**Study Skills and Strategies for Success in Chemistry**

In order to succeed in a chemistry class you will have to dedicate yourself to studying daily. For many of your classes, you are likely able to pick up the material simply by coming to class and taking some notes and completing homework assignments. This is not the case for an AP level class and especially not chemistry. It is recommended that you spend at least one hour daily studying for chemistry. Bear in mind that you may need more time for more challenging subject matter.

Now that you understand the amount of time you should dedicate to studying, you need to make sure you are studying effectively. Spending one hour studying ineffectively will not help you learn the material. You will feel as though you are studying and working hard, and you probably are, but if you do not use the proper study strategies you will not get the results you want.

**Before Class**

Studying for chemistry and other sciences is very different than studying for non-science classes. For most classes you come to the lecture, take notes, read your notes, then read your book and do practice work. For chemistry, you should do this in the reverse order. Before you attend class, read the chapter in your book that covers the material to be presented in class. Try to work some problems as well. Doing this will give you a basic familiarity with the terms and topics you are covering in class. You will also have an idea of what specific topics you do not understand.

**During Class**

During class you need to focus on actively listening, taking notes, and asking questions about the subject matter. Note taking is far more than just writing down the words the teacher is speaking. You must have a strategy for taking your notes so that you can understand what you wrote when you reread and rewrite them later. Yes, you should be rereading and rewriting your notes within 24 hours of taking them. This is critical to remembering what you discussed in class. Even when a teacher provides you with their lecture notes, you should still write them in your own words to study from. A commonly used method is the Cornell Note-taking System. You can read about it on this website http://lsc.cornell.edu/study-skills/cornell-note-taking-system.

**After Class**

During your study time, you need to reread, rewrite, and quiz yourself on the notes you took in class. Details on how to do this can be found on the Cornell System website. In addition to polishing your notes and testing yourself, you must spend time working practice problems. This is absolutely vital to success in chemistry. Learning chemistry is similar to learning a skill. You must practice it in order to learn it. It is not enough to simply study the concepts. Imagine trying to learn a performing or fine art by reading a book and never actually practicing the skills you are reading about.

Your book usually contains problems at the end of the chapter that you are studying. It should also have an answer key. You may also be able to find practice problems online. In any case, find a source of practice problems with answers to use. Your teacher can help with this.

A preferred strategy for practicing chemistry problems is as follows:

* Pick out two or three problems from each type of problem you are learning about in class to practice.
* Attempt to work a problem until you get an answer or you end up stumped.
* If you manage to come up with an answer, check the answer key.
* If you get it correct (remember significant figures and units must also be correct), move to the next problem.
* If you get it incorrect, work the problem again starting fresh (do not just go back over your first try) until you get the correct answer.

Do this with every problem you have selected. If you are stumped on a problem, first try to work the problem out in some way before you seek help. If you remain stumped even after trying to work the problem, check your book or notes for help, ask another student for help, or seek help from your teacher during tutoring hours. Make sure you have at least tried to set the problem up and work it. This will help the teacher and you identify where you might be going wrong.

You will need to do practice problems daily as part of your study routine. Even if you have not learned a new type of problem, you should work on the ones you have already learned to increase your understanding. Try to work on problems you have not seen before, if possible.

In the days leading up to a test, work three to four practice problems of every type of problem that you are being tested on. Follow the method above. In addition break up this time by reading and rewriting your notes as well as quizzing yourself on your notes as described on the Cornell System website.

**Resources**

How to study for chemistry

<http://www.educationcorner.com/chemistry-study-skills-guide.html>

Cornell System for taking notes

<http://www.educationcorner.com/cornell-note-taking-system.html>

<http://lsc.cornell.edu/wp-content/uploads/2016/10/Cornell-NoteTaking-System.pdf>

Tips for chemistry students

<http://www.upb.pitt.edu/uploadedFiles/Study%20Tips%20for%20Chemistry%20Students.pdf>

<http://www.chem.ucla.edu/~harding/study_hints.html>