



George Washington Carver Engineering and Science High School 2019 Summer Enrichment

AP CHEMISTRY

Project Due Date: September 3rd (first day of school)

Project Requirements: Binder (1" suggested) containing Outline followed by chapter questions (for each chapter);
Internet (so you can log into the Google Classroom)

You are expected to familiarize yourself with the content within the first three chapters of the Zumdahl 9th Edition Chemistry text (all of chapters 1 – 3). Additionally, you will be assessed on your knowledge of these chapters through a quiz in the first week of the new school year. We will hit the ground running in September, so come prepared!!!

You must complete the following four tasks:

1. Register for the Google Class site for AP Chemistry: **CODE: tpznow**
(you must be logged into your school district email)
2. Download the electronic textbook for the course (under the “about” section)
3. **Read, outline, and familiarize yourself with the content in the first three chapters.** A brief checklist of topics falls on the next page for you. You can outline in any fashion that you wish. I will post some sample outlines on the Google Classroom page for reference. This should go directly into your binder. After each chapter you outline, complete the end-of-chapter questions for each chapter located at the bottom of this page. **These should come after the outline of each specific chapter. Questions are expected to be completed neatly and in numerical order. You must write each question followed by the answer. Be sure to show all work – no work means no credit!!! If you get stuck on a question, leave space for it and leave it blank!**
4. Make sure to watch the posted lesson videos and complete the online practice quizzes posted on the AP Chemistry Google Classroom Site. I will continuously update the classroom page over the summer, topic by topic. If you ever have any trouble with any of the topics, you can post a question onto the classroom or email me! FYI: this course will move fast and will be taught with lesson videos to watch consistently. Be sure to watch them and note-take what you see. The more organized you are at the start of the year, the better you'll be throughout!

End of Chapter Questions to Complete – Write each question, followed by the answer. Show all work!

Chapter 1 – starting on page 33

#'s: 29, 30, 33, 37, 39, 40, 45, 63, 67, 79, 111, 118

Chapter 2 – starting on page 72

#'s: 57, 61, 67, 71, 72, 73, 74, 83, 84, 111

Chapter 3 – starting on page 126

#'s: 37, 44, 49, 65, 67, 71, 79, 83, 99, 100, 101, 102, 105, 107, 119, 123

**ANY QUESTIONS, EMAIL MR. WAGENHOFFER: paul.wagenhoffer@gmail.com
or: pwagenhoffer@philasd.org**

AP Chemistry – Summer Topic Checklist

As you complete the outlines and assigned questions, go through the following checklists and check off how confident you are in the material. Use the following rubric for your checklist (so you can see which content gave you the most trouble over the summer!):

- ✓+ = I am very confident in this content and need very little review on this material
- ✓ = I have confidence in this content, but I would like some review on this material
- ✓- = I am not confident in this content and I need review on this material

Chapter I: Chemical Foundations

- Atoms, Molecules, Compounds
- Metric Units of Measure
- Uncertainty, Accuracy, Precision
- Significant Figures and Calculations
- Dimensional Analysis and Unit Conversion
- Temperature Scales (°F; °C; °K)
- Density
- Classification of Matter

Chapter II: Atoms, Molecules, and Ions

- Law of Conservation of Mass, Definite Proportions, Multiple Proportions
- Dalton's Atomic Theory
- Early Experiments of Atomic Structure (proton, neutron, electron)
- Basic Atomic Structure
- Basic Atomic Symbols
- Molecules, Ions, and Isotopes
- Introduction to the Periodic Table
- Chemical Nomenclature (chemical naming --- binary ionic, covalent, polyatomic, acids/bases)
- Writing Chemical formulas

Chapter III: Stoichiometry

- Average atomic masses
- Molar Mass (aka Formula Weight)
- The Mole
- Mole Conversions (grams to moles; atoms to moles)
- Avogadro's Number
- Problem Solving
- Percent composition (mass percent)
- Empirical and Molecular Formulas
- Balancing Chemical Reactions
- Mole Ratios
- Stoichiometry
- Limiting Reactants
- Percent Error and Percent Yield