

**Suffolk Public Schools
AP Chemistry
Lakeland High School
Nansemond River High School
Summer Assignment 2017**

This year, students' readiness for AP Chemistry will be assessed using four tests administered on Fridays of the first four weeks of school. The focus of the assessments includes Chapters 1-3 and 5 of the textbook. A copy of the Zumdahl textbook will be issued to the students prior to summer break. **STUDENTS WHO DO NOT PASS THE ASSESSMENTS WILL BE REQUIRED TO ATTEND TUTORIALS AFTER SCHOOL TO IMPROVE BASIC SKILLS NEEDED TO INSURE YOUR SUCCESS IN THE CLASS.** The bottom line is, in order to avoid tutorials and come ready to learn to the pace REQUIRED for AP CHEMISTRY, you must PREPARE by reviewing basic chemical principles.

Recognizing that you need a break from school, you should take one! I only caution you that you may have difficulty preparing yourself adequately if you wait until the last minute to begin working on problems and reviewing material. Listed below is a proposed schedule for you, so that you can review what you must know when you walk into class in September. I highly recommend that you have a "study buddy" as this will help you to stick to a regiment this summer which will result in your **SUCCESS!**

Suggested websites:

http://apcentral.collegeboard.com/apc/public/courses/teacher_corner/2119.html
<http://www.khanacademy.org/> (look for selected topics for help)

Suggested summer work is outlined below from the 6th Edition of the Zumdahl text which you will be issued in the summer. Please do not lose this book. Bring it with you for your first day of class.

Chapter 1 - Chemical Foundations - Practice with Problems 18, 20, 22, 24, 26, 34, 53, 72, 74 at the end of the chapter.

The material in Chapter 1 deals with the scientific method, measurement, sig figs, exponential notation, dimensional analysis, and matter. This information is not new (possibly excluding the treatment of sig figs for addition and subtraction operations) and is REVIEW! Reading Chapter 1 will help you get acclimated to a college text. This chapter is the most straightforward and least technical of the seventeen or so chapters we will visit in AP Chemistry. Please read Chapter 1 as a way to familiarize yourself with your text and its organization. This will help you in future assignments and give a good basis for the foundations of chemistry.

As an aside, each chapter has an outstanding review section that encapsulates the chapter concepts and includes key terms. As a bare minimum, for each chapter make sure that you are

comfortable with the material outlined in the review section. This means that you need to be able to apply your knowledge to solve problems listed at the end of the chapter. Notice that for the odd numbered problems, the answers can be found in the back of the book. This is a great resource and we will be relying on checking for understanding using odd problems throughout the year.

Chapter 2 - Atoms, Molecules, and Ions - Practice with Problems 8, 26, 39, 47, 51, 53, 56, 72 at the end of the chapter.

The materials in Chapter 2 gives you an overview of the basics of the history and development of the model for modern atomic structure, and introduction to the periodic table, basics on covalent and ionic bonding, and nomenclature for both types of compounds. You have mastered this material in General and Honors Chemistry, but as in Chapter 1 you will need to apply a somewhat more sophisticated approach to solving the problems. Read Chapter 2 as necessary. At a minimum, read the review section and be sure that you can define the key terms. Know what each scientist contributed to the development of the atomic model. In addition, you all need to know at a minimum six of the polyatomic ions (nitrate, sulfate, phosphate, acetate, hydroxide, and ammonium ions). I want you to add to your list of “well known” polyatomic ions (page 65). Please learn the structures, charges, names, and formulas of carbonate, bicarbonate (hydrogen carbonate), cyanide, chromate, and dichromate ions.

Chapter 3 - Stoichiometry - Practice with Problems - 2, 10, 20, 32, 50, 52, 59, 61, 66, 74, 76, 86, 92, 106, 114 at the end of the chapter.

The material in Chapter 3 builds on what you have already learned in stoichiometry. You will find the example problems helpful as models for completion of the problems for Chapter 3. You will probably need several sessions to complete this work. This is a chapter that you might learn best by “doing”. Reading the chapter will probably not be as valuable as trying to do the example problems on your own and then “checking” Zumdahl’s approach. Some of these problems are quite difficult. **Please do not give up.** Problem solving is not an exercise which can necessarily be completed in one day. Come back to unsolved problems and try at another session.

Chapter 5 - Gases - Practice with Problems - 26, 27, 31, 36, 42, 47, 49, 51, 64, 82 at the end of the chapter.

The material in Chapter 5 reviews your knowledge of gas properties and solving gas law problems. You will find that the example problems will help you in solving the problems in Chapter 5. You will probably need several sessions to complete this assignment. You will need to read and do the example problems, which will help with the problems at the end of the chapter. **Please do not give up solving the problems.** As stated above, problem solving is not an exercise which can necessarily be completed in one day. Come back to unsolved problems and try another time.

Proposed Schedule

Week of June 19	Rest!! OK, so it's only one week!
Week of June 26	Read Chapter 1; Do problems 18, 20, 22, 24.
Week of July 3	Chapter 1; Problems 26, 34, 53, 72, 74.
Week of July 10	Read Chapter 2; Do problems 8, 26, 39, 47.
Week of July 17	Chapter 2; Do problems 51, 53, 56, 72.
Week of July 24	Review Example Problems in Chapter 3; Do problems 2, 10, 20, 32.
Week of July 31	Chapter 3; Do problems 50, 52, 59, 61, 66, 74.
Week of August 7	Chapter 3; Do problems 76, 86, 92, 106, 114.
Week of August 14	Read and Review Example Problems in Chapter 5; 26, 27, 31, 36, 42.
Week of August 21	Chapter 5; Do problems 47, 49, 51, 64, 82.
Week of August 28	Rest!! Decide how you will keep track of notes and assignments. You will need good organization skills to be successful.

Good Luck and don't forget to get a STUDY BUDDY! If you have any questions over the summer, please email your instructor below:

Nansemond River High School--Deborah Oliver (deboraholiver@spsk12.net)

Lakeland High School—Amy Jacobs (amyjacobs@spsk12.net)