

## Mnemonic Devices for the Awesomeness that is Chemistry

LEO (Loss of Electrons Oxidation) the LION (Loss Increases Oxidation Number) says GER (Gain of Electrons is Reduction) VAN-(Voltaic (cell) Anode Negative)  
RED CAT -(Reduction happens at the cathode)  
AN OX - (Oxidation at the Anode)

Plate the Red Cat (in electroplating, the cathode, which is reduced, is the object to be plated) FAT CAT (electrons) flow Anode to CATHode

### Acids and Bases

Electrolytes- ABS (acids, bases and salts)

BAAD (bases accept H+, acids donate H+)

### Bonding

BARF – break (a bond), Absorb (energy), Release (energy), Form (a bond) SNAP - Symmetrical (molecule) Nonpolar Asymmetrical (molecule) Polar TICS -Transfer Ionic, Covalent Share  
"Hydrogen bonding is FON." My kids seem to love that one!

HONC 1234 (# of bonds for each of those elements)

### Gas Laws

PLIGHT for conditions when a gas will behave more ideally. Pressure Low Ideal Gas High Temp

PTV (Any two letters that touch are directly related, if they do not touch they are indirectly related)

STP- Standard Temperature and Pressure

### Organic

S,S,S- Single Bonds, Saturated, Substitution AMU- Addition, Multiple Bond Unsaturated Aldehydes (functional group) are on the sides! Ester luuuv perfume. They are smelly.

Ester- was the naughty girl who mixed Acid and Alcohol

### Kinetics and Equilibrium

exo, ( heat)exits released  
endo, heat enters or is absorbed

### General

CEM- Charge, Energy, and Mass. (What is conserved in a chemical reaction)

MAN

Mass ( # ) minus Atomic Number = # of Neutrons

APE

Atoms (have) = Proton # = Electron # Atoms are electrically Neutral NNAP -  
Nucleus = Neutrons and Protons

BrINClHOF (diatomic elements, nonpolar bonds) or Gen-u-one diatomic elements. All end in gen or  
ine

MAD (multiply, add, divide by 100 – average atomic mass)

SPLash (for molecular/covalent substances – soft, poor conductor, low MP/BP)

Roy Hates To Order Fries (for half life problems – Radioisotope, Half life, Total time, Original mass,  
Final mass)... if you're given 2 times, divide them... if you're given 2 masses, do arrows.

Endo – energy on left (N comes first alpha), Exo – energy on right (X comes last alpha)

Vaporization – boil, evaporate, vaporize, condense Fusion – freeze, melt, solidify, crystallize

Sublimation –  $S \rightarrow G$     Deposition –  $G \rightarrow S$

$S \rightarrow L \rightarrow G$  endo  $S \leftarrow L \leftarrow G$  exo

“mobile sea of electrons” metallic bonding

$\alpha \rightarrow \beta \rightarrow \gamma$  least to most penetrating (alpha, beta, gamma)

Fission (split), Fusion, Unite Fission – Uranium, Fusion – H or He

Heating curve – horizontal PE change, no KE change, slope KE change, no PE change