|  |
| --- |
| **Electrochemical Cell** |
| ΔG = - |
| K is very large |
| E = + |
| Thermodynamically favorable |
| Chemical energy is converted to electrical energy |
| Voltaic cell |
| Galvanic cell  |
| Oxidation occurs at the anode |
| Reduction occurs at the cathode |
| A spontaneous reaction produces electricity |
| The substance with the higher standard reduction potential is reduced |
| Something is oxidized and something is reduced |

|  |
| --- |
| **Electrolytic Cell** |
| ΔG = + |
| E = - |
| Not thermodynamically favorable |
| Electrical energy is converted to chemical energy |
| electrolysis |
| Oxidation occurs at the anode |
| Reduction occurs at the cathode |
| A nonspontaneous reaction is forced to happen using electricity |
| The substance with the higher standard reduction potential is oxidized |
| Something is oxidized and something is reduced |