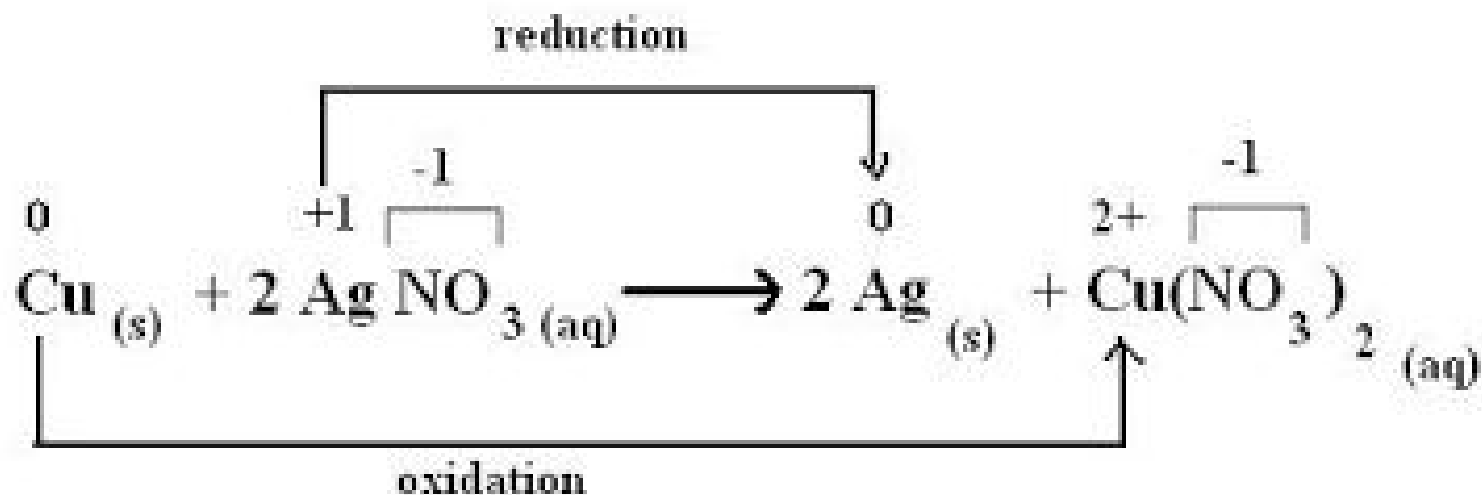


OXIDATION-REDUCTION REACTIONS

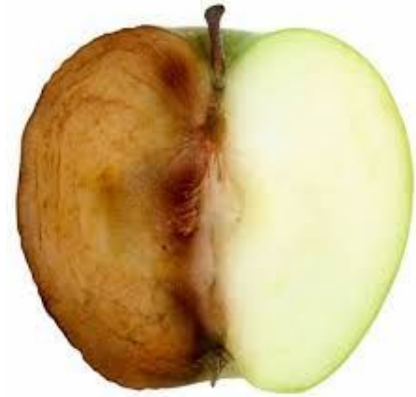


WHOA THIS CAN GET COMPLICATED ...



Let's try to break this down

OXIDIZING REACTIONS



Called a oxidation-reduction or redox reaction

Transfer of electrons between two elements

Takes place in aqueous solution (chemicals dissolved in water)

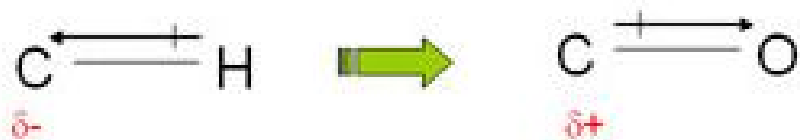
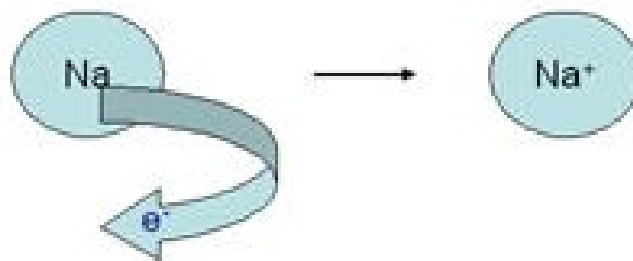
The one that donates (loses) an electron is *oxidized*

