

Pecos High School
10-12 Chemistry

1st Six Weeks Syllabus Student Expectations: Laboratory Safety, Laboratory Equipment and the Scientific Method

August 24: Students will learn proper laboratory safety and conduct, hazards and maintaining a safe environment. Students and parent or guardian must sign the laboratory safety and conduct contract and pass the laboratory safety exam. Students will learn to differentiate and will be tested on types of laboratory equipment and glassware. Students will be also be introduced to the scientific method and its use by scientists to do research.

Student Expectations: Units of measurement

August 31: Students will measure and record measurements of length, mass, temperature, volume, and density.

Student Expectations: Dimensional Analysis

September 7: Students learn conversion factors and solve problems focusing on the units used to describe matter.

Student Expectations: Accuracy vs. Precision; Representing Data

September 14: Students will evaluate measurements and describe the reliability of those measurements. Students will also analyze data represented by a variety of charts and graphs. Students will be expected to identify the different types of charts and graphs, including radioactive decay.

Student Expectations: Matter

September 21: Students will learn about the properties of matter, changes in matter, mixtures, substances.

Student Expectations: Review for 1st Six Week's Benchmark

September 28 : 1st Six Week's Benchmark this week.

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<p>2nd Six Weeks Syllabus Student Expectations: Matter October 5: Students will distinguish between elements and compounds and the organization of the elements on the periodic table.</p>
<p>Student Expectations: Atomic Theory and Structure of the Atom October 12: The student will compare and contrast atomic models. The student will also learn the structure of the nuclear atom and the location of the proton, neutron, and electron.</p>
<p>Student Expectations: Atomic Theory and Structure of the Atom October 19: The student will gain knowledge of how atoms differ and determine the identity of an atom as well as calculate the number of protons, neutrons, electrons, and isotopes.</p>
<p>Student Expectations: Electrons in Atoms October 26: The student will learn about the motion and arrangement of electrons in the energy levels of an atom. The student will also learn how to illustrate valence electron dot diagrams.</p>
<p>Student Expectations: Quantum Theory and the Atom; Electrons and Light ;Electron configurations. November 2: The student will compare the Bohr and quantum mechanical models of the atom. The student will learn about the evidence for connecting electromagnetic radiation to electron energy levels.</p>
<p>Student Expectations: Review for 2nd Six Week's Test. November 9: 2nd Six Week's Benchmark this week</p>

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<p>3rd Six Weeks Syllabus Student Expectations: Development of the Periodic Table and Periodic Law November 16: The student will trace development of the periodic table and identify key features of the periodic table.</p>
<p>Student Expectations: The Elements and their Properties November 23/30: The student will describe and compare the similarities and differences of properties of elements, as well as predict the chemical behavior of the elements based on their position on the periodic table.</p>
<p>Student Expectations: Ionic Compounds; Names and Formulas for Ionic Compounds December 7: The student will learn about chemical bond formation between positive and negative ion and account for the physical properties of an ionic compound. The student will also write formulas and be able to name an ionic compound given a formula.</p>
<p>Student Expectations: Covalent Compounds; Names and Formulas for Covalent Compounds December 14: The student will compare properties of ionic compounds versus covalent compounds. The student will also write formulas and be able to name a covalent compound given a formula.</p>
<p>Student Expectations: Polar and Nonpolar Covalent bonds January 4: The student will then be able to discuss the polar and non polar covalent bonds. Finally, by using electronegativity values, the student will be able to predict the type of compound that will form.</p>
<p>Student Expectations: Review for Semester Exam January 11: Semester Exam</p>

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<p>4th Six Weeks Syllabus Student Expectations: Chemical Equations and Balancing Chemical Equations January 19: The student will discuss evidence of chemical reactions, write and label a skeleton equation, and finally, balance chemical equations using coefficients.</p>
<p>Student Expectations: Chemical Equations and Balancing Chemical Equations (continued) January 25: The student will discuss evidence of chemical reactions, write and label a skeleton equation, and finally, balance chemical equations using coefficients.</p>
<p>Student Expectations: Types of Reactions February 1: The student will distinguish and classify among the five major types of chemical reactions. The student will also demonstrate factors that influence the rate of a reaction.</p>
<p>Student Expectations: The Mole February 8: The student will describe a mole and use conversion factors to relate a mole to common counting units. The student will calculate moles of an atom and moles of a compound and as well as calculate percent composition of a compound.</p>
<p>Student Expectations: Stoichiometry February 15: The student will identify the quantitative relationships in a balanced chemical equation and determine mole ratios from a balanced chemical equation. The student will also learn how to calculate theoretical yield and percent yield.</p>
<p>Student Expectations: Review for 4th Six Week's Benchmark February 22: 4th Six Week's Benchmark this week.</p>

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5th Six Weeks Syllabus Student Expectations: States of Matter

March 1: The student will use the kinetic molecular theory to explain the behavior of gases and will then apply the theory to the behavior of liquids and solids. The student will also be able to apply the theory to phase changes and interpret a phase diagram.

Student Expectations: Gas Laws

March 8: The student will state the Boyle's Law, Charles's Law and the Combined Gas Law and apply them to problems involving temperature, pressure, and the volume of a gas. The student will also relate the number of particles and volumes using Avogadro's Principle.

Student Expectations: Solutions, Solubility, and Factors affecting Rates of Solubility

March 22: The student will describe the characteristics of solutions and identify the various types. The student will define solubility and identify the factors that affect solubility, as well as learn the key differences between solutions, suspensions, and colloids.

Student Expectations: Acids and Bases

March 29: The student will identify the physical and chemical properties of acids and bases. The student will classify solutions as acidic, basic, or neutral and relate the strength of solution to the pH scale.

Student Expectations: Chemistry in the Environment

April 5: The student will describe the structure and composition of the Earth's atmosphere, water, and crust. The student will list the major elements in the Earth's atmosphere, water, and crust. Finally, the student will identify common chemical reactions in the atmosphere, trace the water cycle in the environment, and describe the composition of minerals in the crust.

Student Expectations: Review for 5th Six Week's Benchmark

April 12: 5th Six Week's Benchmark this week.

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6 th Six Weeks Syllabus Student Expectations: TAKS Test Review this week. April 19:
Student Expectations: TAKS Testing this week. April 26:
Student Expectations: Organic Chemistry May 3: The student will write and interpret basic structural formulas for hydrocarbons and various functional groups.
Student Expectations: Write a report over best lab May 10:
Student Expectations: Review for Semester Exams. May 17:
Student Expectations: Second Semester Exams this week. May 24: