

## Overview of Chapter 20

### Electrochemistry

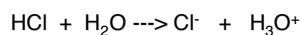
- Oxidation/Reduction (Redox) Reactions
- Electrochemical Cells
- $E^\circ$  and  $E$
- $E^\circ$  and  $\Delta G$
- $E^\circ$  and  $K$

### Topics to consider:

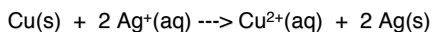
- Identify redox reactions
- Identify oxidation and reduction half-reactions
- Identify cathode and anode

## Redox reactions

### Some reactions transfer atoms:



### Redox reactions transfer electrons:



Electric current is created or used

## Terminology for Redox Reactions

- **OXIDATION**—loss of electron(s) by a species; increase in oxidation number.
- **REDUCTION**—gain of electron(s); decrease in oxidation number.
- **OXIDIZING AGENT**—electron acceptor; species is reduced.
- **REDUCING AGENT**—electron donor; species is oxidized.