|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Time Frame | Topic/Unit | Skills/Concepts | Major Assessments | Core Standards | Resources |
| 1st Quarter (11 weeks)  2 weeks | Properties of Matter | * Determine mass, volume and density, and trace energy changes. | Unit test, quizzes, labs homework and Class participation | 3.1dd,3.1nn,3.1q,r,s,t,u, | Lab – Observation of a chemical reaction |
| 2 weeks | Lab techniques and measurement | * Identify lab equipment and use lab equipment tools safely | Unit test, quizzes, labs homework and Class participation |  | Lab – Density determination |
| 2 weeks | Atomic structure | * Students will determine number of protons, neutrons, and electrons | Unit test, quizzes, labs homework and Class participation | 3.1a-f,3.1h-n,5.2c | Lab – ID chemical reaction |
| 1 week | Electron Configuration | * Write and interpret electron configuration | Unit test, quizzes, labs homework and Class participation |  | Lab – Law of conservation of mass |
| 2 weeks | Periodic Table trends | * Students will be able to determine atomic # and mass # | Unit test, quizzes, labs homework and Class participation | 3.1y, 3.1aa,bb,3.1g,3.1l,3.1v-z, 5.2b,5.2f,5.2h | Lab – Flame tests |
| 2 weeks | Bonding | * Analyze trends of radi, electron neg, and ionization | Unit test, quizzes, labs homework and Class participation | 5.2b,c,I,5.2a-n | Lab – Electron Arrangement |
| 2nd Quarter (9 weeks)  1 week | Naming and Formula Writing | * Nomenclature | Unit test, quizzes, labs homework and Class participation | 3.1cc,ee,3.3e,5.2g | Lab – Determining an Empirical Formula |
| 2 weeks | Types of Chemical Reactions | * Predict and identify types of reactions | Unit test, quizzes, labs homework and Class participation | 3.2b,3.3a,3.3c | Lab – Chemical changes and Reactions |
| 1 week | Conversions (g to mol) | * Solve conversion problems with factor label method/dimension analysis | Unit test, quizzes, labs homework and Class participation | 3.1cc,ee,n,3.3e,3.4e | Lab – Relating Moles to Coefficients |
| 1 week | %composition/empirical formulas | * Calculate the simplest formula from % comp data | Unit test, quizzes, labs homework and Class participation | 3.3d,3.3c | Lab – Composition of Hydrates |
| 2 weeks | Gas Laws | * Solve Boyles law and Charles law problems | Unit test, quizzes, labs homework and Class participation | 4.2b,3.1k,3.1i,4.1a,4.2a,3.3a | Lab – Boyles Law |
| 1 week | Vapor Pressure | * Solve partial pressure problems | Unit test, quizzes, labs homework and Class participation | 3.1jj,3.1kk,3.1oo,qq, | Lab – Mole Mass Relationships |
| 1 week | Solutions | * Interpret solubility curves * Solve molarity problems | Unit test, quizzes, labs homework and Class participation | 3.1oo,pp,qq, | Lab – Solubility Curves |
| 3rd Quarter (10 weeks)  1 week | Kinetics and Equilibrium | * Use kinetic molecular theory to support collision theory | Unit test, quizzes, labs homework and Class participation | 3.4a-j, 4.1c-d, 4.2b,3.1ll,mm | Lab – Reaction rates |
| 2 weeks | Heat problems | * Solve calorimetry problems | Unit test, quizzes, labs homework and Class participation | 4.2c,3.1oo,3.1pp | Lab – Heat of Crystallization of Wax |
| 1 week | Phase change diagrams | * Analyze phase change diagrams and calculate heat of fusion and heat of vaporization problems | Unit test, quizzes, labs homework and Class participation |  | Lab – Heating and Colling Curves |
| 1 week | Potential energy diagrams | * Identify parts of the potential energy diagram * Interpret the significance of changes in enthalpy and entropy | Unit test, quizzes, labs homework and Class participation |  | Lab – Percent of Copper in a Penny |
| 2 weeks | Le Chatliers principal | * Using Le Chatliers principal state the effects of pressure, concentration, and temperature on a system | Unit test, quizzes, labs homework and Class participation |  | Lab – TLC |
| 3 weeks | Acids, Bases, and Salts | * Calculate the pH * Perform titrations * Compare Arrhenius and Bronsted-Lowy’s Acid and Bases * Interpret changes on indicator colors | Unit test, quizzes, labs homework and Class participation | 3.1rr,5.2n,3.1uu,vv,ww,  yy,ss,tt,xx,zz,3.2b | Lab – pH  Lab – Titrations |
| 4th Quarter (9 weeks)  1 week | Oxidation and reduction | * Determine oxidation numbers * Write half rxns * Balance redox equations | Unit test, quizzes, labs homework and Class participation | 3.1b,3.2d-I,3.2i | Lab – Conductivity |
| 1 week | Electrochemistry | * Describe the operation on electrolytic and galvanic cells * Recognize the electric flow from salt bridge * Explain the process of electroplating * Label and identify parts of an electrochemical cell | Unit test, quizzes, labs homework and Class participation | 3.3a,3.1i,3.2j,k,l | Lab – Batteries |
| 2 weeks | Organic | * Name and diagram simple organic compounds * Identify types of organic rxns * Define and describe properties of organic compounds | Unit test, quizzes, labs homework and Class participation | 3.1ff,gg,hh,ii,5.2e,3.2c | Lab – Polymers Slime |
| 2 weeks | Nuclear | * Recognize half-life reactions and balance * Perform half-life problems * Distinguish between fusion and fission * ID uses and risks with radioisotopes | Unit test, quizzes, labs homework and Class participation | 3.1m-p,4.4d-f,4.4a-f, 5.3a-c | Lab – Simulating half-life |
| 3 weeks | Review for Regents Exam |  |  |  |  |