

OX ANODE  $-1.66$

FAT RED CATHODE  $+0.13$

Salt Bridge (flows)

make more (s)  $-0.13V$

GER  $3Pb^{+2} + 2e^- \rightarrow 3Pb^0$

LEO  $2Al^0 \rightarrow 2Al^{+3} + 6e^- + 1.66V$

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$3Pb^{+2} + 2Al^0 \rightarrow 3Pb^0 + 2Al^{+3} \oplus 1.53V$

electrochemical cell = Voltaic cell

(34)  $Zn^0(s) + Ni^{+2}(aq) \rightarrow Zn^{+2}(aq) + Ni^0(s)$

OX ANODE  $\ominus$

RED CATHODE  $\oplus$

e-chem - SPONTANEOUS chemical rxn

electricity

Electrolytic cell

Not

Spontaneous →

Needs a battery or electricity to work!

GOLD PLATED Jewelry  
a few atoms in thickness

