

Redox reactions – Using E° tables to predict reactions.

Lesson 4c

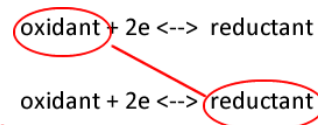
When predicting if a reaction will occur to produce electrical energy in a galvanic cell, three steps should be followed.

1) Identify the strongest oxidant and the strongest reductant present.

2) The strongest oxidant is above the strongest reductant on the E° table

3) The strongest oxidant and the strongest reductant are in separate half-cells

***Note metal reductants such as Na, Li, Ca and K react vigorously with water to produce H_2 gas. Hence these reductants should never be present in a solution.**



A student has set up the following 3 galvanic cells as shown below.

Using the E° tables predict if electrical energy, heat energy or no energy is produced in each.

If electrical energy is produced then:

- identify the anode and cathode
- direction of electron flow
- direction of cation movement
- the theoretical voltage at standard conditions
- write the oxidation and reduction half equations and overall equation.

