AP Chemistry Summer Work 2022-2023

Welcome to Advanced Placement Chemistry! This school year, you will be challenged to complete a rigorous college-level course in general chemistry. This summer assignment is meant to help you hone and retain some of the skills you have already learned in honors chemistry and physical science, and also to cover some basic material that is not tested on the AP test but is important to be familiar with. Due to COVID-19, we did not get through all of the topics we needed in Honors Chemistry, so we will have little time to review this year. This course will move quickly and is of a cumulative nature. I urge you to ask for help as soon as you need it so that you don't fall behind. A course schedule will be provided on the first day of classes- and we will stick closely to it.

<table>
<tr><th>Assignment</th><th>Comments</th></tr>
<tr><td colspan="2"><u>Part 1- Google Classroom/ Email (10 points)</u></td></tr>
<tr><td>★ Join Google Classroom: fxso3o2
★ E-mail me with the following information
○ Subject line: AP Chemistry 2022-2023
○ Brief Introduction
■ Name
■ Interests (academic and personal)
■ Employment
■ career/ college aspirations
■ Why you are taking AP Chemistry
○ What you think I need to know to help you be successful in this course.
■ What worked/ didn't work for you last year in terms of chemistry or my teaching style
■ How do you learn best? (Hands-on, lecture/note-taking, discussion, videos, reading notes or the textbook, practice problems, etc...)
■ Strengths and weaknesses when it comes to math and problem solving
■ Anything else that I didn't list but you want to tell me or think would be helpful for me to know</td><td>I know that we already know each other, but some things may have changed since last year :)

Also- you have some ideas of what type of lessons work better for you (and what doesn't work at all!)- so please share that information!

The more honest you are- the better I can plan and make the year work for you guys.</td></tr>
<tr><td colspan="2"><u>Part 2- Required Materials (10 points)</u>
★ Textbook
○ Tro, Nivaldo J. (2017) Chemistry: A Molecular Approach (4th ed.). Boston:Pearson. ISBN 10: 0-13-411283-0 ISBN 13: 978-0-13-411283-1
★ Safety Goggles- must be chemical splash resistant, I suggest getting anti-fog. Below are links to two decent options.
○ 3M (amazon link)
○ UVEX (amazon link)
★ Scientific Calculator- must be able to do exponents, logarithms. Most students get a TI-83 or 84
○ College Board Calculator Policy link
★ Notebook with folder or binder with loose leaf paper
★ Colored pencils/ pens- for drawing particle diagrams</td></tr>
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Part 3- Bookwork (30 points)

★ "Actively read" the selected passages by **working the examples given** as you read.
- Reading a science text is not the same as reading fiction. It is more of a "workbook" than a "reading book". This means that it is difficult to get the most out of a science or math text by just staring at the page without writing anything.
- A good use of your time is to: sit alone in a quiet room with your phone off, take out a separate sheet of paper, and work through the examples that are shown while making sure to check your work as you go along.
- As you read the actual text, after each paragraph, ask yourself "What was the point of this paragraph?" If you don't know, you probably weren't really comprehending or focusing while you were reading.
- While not required, it may be helpful to write down bolded vocabulary words along with definitions and examples (as you have seen last year- chemistry is a very vocabulary rich subject).

★ **If you are unsure as to whether you are doing the problem correctly**, notice that many of the even numbered problems have analogous odd-numbered problems with answers in the back of the book. Try these so that you can check your answer in the back of the book (Appendix IV)

★ Make sure that your work is as **legible and organized** as possible.
- Show all work/calculations (including appropriate units).
- Make sure you have plenty of space for each problem (½ page each?).
- Try to express each answer with appropriate significant figures- give 3 if you are not sure (see Ch. 1).

★ Chapter 1: Matter, Measurement, and Problem Solving (Optional but recommended) ○ Actively read and work through all examples on pages 22-24 ○ Problems starting on page 39: # 77, 78, 81-84	Want to check your understanding? Here is my Answer Key. This isn't just about the right answers- this is about your understanding :). Take the time to make sure you remember/ understand these topics. We will not have time for review once school starts.
★ Chapter 2: Atoms and Elements (Optional but recommended) ○ Actively read and work through all examples on pages 65-75 ○ Problems starting on page 80: # 76-78, 83, 84, 88, 89	Answer Key
★ Adrian Dingle's Unit 0: AP Chemistry Preamble (**Mandatory**) ○ Link to packet ○ Complete all tasks on a separate sheet of paper (NOT IN THE PACKET) ★ Math Packet (**Mandatory**) ○ Link to packet ○ Read and work through each problem- you can do the work in the packet or on a separate sheet.	Answer Key Answer Key

Part 4- Unforgettables (30 points)

Chemistry is not about memorization, but there are some formulae, etc. that you just need to know. I suggest you make flashcards or one-pager review sheets. There will be a quiz on these "unforgettables" on the **first day of school**.

★ Unforgettables ○ Strong acids/bases ○ Diatomic gases ○ Polyatomic ions ○ Common ions ★ Molecular Geometry ○ VSEPR shapes ○ Bond Angles ○ Polarity ○ Hybridization ★ SI Unit System ○ Common Units ○ Metric Prefixes	Click on the links or look at the reference materials posted in google classroom for these materials. They have also been printed for you. Also- the periodic table used for AP chem does not include the names of elements, so I suggest being able to recognize and match the names and symbols for at least the first 50.

Due Dates

- E-mail due date: First day of school
- Packets (Unit 0 and Math) due date: First day of school
- Materials due date: First day of School
- Quiz on "unforgettables": First day of school
- Summer Work Test: Within 1 week of the start of school

I understand that while my work will be graded based on effort, I will be held responsible for mastery of the material. I will take a test on this material within the first week of school. I understand that this summer assignment should be completed by the first day of class.

Student name:_____ Signature:_____ Date: _____