

CURRICULUM MAP

CHEMISTRY

	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE
C O N T E N T	<p>I) MATTER</p> <p>A. Chemical and Physical changes</p> <p>B. Extensive and Intensive properties</p> <p>C. Homogeneous and heterogeneous</p> <p>D. Elements and Compounds</p> <p>II) ENERGY</p> <p>A. Types of Energy</p> <p>B. Energy Conversions</p> <p>C. Calorimetry</p>	<p>I) PHASES OF MATTER</p> <p>A) Define Characteristics solids, liquid, gas</p> <p>B) Boiling & Heating</p> <p>C) Meaning of potential & kinetic energy</p> <p>D) Energy</p> <p>E) Gas Laws</p> <p>F) Understand relationship pressure & volume of a gas</p> <p>G) Understand temperature and volume</p> <p>H) Understand STP values</p> <p>I) Combined gas Laws</p> <p>J) Dalton's Law of Partial Pressure</p> <p>K) of an ideal gas</p> <p>L) Kinetic theory of gases</p> <p>M) Heat of Vaporization</p> <p>N) Critical pressure and temperature</p>	<p>I) CHARACTERISTICS OF SOLIDS-CRYSTALS</p> <p>A) Ionic Compounds</p> <p>B) Molecular Compounds</p> <p>C) Binary Ternary CPOs</p> <p>II) MOLES</p> <p>O/O Composition</p> <p>Empirical Formula</p> <p>III) Equation writing understanding mole ratios</p> <p>IV) Types of Chemical RXNs</p> <p>V) Stoichiometry (Chapter 11)</p>	<p>I) ATOMIC STRUCTURE</p> <p>A) Law of conservation of Matter</p> <p>B) Law of Definite Properties</p> <p>C) Law of Multiple Properties</p> <p>II) Dalton & Rutherford</p> <p>A) Parts of Atom</p>	<p>I) CONTINUOUS SPECTRUM</p> <p>II) QUANTUM MECHANICS</p>	<p>I) BONDING I</p> <p>II) BONDING II</p>	<p>I) PERIODIC TABLE</p> <p>A) History</p> <p>B) Groups</p> <p>C) Periods</p> <p>D) Trends</p> <p>II) Solutions</p> <p>A) Solute and Solvent Charts</p> <p>III) Colligative Properties</p>	<p>I) KINETICS AND EQUILIBRIUM</p> <p>II) CHEMICAL EQUILIBRIUM</p> <p>III) SOLUBILITY PRODUCT EXPRESSION</p>		
S K I L L S	<p>*Solve calorimetry problems</p> <p>*Trace energy changes</p> <p>*Determine mass, volume, density</p> <p>*Determining qualitative and quantitative properties of matter</p>	<p>*Solve pressure problems</p> <p>*Manometer readings</p> <p>*Interpretation of Heating and Cooling curves</p> <p>*Solve Charles Law problems</p> <p>*Solve combined gas law problems</p> <p>*Solve partial pressure problems</p> <p>*Heat of vaporization problems</p> <p>*Heat of fusion problems</p>	<p>*Predicting formulas for ionic compounds</p> <p>*Predicting formulas for molecular compounds</p> <p>*Calculating GFM</p> <p>*Calculating the simplest formula from o/o composition</p> <p>*Calculating the simplest formula from o/o composition</p> <p>*Calculating the simplest formula empirical formula</p>	<p>*Students will determine the number of protons, neutrons, electrons</p> <p>*To be able to determine Atomic #, Atomic mass</p>	<p>*To use Planck's constant to relate energy and frequency of light</p> <p>*Describe Heisenberg Uncertainty Principle</p> <p>*To describe principle: Energy levels of an atom</p> <p>*To write electron configurations of atoms</p>	<p>*Compare and contrast ionic and covalent bonds</p> <p>*Use electronegativity to determine degree of polarity and ionic character</p> <p>*Construct Lewis dot diagrams and orbital diagrams</p> <p>*To describe the effects of hydrogen bonding and Van der Waals forces</p>	<p>*Analyze the arrangement of the Periodic Table</p> <p>*Relate each element position to its structure and properties</p> <p>*Describe the trends within the periods and groups</p> <p>*Solve Molarity problems</p> <p>*Describe the factors that affect solubility and the rate of solutions</p>	<p>*Use kinetic molecular theory to support collision theory</p> <p>*Interpret potential energy diagrams and predict the effect of stress on a system and spontaneity</p> <p>*Describe LeChatelier's Principle</p> <p>*Interpret the significance of changes in Enthalpy</p>		

			<ul style="list-style-type: none"> *Calculating o/o composition from formula mass *Balancing Equations *Classify synthesis, analysis, single & double, combustion' RXNs *To predict products of 4 types of RXNs *Calculate mass-mass mass-volume problems 				<ul style="list-style-type: none"> *Interpret solubility curves (saturated, unsaturated and supersaturated) *Define solute, solvent, dilute and concentrated *Relate freezing pt. lowering & boiling pt. elevation to the vapor pressure of solutions *describe the relationship of colligative properties to the molality and nature of the solvent *Define electrolytes and non electrolytes 	<ul style="list-style-type: none"> *Interpret the significance of changes in Enthalpy and Entropy *State the effect on RXN rates of the nature of reactants, surface area, concentration, temp, and catalyst *Distinguish between a reversible RXN that is in equilibrium and one that is not *Application of the Haber process *Derive solubility expression (Ksp) 		
A S S E S S M E N T	<ul style="list-style-type: none"> *Unit Tests *Quizzes *Labs *Homework *Class Participation 	<ul style="list-style-type: none"> *Unit Tests *Quizzes *Labs *Homework *Class Participation 	<ul style="list-style-type: none"> *Unit Tests *Quizzes *Labs *Homework *Class Participation 	<ul style="list-style-type: none"> *Unit Tests *Quizzes *Labs *Homework *Class Participation 	<ul style="list-style-type: none"> *Unit Tests *Quizzes *Labs *Homework *Class Participation *Flame Test Lab 	<ul style="list-style-type: none"> *Unit Tests *Quizzes *Labs *Homework *Class Participation 	<ul style="list-style-type: none"> *Unit Tests *Quizzes *Labs *Homework *Class Participation 	<ul style="list-style-type: none"> *Unit Tests *Quizzes *Labs *Homework *Class Participation 		