

G631: Electrons in Action – Sample Assignment A1

Unit Name: Electrons in Action	Unit Number: G631
Assignment Title: Understanding the applications of electrochemical changes	Assignment Number: G631 Sample Assignment A1
Date Set:	Due Date:
Assessment Objective(s): AO1(a)	

Assignment Brief:

Electrochemistry is a branch of chemistry that studies chemical reactions that take place in a solution at the interface of an electron conductor (a metal or a semiconductor) and an ionic conductor (the electrolyte), and which involve electron transfer between the electrode and the electrolyte or species in solution.

If a chemical reaction is driven by an external applied voltage, as in electrolysis, or if a voltage is created by a chemical reaction as in a battery, it is an *electrochemical* reaction. In contrast, chemical reactions where electrons are transferred between molecules are called oxidation/reduction (redox) reactions. In general, electrochemistry deals with situations where oxidation and reduction reactions are separated in space or time, connected by an external electric circuit to understand each process.

(From: <http://en.wikipedia.org/wiki/Electrochemistry>)

Assignment:

You have been asked to produce a report/presentation which explains electrochemistry in a way in which can be understood by a group of students.

Task 1:

Carry out research into:

- redox in terms of electron transfer
- oxidation number
- examples of redox equations including half equations
- how simple experimental work can be used to explain these terms.

Produce a presentation/report of your work that can be understood by a group of students working on projects involving electrochemistry.

Task 2:

Carry out research into :

- different examples where electrochemical changes are used
- how experimental work can be used to describe these examples.

Produce a presentation/report of your work that can be understood by a group of students working on projects involving electrochemistry.