

**** Need an activity re a course topic before the end of May.**

1. Worksheet - Energy of Photons, Work Function, Etc.
Worksheet - Energy Levels
2. Test - Nuclear and Quantum Physics -> Thursday
3. Electrochemistry

Format

Part I - Short Answer

→ terms

ie/ nucleon, nuclide

→ notation etc
ie/ isotope

ie/ decay particles.

α or ${}^4_2\text{He}$

β^- or ${}^0_{-1}\text{e}$ or \bar{e}

→ formation of e^- and e^+ etc

→ write decay reactions

ie/ parent nucleus → daughter nucleus + \square

→ Planck, Einstein

→ photoelectric effect.
+ terminology

+ graph

→ energy level diagrams

Part II - Problems.

Formulas:

Nuclear Physics $\Rightarrow A, Z, N, N_0,$
 $m, T_{1/2}, \text{etc.}$

(2 worksheets)

Quantum Physics $\Rightarrow E, \phi, f_c, E_n, \text{etc.}$

(2 worksheets)

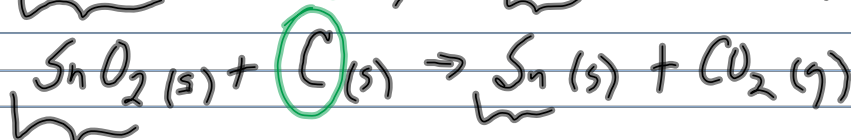
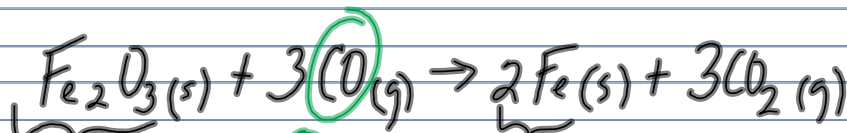
Science 122

Electrochemistry

Electrochemistry - electron transfer (reactions)
Chemical rxns.

- photosynthesis, respiration,
Combustion, metallurgy, etc

From metallurgy, the term reduction came to be associated with producing metals from their cpts. (Compounds)



→ reducing agents → cause or promote the reduction of a metal cpt to an elemental metal. **RA**

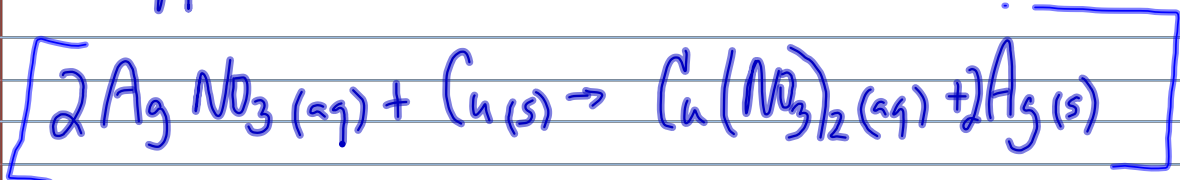
Reactions of substances with oxygen were called oxidation rxns. The term oxidation has been extended to include a wide range of combustion and corrosion reactions:



oxidizing agents → cause or promote the oxidation of a metal to produce a metal cpt. **OA**

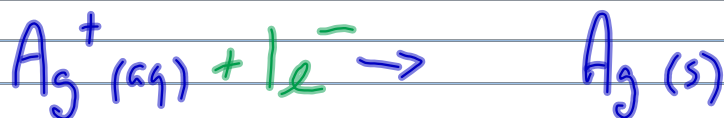
Single Replacement Reaction in Solution.

ie/ reduction of aqueous silver nitrate to silver metal in the presence of solid copper



Look at electron transfer:

→ Half-Reaction:



Gain of electrons is reduction.

Half-Reaction:



Loss of electrons is oxidation.

LEO the lion says GER! ←

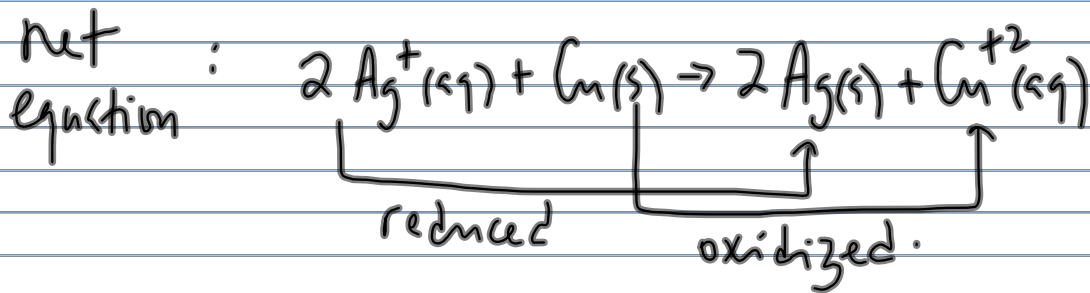
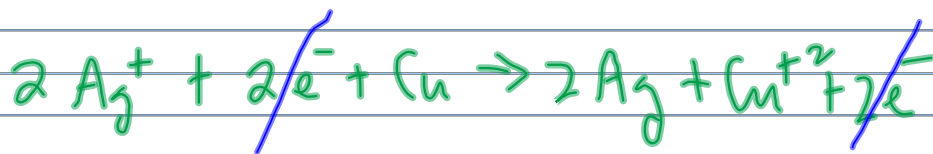
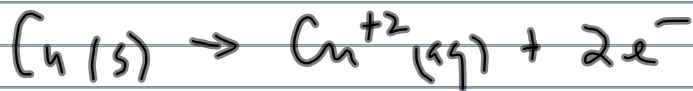
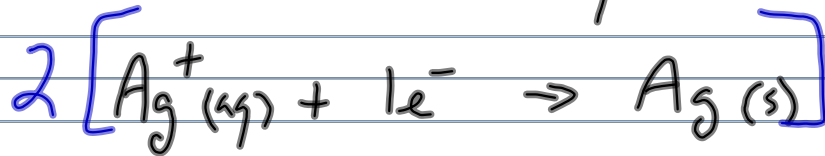
Redox Reactions

↓
reduction

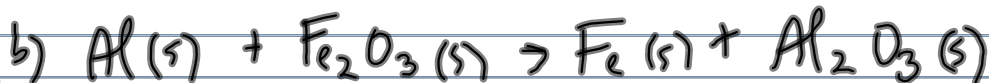
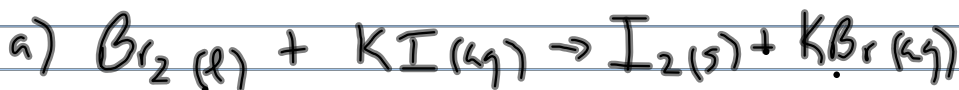
→
oxidation

} Simultaneous processes

Half-reactions can be used to determine a balanced net ionic equation.



Try: ① write the balanced half-reactions
② write the balanced net reaction



Not Balanced.