The one that gains an electron is *reduced*

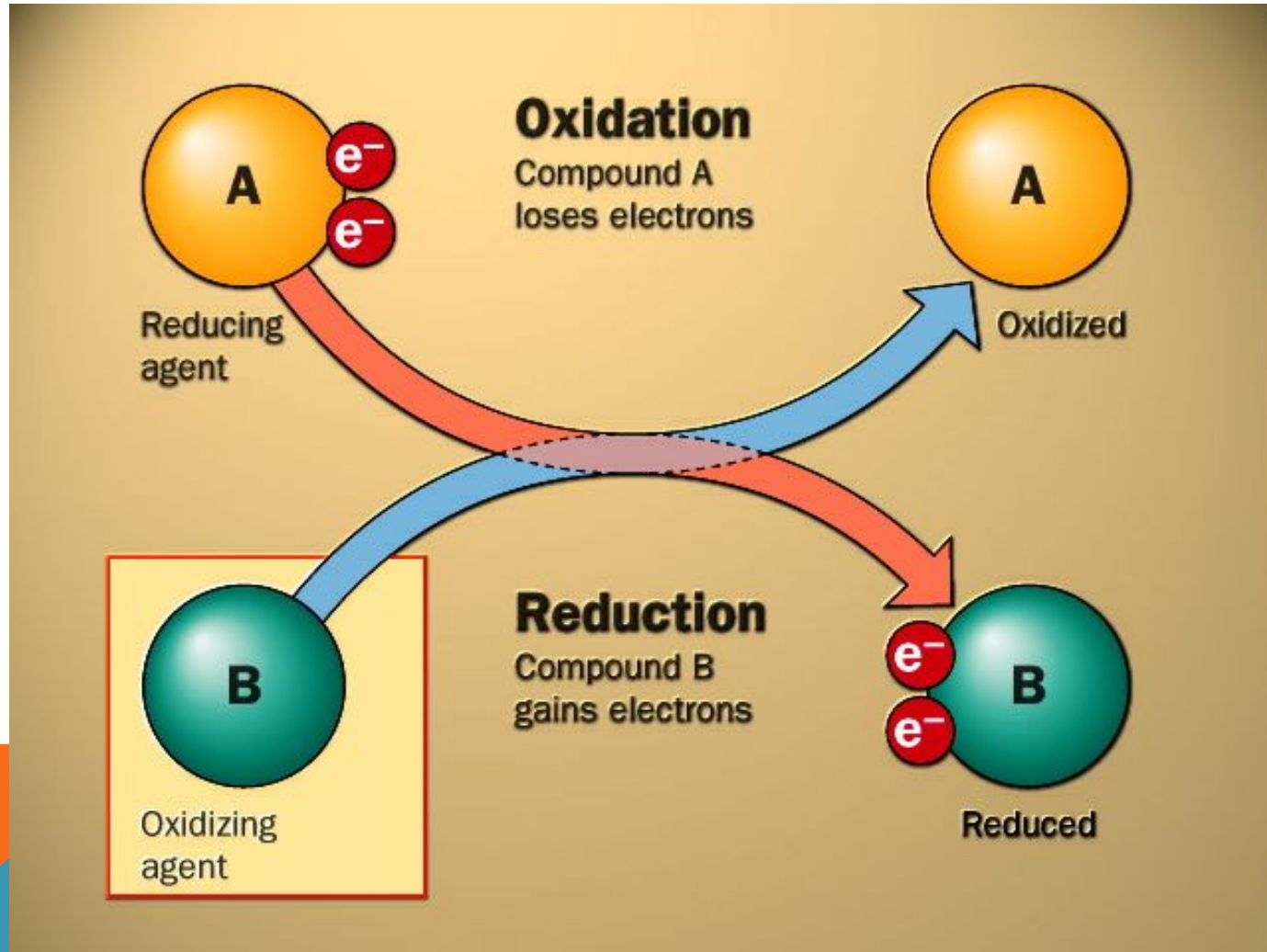
OXIDATION AND REDUCTION IMAGES

Oxidation

An atom loses electron density



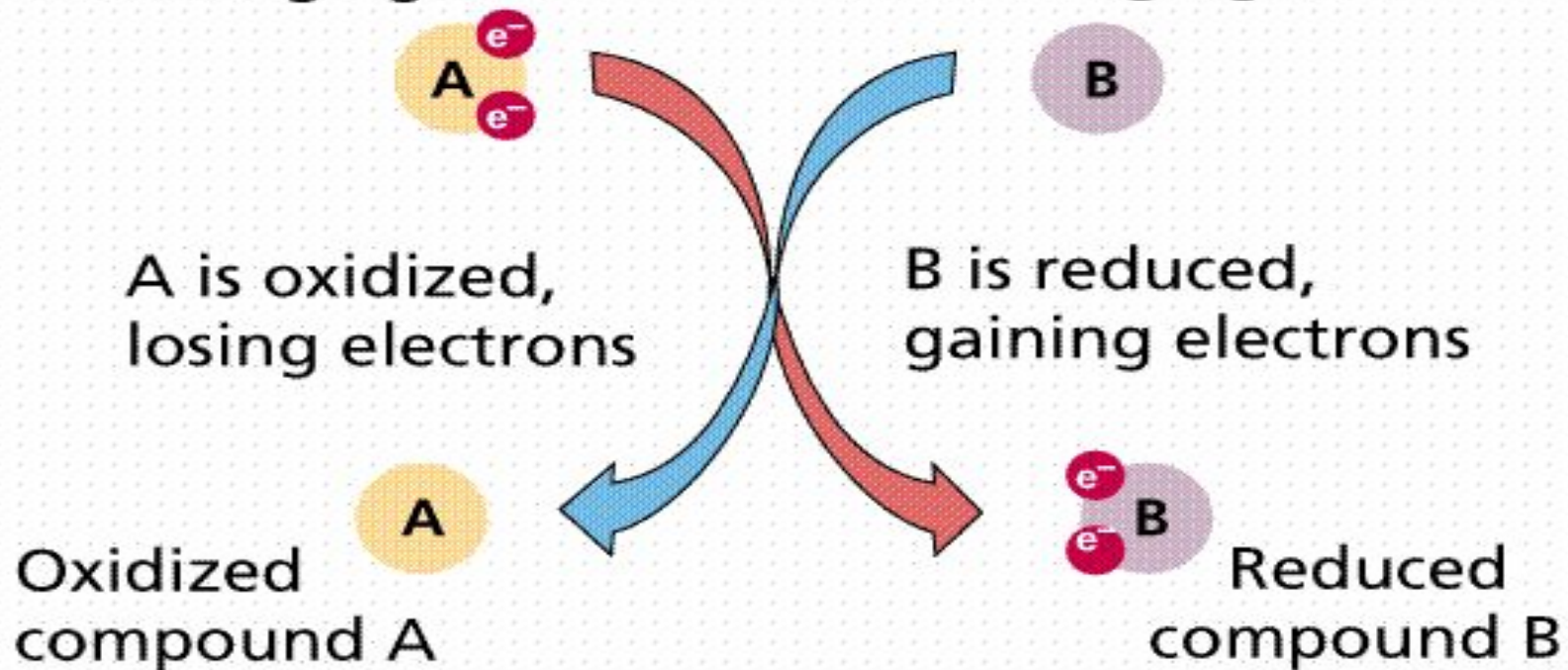
OXIDATION AND REDUCTION IMAGES



OXIDATION AND REDUCTION IMAGES

Reduced compound A
(reducing agent)

Oxidized compound B
(oxidizing agent)



IMPORTANT FACTS CONCERNING REDOX



Oxidation and reduction occur together, you can't have one without the other

No net change in the number of e^- in a redox reaction (rxn).

