

Exercise 6.4
Industrial Processes: Electrolysis of Sodium Chloride

1.
 - (a) Sketch a Downs Cell, labeling the important features.

 - (b) Write a balanced chemical equation for the half-reaction that occurs at the cathode

 - (c) Write a balanced chemical equation for the half-reaction that occurs at the anode.

 - (d) Write a balanced chemical equation for the overall reaction that occurs in the Downs Cell.

 - (e) Briefly explain how the Downs Cell design allows separation of the products from the reactants and from each other.

2. Briefly describe how sodium hydroxide is made and isolated industrially. Your answer should include a diagram as well as balanced chemical equations where appropriate.