Balancing Redox Half-Reactions

- 1. Identify the redox couple and assign oxidation states
- **2.** Write as redn with required # of e^-
- **3.** Balance atom undergoing redox change
- **4.** Add H_2O to balance oxygen atoms
- 5. Add **H**⁺ or **OH**⁻ as required to balance the charge

Examples:

CO3²⁻/CH4

SO4²⁻/HS⁻

HOCI/CI

S2O3²⁻/S4O6²⁻

NH₃/NO₂-

 $Cr_2O_7^{2-}/Cr^{3+}$