The ion or molecule that accepts electrons in a redox rxn is *oxidizing agent*

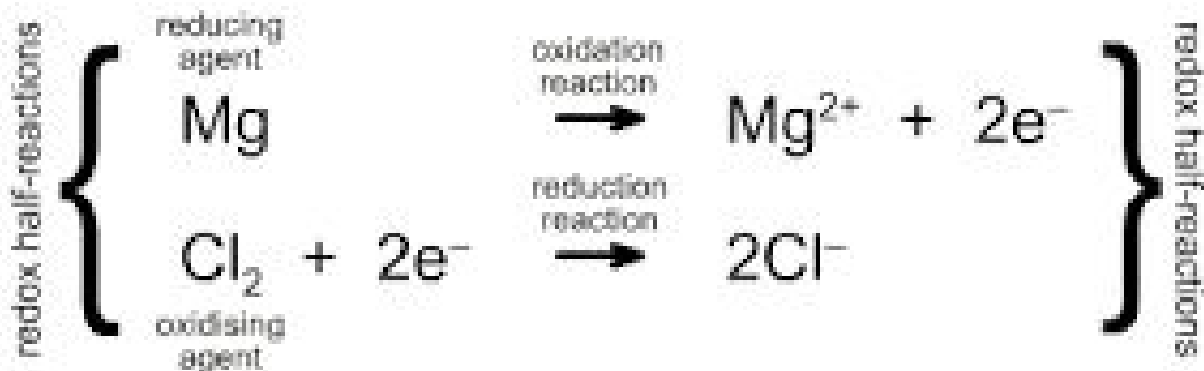
The molecule that donates electron is *reducing agent*

IDENTIFY WHAT IS GOING ON IN A REDOX REACTION

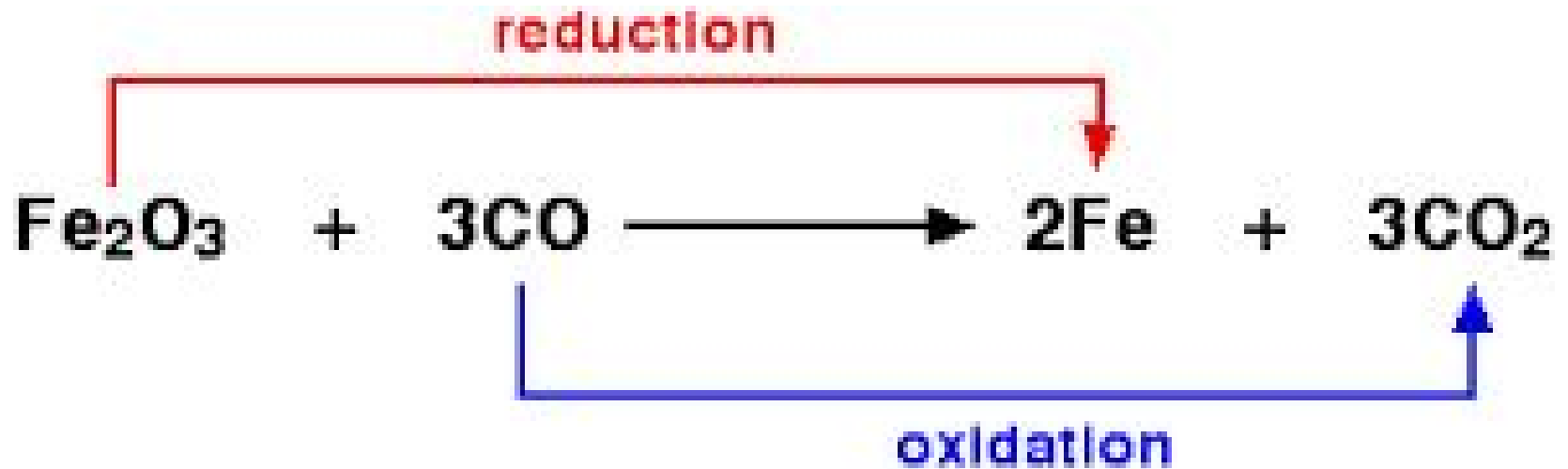
Full Reaction Equation



Ionic Reaction



IDENTIFY WHAT IS GOING ON IN A REDOX REACTION



“LEO SAYS GER” OR “OIL RIG”

