

Xavier College Prep
AP Chemistry Summer Assignment
Summer 2021

Course Goal: Prepare students to confidently take, and successfully pass the 2022 AP Chemistry Exam.

Summer Assignment Goal: Remind students of previous chemistry work, and prepare them to 'hit the ground running'- minimizing the need to 'reteach' previously taught content. This will enable students to complete more labs, and minimizes extra homework throughout the school year. It is in a student's best interest to prepare for this course periodically throughout the summer. Summer work is due on the first class in the second week of school. All links are in the document. Contact Ms. Glenn (eglenn@xavierprep.org) with any questions.

Goal of the Fall Semester: Complete Units 1-5

Goal of the Spring Semester: Finish Units 6-9, and prepare for the AP test

Suggested Timeline for Course Preparation: Understand the Course and Review Previous Material

- 6 weeks before the start of school: Understand the Course
 - **Read the course description on the College Board's website:**
<https://apstudents.collegeboard.org/courses/ap-chemistry>
 - Look at the units we will be studying, and the order that they will progress in. Unit 1 should take a very short amount of time- we will be concentrating your review this summer in these topics specifically.
 - **Read the exam description on the College Board's website:**
<https://apcoronavirusupdates.collegeboard.org/students/taking-the-exam/chemistry>
 - Understand the length, and assessment strategies that will be used. Your in-class assessments will mirror this composition.
 - **Download and familiarize yourself with the AP Chemistry Equation Sheet and Periodic Table:**
<https://bhs.banning.k12.ca.us/documents/Webmaster/AP%20Courses/Chem%20AP%20Formula%20Sheet.pdf>
- 5 weeks before the start of school: Review Chemistry Fundamentals of Matter
 - **Understand:** Matter, the scientific method, model, theory, SI system, precision vs accuracy, significant figures, dimensional analysis, density, states of matter, mixtures
 - **Complete:** [Packet 01 Chemical Foundations](#)
- 4 weeks before the start of school: Review Atomic Properties
 - **Understand:** Structure of the atom, protons, neutrons, electrons, electron configuration, electron orbital diagrams, Aufbau principle, Hund's rule, Pauli exclusion principle, electron energy shells, electron shielding, isotopes, average atomic mass, atomic number, core electrons, valence electrons.
 - **Complete:** [Packet 02 Atoms Molecules Ions](#)
- 3 weeks before the start of school: Review the Periodic Table and Trends
 - **Understand:** Metals, nonmetals, and metalloids, alkali metals, alkaline earth metals, transition metals, lanthanides, actinides, halogens, noble gases, ionization energy, atomic and ionic radii, electron affinity, electronegativity, Coulomb's law
 - **Complete:** [Packet 02 Atoms Molecules Ions](#)
- 2 weeks before the start of school: Review Bonds and Naming
 - **Understand:** Ions, ionic bonding, polyatomic ions, naming ions and ionic compounds, covalent naming
 - **Complete:** [Packet 02 Atoms Molecules Ions](#)
- 1 week before the start of school: Review Stoichiometry
 - **Understand:** Moles, Avogadro's number, using dimensional analysis unit conversions, molar mass, molar ratios, percent abundance, empirical formula, mass percent, balancing chemical equations, limiting reactant, theoretical yield, percent yield.
 - **Complete:** [Packet 03 Stoichiometry](#)

Additional Resources

[Extra Practice Problems](#)

[Crash Course Chemistry](#)

[Professor Dave Explains](#)

[Kahn Academy](#)