*AP Chemistry*

*Calculating Standard Cell Potential*

* What can you use for an electrode if all the components in the half-reaction are ions or gases?
* Describe how to determine Ecell from standard reduction potentials:

You will need your [table of standard reduction potentials](https://docs.google.com/presentation/d/1fPhxS-cVjLNnAoS3aXFsDqPKa5EH-3mLpxZ8u9M6_Cw/edit?usp=sharing) and a calculator.

1. Calculate Ecell for galvanic cells constructed from the following half-cells. Write the overall cell reaction for each.
2. Mg|Mg2+, Pb|Pb2+
3. Al|Al3+, Ag|Ag+
4. I2|I-, Co|Co2+

State the relationship between Gibb’s Free energy and Ecell

State Faraday’s constant:

1. Calculate Ecell and Gibb’s free energy for each reaction.
2. 2 Ag+(aq) + H2S(g) → 2 Ag(s) + S(s) + 2 H+(aq)

Ecell: G:

* n = ?
* What material would you use as the anode?
* What material would you use as the cathode?
1. Br2(aq) + 2I-(aq) → 2 Br-(aq) + I2(s)

Ecell: G:

* n = ?
* Identify the anode:
* Identify the cathode:
1. 2 Cr3+(aq) + 3Zn → 3Zn2+(aq) + 2Cr(s)

Ecell: G:

1. A certain reaction has an Ecell of +.107V and has a ΔGo of -30.9 kJ. How many electrons are transferred in the reaction?