

Videos and Practice Problems for Chem 105, 109, 110 (University of Kentucky)

**please email me at Kristen@stemwithkristen.com if there are any missing topics.

Topic	Suggested Videos	Practice
intro topics	Video: Significant Figures Video: Dimensional Analysis intro review Video: Reading the periodic table (periods, groups, metals, non metals ...) Video: Calculating Average Atomic Mass ** note that this video goes by percents, fractional abundance is just % in decimal form** Video:	Significant figures & dimensional analysis Average atomic mass
Names& Formulas of compounds	Video: Identifying whether something is ionic or covalent Name → Formula for Ionic compounds Video: Writing formulas for ionic compounds intro Video: Writing formulas for ionic compounds with transition metals Video: Writing formulas for ionic compounds with polyatomic ions Video: Writing formulas for ionic compounds practice Formula → Name for Ionic compounds Video: Naming ionic compounds intro Video: Naming ionic compounds with transition metals or polyatomic ions Formula → Naming covalent/molecular compounds Naming covalent compounds Name → Formula covalent/molecular compounds Writing Chemical Formulas For Covalent Molecular Compounds	Naming and formulas practice

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Balancing Equations	Introduction to Balancing Chemical Equations How To Balance Chemical Equations	Balancing Equations practice
EM Spectrum & E, frequency and wavelength	Video: What is Light? Maxwell and the Electromagnetic Spectrum Video: https://www.youtube.com/watch?v=DSz4ZILAnEQ Video: Speed of Light, Frequency, and Wavelength Calculations - Chemistry Practice Problems Video: The bohr model , electron transitions, atomic energy levels, Lyman and balmer series	Practice, also includes quantum numbers
Electrons	Video: Electron configurations ** understand this before doing quantum numbers** (ch 8) Video: Electron configuration of ions (ch 9) Video: Orbital Energy Diagrams Video: Quantum numbers (ch 7)	Practice
Periodic Trends Radii & electron affinity	Video: Periodic Trends (atomic radii, Ionization energy, electronegativity) Video: Ionic Radii Video: Trend: Electron Affinity	Practice #5-14
Covalent molecules: Geometry, resonance, polarity	Video: Potential energy curves of diatomic molecules Video: How to Draw lewis structures Video: Exceptions to the octet Video: How to calculate formal charge Video: Resonance Structures Video: Molecular geometry & VSEPR theory Video: Polar vs nonpolar molecules	Lewis structures, geometry and polarity Geometry, resonance, formal charge
Bonding	Video: Born Haber Cycle & Lattice Energy Video: Molecular Orbital Theory Video: Valence Bond Theory Video: Sigma & Pi bonds	Valence bond theory & Molecular orbital Theory
Gas Laws	Video: Gas Laws (1hr)	Gas Laws

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Stoichiometry	Video: Percent composition Video: Moles/Avagadros # Video: Intro to stoichiometry Video: Limiting, Excess, theoretical & percent yield Video: Empirical and Molecular formulas from % Video: Empirical and Molecular formula from mass	Stoichiometry practice Stoichiometry Practice #2 Limiting and Excess reactant practice
Solubility	Video: Electrolytes Video: solubility rules Video: Complete and net ionic equations	Solubility Practice
Thermochemistry	Video: Thermochemistry Equations & Formulas - Lecture Review & Practice Problems Video: Calorimetry Video: Bomb Calorimetry Video: Hess' Law Problems Video: Phase Change Problems	Thermo Practice Problems

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