**“In Terms of” Questions of the Week**

**Week of April 21st**

1. Explain how a bright-line spectrum is produced, in terms of *subatomic particles,* *excited state, energy transitions,* and *ground state.*
2. Explain, in terms of subatomic particles, why Mg and Mg 2+ are different.
3. Explain, in terms of electron configuration, why selenium and sulfur have similar chemical properties.

* **Week of April 28th**

1. Explain, in terms of subatomic particles, why K-37 and K-42 are isotopes of potassium.
2. Explain, in terms of shells, why a Na atom has a smaller radius than a K atom.
3. Explain, in terms of subatomic particles, why the radius of a negative ion of Cl -  is bigger than an atom of Cl.

**“In Terms of” Questions of the Week**

* **Week of May 5th**

1. Explain, in terms of the composition, why sample A represents a pure substance.



1. Explain, in terms of electrons, why a nickel is a good conductor of electricity.
2. Using Table H, explain in terms of intermolecular forces, which of the four liquids evaporate rapidly.

* **Week of May 12th**

1. Given the equilibrium equation at 298 K:

KNO3(s) + 34.89 kJ +H2O <🡪K+(aq) + NO3 –(aq)

Describe, in terms of LeChatelier’s principle, why a decrease in temperature increases the concentration of H2O.

1. Describe what is happening to both the potential energy and the average kinetic energy of the molecules in the ammonia sample during time interval BC. Your response must include both potential energy and average kinetic energy.



1. Explain, in terms of light and heavy, the difference between fusion and fission.

**“In Terms of” Questions of the Week**

* **Week of May 19th**

1. Explain, in terms of collision theory, why an increase in temperature increases the rate of a chemical reaction.
2. Base your answer to the reaction below.

NaOH(s) 🡪 Na +(aq) + OH-(aq) + 44.5KJ

Explain, in terms of entropy and energy, why the reaction above is spontaneous.

1. Explain, in terms of molecular polarity, why oxygen gas has low solubility in water. Your response must include both oxygen and water.

* **Week of May 26th**

1. Explain, in terms of electrical energy, how the operation of a voltaic cell differs from the operation of an electrolytic cell used in the Hall process. Include *both* the voltaic cell and the electrolytic cell in your answer.
2. Explain, in terms of particles, why NaCl(aq) conducts electricity and NaCl(s) does not.
3. Explain, in terms of bonding, the difference between NaCl and CO2.

* **Week of June 2nd**

1. Explain, in terms of element classification, why K2O is an ionic compound.
2. Explain, in terms of electrons, why sodium chloride is considered an ionic compound.
3. Explain, in terms of charge distribution, why a molecule of carbon tetrachloride a non-polar molecule.

* **Bonus**

1. Explain, in terms of elements, why the following reaction represents transmutation.

146C --> 0-1ß + 147N

1. Explain, in terms of mass and charge the difference between an alpha particle and a beta particle.

1. Explain, in terms of *bonding*, why ethene is an unsaturated hydrocarbon.