

AP CHEMISTRY SUMMER ASSIGNMENT

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The two main goals of AP Chemistry are to help you develop a conceptual framework for modern chemistry and to gain a deeper appreciation of science as a process (as opposed to an accumulation of facts). Because of the rapid pace of discovery in the sciences, our primary emphasis is on developing an understanding of unifying concepts that connect the major topics of chemistry. The AP Chemistry Curriculum centers around the six Big Ideas and you will need to not only know these but also understand how they all relate:

- Big Idea 1: The chemical elements are fundamental building materials of matter, and all matter can be understood in terms of arrangements of atoms. These atoms retain their identity in chemical reactions.
- Big Idea 2: Chemical and physical properties of materials can be explained by the structure and the arrangement of atoms, ions, or molecules and the forces between them
- Big Idea 3: Changes in matter involve the rearrangement and/or reorganization of atoms and/or the transfer of electrons
- Big Idea 4: Rates of chemical reactions are determined by details of the molecular collisions.
- Big Idea 5: the laws of thermodynamics describe the essential role of energy and explain and predict the direction of changes in matter.
- Big Idea 6: Any bond or intermolecular attraction that can be formed can be broken. These two processes are in a dynamic competition, sensitive to initial conditions and external perturbations.

What to do before the first day of school:

- Purchase a copy of Barron's AP Chemistry. **It must be the NEWEST edition.** The 8th edition is currently available on Amazon for \$11.69 which is the cheapest I have found it to be.
- AP Chemistry was designed by a select group of college professors and high school science teachers to be equivalent to an **introductory college chemistry course**. Visit the below College Board site to explore what an AP Chemistry course is like: <https://apstudent.collegeboard.org/apcourse/ap-chemistry>
- We have a small problem in AP Chemistry. Each year new advances in science are discovered but the length of the school year (and when the test occurs) stays the same. What does this mean? We are short on time. In order to cover ALL of the material, you are responsible for reviewing the first section of our book on your own. Here is what you are to do:
 - **JOIN THE CK-12 Class- this allows me to track your progress over the summer and even provide help when necessary. Follow the steps below to join.**
 1. Go to www.ck12.org
 2. Click Join to create an account, or Sign In.
 3. Click Groups.
 4. Click Join a Group.
 5. Enter code: **biomu**
 - **Complete the Summer Assignment on CK-12**
 - Use all of the content provided on the site to help you with this as well as any online resources. We will be having a test on these concepts and practices the 2nd week of school so make sure you have mastered this content.