Honors Chemistry Pacing Guide (Syllabus) Subject to Change- Orbock Miller Fall 2025

Week	Topic	Essential Standards*	Content
1 8/18	Introduction Chem Tools/ Science Measurement	n/a	Class information-expectations, rules Measurement, significant figures, dimensional analysis, precision and accuracy, analyze scientific data, lab safety, tools, scientific method; **Safety Quiz, Intro Test**
2 8/25	Atomic Theory	1.1	Evolution of the Atomic Concept, Parts of an atom, empirical models Lab: Nucleus, developing models of knowledge; **Test: atomic parts and history** Science Fair Project - Information
3 9/1	Modern Atomic Theory	1.3	MAT History, Bohr Model, e- configuration and energy levels, more models and evidence (*progress report*); **Test e- configuration; Lewis dot diagrams**
4 9/8	Periodic Table	2.1, 2.2	Periodic Trends-groups, families, properties, atomic size, reactivity, electronegativity, and ionization energy; **Test: periodic trends**
5 9/15	Bonding and Formulas	3.1,4.3	Metallic and Ionic Bonding, Theory, Naming Compounds, Empirical and Molecular formula; **Test: Naming Compounds, Types of Bonding**
6 9/22	Covalent Bonding	3.1, 4.3	VSEPR, empirical and molecular formulas, mole concept, % composition (*end of 1st grading period*); **Test: VSEPR theory, mole concept; empirical and molecular formulas**
7 9/29	Matter and Change	3.2	Identify substances using physical properties: mp, bp, d,solubility; mixtures, pure substances; intermolecular forces; **Test: Physical and Chemical Properties of Substances**
8 10/6	Solutions, Solubility, Molarity, dilutions	6.1,6.2	Vocabulary, solubility graph, molarity, ions in solution, colligative properties; **Test: determining dilutions**
9 10/13	Acids and Bases	6.3	Properties, concentration and dilution factors, Arrhenius/Bronsted/Lowery, strong/weak acids and bases, titrations, pH and pOH; (*progress reports*) **Test: Acids and Bases**
10 10/20	Chemical Equations and Reactions	3.3, 4.2	1st and 2nd Law of Thermodynamics: Law Conservation of Matter and Entropy, formulas and equations, indication of chemical change, physical change

11 10/27	Chemical Equations & Rxns	3.3, 4.2	Balancing equations, reaction types, solubility rules, activity series, predicting products, net ionic equations; **Test**
12 11/3	Stoichiometry	4.1,4.4	Limiting reagents, mole/mole, mass/mass, gas species, reactions with solutions *(end of 2nd grading period)*
13 11/10	Stoichiometry	4.1, 4.4	Continued; **TEST**
14 11/17	Kinetics and chemical equilibrium	5.1, 5.2, 7.1,7.2,7.3	Energy Reaction Pathways, Reaction Rates, factors affecting reaction rate, forward and reverse reactions, equilibrium, Le Chatelier's expression KMT,Boyle's,(Charle's,(Gay-Lussac's, Combined Gas Law, Dalton's Law of Partial Pressure, Graham's Law
15 11/24	Gas Laws	7.1	Avogadro's Law, Ideal Gas Equation, Practice Problems; *(progress report)*;**Test** ***Thanksgiving Break*** (Final Review Packet); science fair project due
16 12/1	Heat and Calorimetry	7.1, 7.2	Heat and Temperature, energy, endo and exothermic processes, entropy (2nd law of thermodynamics) phase change factors; **Test**
17 12/8	Nuclear Chemistry	1.2	Radioactivity, decay equations, half-life, fission and fusion; **Test** Review
18 12/15	Review		Final Exam

*NC DPI Essential Standards 2024 Standards