Lose Electron Oxidize, Gain Electron Reduc



Oxidation Is Loss, Reduction Is Gain

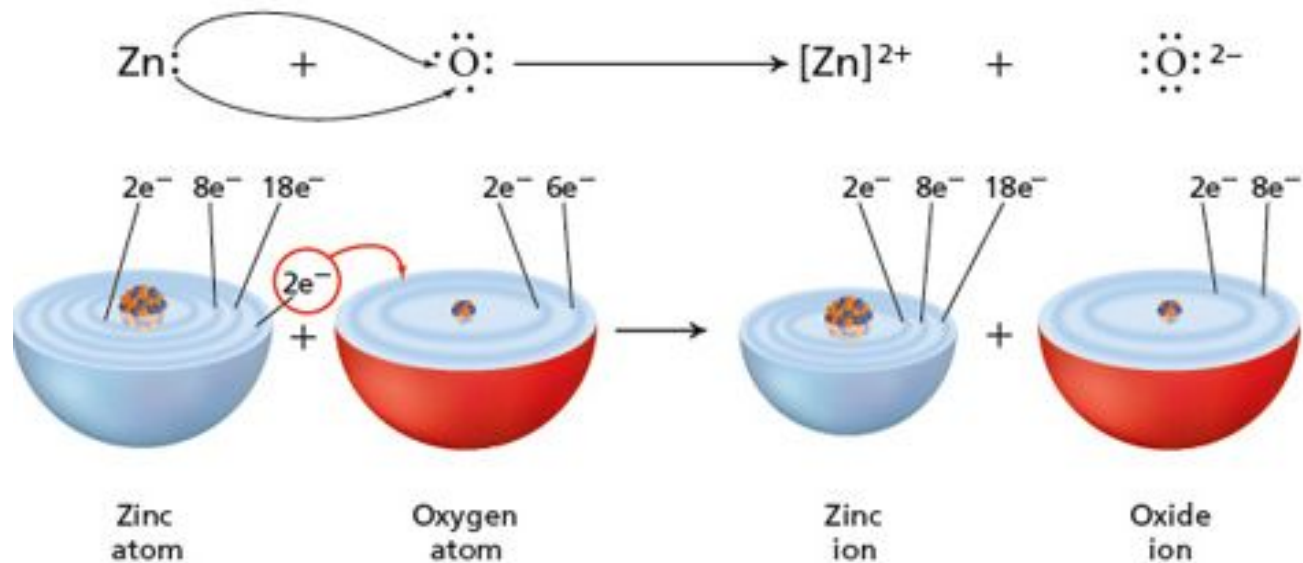


A TABLE THAT MIGHT HELP

Oxidation	Reduction
Loses electrons	Gains electrons
Ends up with net positive charge/ oxidation number	Ends up with net negative charge/ oxidation number
Oxidation number increases	Oxidation number decreases ("reduces")
LEO	GER
Reducing Agent	Oxidizing Agent

BALANCING REDOX REACTIONS

- The key - keep track of the e- electrons!!
- Zn loses 2 and O gains 2 – they should be equal and balance out



RESOURCES

<http://www.shodor.org/unchem/advanced/redox/>

<http://en.wikipedia.org/wiki/Oxidant>

<http://www.wisegeek.com/what-is-a-combustion-reaction.htm>

<http://www.iun.edu/~cpanhd/C101webnotes/chemical%20reactions/combinations.html>

[**http://artsedge.kennedy-center.org/content/3907/**](http://artsedge.kennedy-center.org/content/3907/)

