

# *AP Chem.is.try Summer Assignment* **Winthrop High School**

Dear future AP Chem.is.try students,

Welcome to AP chemistry! I am excited to meet all of you and begin our studies together. AP chemistry is a college level course that will require your commitment and hard work. I recognize the value of time spent with your family and loved ones. Summer vacation is the optimal time to relax, rejuvenate and re-connect to your passions. This AP chemistry summer assignment is meant to foster and encourage your learning while strengthening your skills to get us off on the right foot in September. The assignment is broken into pieces to make it easier for you. You can complete it as it works for you to meet the deadlines outlined below.

Please email me with any questions you have. Enjoy your summer and see you in September!

Mrs. Daigneault (Dane-yo)

(A copy of this assignment can be found on my website)

## **Timeline**

### June

1. Confirm your email with Mrs. Daigneault.  
Send an email to [winthropvikings9@gmail.com](mailto:winthropvikings9@gmail.com) with your name in the subject line. Include in the email some of the following information so we can get to know each other.
  - I learn best when teachers...
  - I am most excited to .... this summer
  - My favorite memory from last year is...
  - I am most proud of ...
  - When I am struggling with a subject I ...
  - Something I would like to know about my new chemistry teacher is...
2. Set up your engrade account.  
Once I have your email I will send you an email invitation to join our class on an online grading program called engrade. This is where you will have access to your assignments as well as the ability to upload the assignments as they become due.
3. Obtain a Masterton and Hurley Chemistry: Principles and Reactions 5<sup>th</sup> Edition book from Mrs. Daigneault so that you may complete your summer assignments.
4. Begin Summer Assignment #1 (Due Tuesday, July 12<sup>th</sup>)

### July

1. Date: Tuesday, July 12<sup>th</sup>—Summer Assignment #1 is due by midnight. (email to [winthropvikings9@gmail.com](mailto:winthropvikings9@gmail.com) )\*
1. Begin Summer Assignment #2 (Due Tuesday, August 9<sup>th</sup>)

### August

2. Date: Tuesday, August 9<sup>th</sup>—Summer Assignment #2 is due by midnight
3. Begin Summer Assignment #3 (Due Tuesday, August 30<sup>th</sup>)
4. Gather the necessary materials for class (**Bold = required**)
  - a. **A laboratory notebook for your laboratory work.** The book is a lab notebook with 50 pages, bound and in duplicate. The following is a link to an example.  
[http://www.barnesandnoble.com/w/chemistry-student-lab-notebook-hayden-mcneil/1025599845?ean=9781429224529&st=PLA&sid=BNB\\_DRS\\_Core+Shopping+Professional\\_00000000&2sid=Google\\_&sourceId=PLGoP3819&k\\_clickid=3x3819](http://www.barnesandnoble.com/w/chemistry-student-lab-notebook-hayden-mcneil/1025599845?ean=9781429224529&st=PLA&sid=BNB_DRS_Core+Shopping+Professional_00000000&2sid=Google_&sourceId=PLGoP3819&k_clickid=3x3819)

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- b. **The Princeton Review AP Chemistry Exam Prep Workbook "Cracking the AP Chemistry Exam, 2017 Edition" ISBN-13: 978-1101919873**
- Note that this is REQUIRED and can be purchased from Amazon for <\$20.
  - It will be released August 2<sup>nd</sup> you can pre order on Amazon
  - Past AP students have found this to be an EXTREMELY helpful resource. Make sure that you get it!
- c. AP Chemistry Book *Chemistry* by Zumdahl and Zumdahl, 6<sup>th</sup> ed., Houghton Mifflin Company, 2003 ISBN: 0-618-26505-8 (Advanced Placement Edition)
- Available through Amazon.
  - This is an optional purchase, however it is recommended if you plan on taking any chemistry courses in college because it will serve as a great resource. If you elect not to purchase the book, one will be provided for you in the fall.
- d. AP Chemistry Solutions Manual for *Chemistry* by Zumdahl and Zumdahl for the 6<sup>th</sup> edition. (Optional)

### e. School supplies

Several red, blue, black and green pens	Sharpie – fine point and regular
Pencils	Scientific calculator
Highlighters	Post it note tags in multiple colors
5 subject expandable folder	Post it notes 73mm x 73mm
2 pocket homework folder	Bound composition notebook

5. Date: Tuesday, August 25<sup>th</sup>—Summer Assignment #3 is due by midnight (email to [wintrhopvikings9@gmail.com](mailto:wintrhopvikings9@gmail.com) )\*

### September

- School begins
- First exam will be within the first three weeks of school and will cover the summer review topics (plus some additional stuff!)

\*Note: This is AP Chemistry so late assignments will NOT be accepted. If you will be away on the due date, then plan accordingly submit your assignment early. Each assignment will count as a homework AND a quiz grade so make sure it all gets done so you can start the school year off on the right foot!

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## AP Chemistry Summer Work 2016

Summer work will be submitted through your engrade account. You will be required to complete all of your work in your reading journal, scan the pages and upload them into the assignment. If you have technical difficulties please email me at [winthropvikings9@gmail.com](mailto:winthropvikings9@gmail.com) to make alternative plans.

