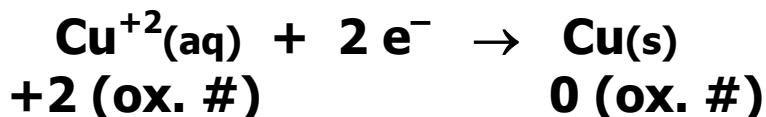
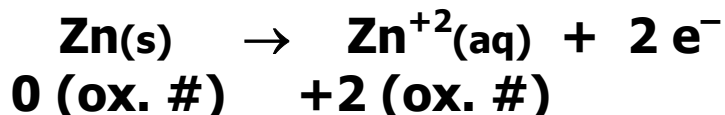


Various Reduction-Oxidation Reactions

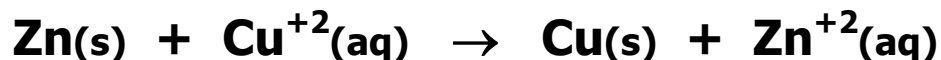
- Reduction-Oxidation (redox) reactions involve the transfer of e^- from one species to another.
- The REDUCED species gains electrons (or reduces its oxidation number).



- The OXIDIZED species loses electrons (or increases its oxidation number).



- The electrons given by the oxidized species are transferred to the species being reduced. (There is always reduction with oxidation.)



- The REDUCING AGENT is the species that causes the other species to be reduced.

Zn caused Cu^{+2} to be reduced;
Zn is reducing agent

- The OXIDIZING AGENT is the species that causes the other species to be oxidized.

Cu^{+2} caused Zn to be oxidized;
 Cu^{+2} is oxidizing agent

- The oxidation number of any element is ZERO.

Experiment

- **In each of the various redox reactions, you will identify:**
 - a) the species being oxidized**
 - b) species being reduced**
 - c) the oxidizing agent**
 - d) the reducing agent**
- **Part I examines redox reactions of metals with HCl.**
- **Part II examines redox reaction of Cu^{+2} with glucose.**
- **Part III examines redox reactions of MnO_4^- in both acidic and basic solutions.**
- **Part IV examines redox reactions of ClO^- in both acidic and basic solutions.**