium oxide (1 mark) and cryolite (1 mark)

(2 marks)

Q8: What metal is used at the positive electrode?

A= carbon

(1 mark)

Q11: When an aqueous solution is electrolysed using inert electrodes, the ions that are discharged are dependent upon what?

A= the relative (1 mark) reactivity (1 mark) of the elements involved.

(2 marks)

Q12: If the metal is more reactive than hydrogen, what is produced at the negative electrode?

A= hydrogen

(1 mark)

Q13: At the positive electrode, what is produced?

A= oxygen

(1 mark)

Q14: Why does this happen in aqueous solution?

A= water molecules break down producing hydrogen ions (1 mark) and hydroxide ions (1 mark) that are discharged.

(2 marks)

Q15: Complete the following sentences.

During electrolysis, at the [cathode] (negative electrode), [positively] charged ions [gain] electrons.

These reactions are [reduction] reactions.

At the [anode] (positive electrode), [Negatively] charged ions [lose] electrons.

These reactions are [oxidation] actions.

(8 marks)