The following is a summary of the structure of your reading journal:

- **On the right page** you will complete notes for the given reading assignments. Notes must include:
  - Proper Labels
  - Bullets of the most important points/ topics in the section
  - Examples from the reading
  - Summary of the main idea in the reading section. This can be in the form of a paragraph or graphic organizer.
- **On the left page** you will complete all practice problems related to the reading notes on the right page. Please check your answers to the blue problems in the back of the text as you go along.
- **On the left page** you will be required to check the answer key on my website and make corrections in red ink for the previous assignment. (This means the corrections for assignment 1 will be posted after the due date and will be due by the assignment 2 due date.)

Here are some tips on getting the most out of this important work:

- Do NOT cram the summer assignment into one day - spread it out!
- Do NOT stress about "getting the right answers" – I will give you the key for the correct answers, understanding your mistakes is an important part of your learning.
- Do NOT copy each others' answers - this is summer review for YOU, only YOU will be taking the AP Chemistry Exam on May 1st, 2017. It is for your benefit that you try these problems on your own, and ask your friends and peers for help, without copying their work.
- DO access all available resources - the textbook, the internet, other AP Chemistry classmates - ask each other questions, look up information, I expect ACTIVE learning, not passive memorization. See below for some great resources. I will also post these on my website for you to review.
- DO try every problem - even if you are not sure of the answer, putting down a partial thought process will show us how you are thinking - this is important.
- DO help each other out - you are all in AP Chemistry together, and the best support you will have is each other. Get to know your AP Chemistry classmates. You can start discussions on your engrade class or meet up over the summer.

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2016-2017 AP Chemistry Summer Assignment #1

Measurements and Atomic Theory

Due: Tuesday, July 12<sup>th</sup> by midnight

<b>Topic</b>	<b>Reading Journal Right side</b>	<b>Practice Problems Left Side</b>
1.1 Types of Matter	Pg. 3-7	Pg. 21 # 1, 7, 9
1.2 Measurement/ Significant Figures/ Unit Conversions	Pg. 8-14	Pg. 21 # 11, 13, 23, 31, 49, 59
1.3 Properties of Substances	Pg. 15-17 (not solubility)	Pg. 21 # 55, 56, 63b+c, 64a+b
2.1 Atoms and Atomic History 2.2 Components of the Atom	Pg. 27-32	Pg. 47 # 3, 5-7, 15, 49, 50, 52
2.3 Introduction to the Periodic Table	Pg. 33-35 (not molecules and ions)	Pg. 47 # 21, 25, 26, 44

2016-2017 AP Chemistry Summer Assignment #2

Quantum Theory and Chemical Nomenclature

Due: Tuesday, August 9<sup>th</sup> by midnight

<b>Topic</b>	<b>Reading Journal Right side</b>	<b>Practice Problems Left Side</b>
6.1 Light, Photon Energies and Atomic Spectra	Pg. 131-134 (not hydrogen atom)	Pg. 157 # 1, 4
6.4 Atomic Orbitals; Shapes and Sizes 6.5 Electron Configurations 6.6 Orbital Diagrams	Pg. 141-148	Pg. 157 # 23, 24, 29a+b, 30a+b, 39, 42, 45
6.7 Electron Arrangements in Monatomic Ions	Pg. 148-150	Pg. 159 # 49a+b, 50a+b
6.8 Periodic Trends in the properties of Atoms	Pg. 150-154	Pg. 159 # 53, 57a+b, 58a+b, 59, 60, 64
2.4 Molecules and Ions 2.5 Formulas of Ionic Compounds 2.6 Names of Compounds	Pg. 35-44	Pg. 48 # 29a-c, 30a-c, 31, 32, 35a-c, 36a-c, 37a-c, 38a-c, 40

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2016-2017 AP Chemistry Summer Assignment #3

**Chemical Bonding and Stoichiometry**

Due: Tuesday, August 30<sup>th</sup> by midnight

<b>Topic</b>	<b>Reading Journal Right side</b>	<b>Practice Problems Left Side</b>
7.1 Covalent Bonding, Lewis Structures; the Octet Rule	Pg. 163-168	Pg. 190 # 1a-c, 3b+d, 4c, 5a+b, 7, 22a
7.2 Molecular Geometry	Pg. 173-180	Pg. 191 # 33b-d, 38
7.3 Polarity of Molecules	Pg.180-183	Pg. 191 # 45b-d
3.1 Atomic Masses 3.2 The Mole	Pg. 53-58	Pg. 70-71 # 3, 13, 15, 19, 25
3.4 Mass Relations in Chemical Formulas	Pg. 58-61	Pg. 71-72 # 28, 32, 35, 44
3.4 Mass Relations in Reactions	Pg. 61-67	Pg. 72-74 # 51, 55, 66, 68, 70, 81

**Recommended Online Quizzes for Significant Figures:**

[https://www.khanacademy.org/math/arithmetric/decimals/significant\\_figures\\_tutorial/e/significant\\_figures\\_1](https://www.khanacademy.org/math/arithmetric/decimals/significant_figures_tutorial/e/significant_figures_1)

<http://ths.sps.lane.edu/chemweb/unit1/problems/significantfigures/>

<http://www.chemistrywithmsdana.org/wp-content/uploads/2012/07/SigFig.html>

**Additional Resources:**

College Board AP Chemistry Website:

<https://apstudent.collegeboard.org/apcourse/ap-chemistry>

About the AP Chemistry Exam:

<https://apstudent.collegeboard.org/apcourse/ap-chemistry/about-the-exam>

General First Year Chemistry Review:

<http://www.sciencegeek.net/APchemistry/APtaters/directory.shtml>