Chemistry – Course Overview 1st OUARTER: 2nd QUARTER: I. Introduction to Chemistry V. Electrons in Atoms A. Field of Chemistry A. Model of Atoms B. Scientific Method B. Electron Arrangement C. Pure and Applied Chemistry VI. Periodic Table II. Matter and Change A. Organizing & Classifying the Elements A. Properties of Matter B. Periodic Trends B. Mixtures C. Group Trends C. Elements and Compounds VII. Ionic and Metallic Bonds D. Chemical Reactions A. Ions - Bonds & Compounds III. Scientific Measurement B. Bonding in Metals A. Measurement VIII. Covalent Bonding B. Units A. Molecular Compounds C. Conversions B. Nature of Covalent Bonding C. Simple Shapes, Polar Bonds and Molecules D. Density **IV. Atomic Structure** IX. Chemical Names & Formulas A. Define "Atom" A. Naming Ions & Laws concerning formulas and names B. Names & Formulas for Ionic & Molecular Compounds B. Structure of an Atom C. Distinguish between atoms C. Names & Formulas for acids & bases BENCHMARK I BENCHMARK II 3rd OUARTER: 4th OUARTER: XIII. States of Matter X. Chemical Quantities A. Nature of Gases & Nature of Solids A. The Mole – measuring matter B. Changes of State B. Mass & Mole - Volume Relationship C. Intermolecular forces & types of attraction C. Percent Composition & Chemical Form - Mathematical XIV. Behavior of Gases Calculations A. Properties of Gases & Gas laws **XI. Chemical Reactions** B. Direct and indirect – Inverse Relationships A. Describing Chemical Reactions C. Ideal Gases B. Types of Chemical Reactions D. Gases – Mixtures & Movement – Mathematical C. Reactions in aqueous solutions Calculations XII. Stoichiometry XV. Water and Aqueous Systems A. Mole Problems only simple stoichiometry A. Water and It's Properties 1. Arithmetic of Equations B. Homogeneous & Heterogeneous Aqueous Systems 2. Chemical Calculations 1. Hydrate Compounds 3. Limiting reagent and percent yield XVI. Solutions A. Properties, Concentrations and Colligative Properties XVII. Thermochemistry A. Measuring and Expressing Enthalpy Changes B. Heat in Changes of State XVIII. Acids, Bases, Salts A. Acid – Base Theories B. Hydrogen Ions and Acidity

C. Strength of Acids and BasesD. Neutralization ReactionsE. Salts in Solutions

BENCHMARK IV

BENCHMARK III