



Chemistry is Important to Our Daily Lives

I am a chemist. When I tell someone that, they usually say one of two things: "Wow you must be smart," or, more likely, "I hated taking chemistry in high school/college."

The truth is, I am no smarter than anyone else. My wife can verify that. I just had this strange attraction to the subject, enjoyed all the classes I took and was somehow able to get good grades without pulling all-nighters at college.

As a professional chemist, it seems to me that most people are absolutely ignorant of how chemistry and chemicals play a part in their daily lives. If this comes across as "high falutin," it is not. I realize that most people do not think much about chemistry either while attending school or afterward.

For most people, chemistry was a course they suffered through as a science requirement. This lack of knowledge is terribly troubling, since chemistry is so vital to modern living, and in so many ways is misunderstood.

I think of the chemical sciences as a triad: chemists doing chemistry using chemicals. From the time we wake up to the time we go to sleep, from the top of our head to the tips of our toes, we are intimately dependent on the products that chemists (and other scientists) have developed.

These products keep us healthy (pharmaceuticals), clean (soaps and shampoos) and, to top it off, great smelling (deodorants and fragrances). They keep our water safe to drink (chlorine and other disinfectants), our food safe to eat (preservatives) and keep insects, with their associated diseases, off of us and out of our houses, gardens and farms (pesticides and insecticides). Years ago, many people died of cholera, dysentery and other terrible diseases due to lack of clean water and proper sanitation. Today, we take clean water as a given. Even the paper you are reading right now (chemical bleaching), as well as the ink used to print it are dependent on chemistry. Think about it: What product from this very abbreviated list would you not like to live without?

When organ transplants were first attempted, most patients died shortly after the operation due to rejection of the transplanted organ. The great advances in organ transplantation could not have taken place without the creation of anti-rejection medicines. How are these medicines made? You guessed it -- a team of chemists and chemical engineers thought up, tested and developed the best way to synthesize these materials safely on a large scale. Speaking of surgery, here's a fun thing to try -- how about major surgery without the anesthetic? Up to a few hundred years ago, that was your only option. Surgical suites were isolated from the rest of the hospital so the screams of people undergoing operations could be minimized. With chemists synthesizing anesthetics -- yes, made from those pesky chemicals once again -- we don't have to begin to think about the agony that patients once had to endure.

I could go on and on with examples of how the discoveries chemists have made have enhanced our everyday living. When people say they want "chemical free" food, or want to eliminate chemicals in their school or workplace, I just chuckle to myself. There is no chemical-free place in the world.

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Story from REDORBIT NEWS:

<http://www.redorbit.com/news/display/?id=127024>

Published: 2005/02/12 09:00:00 CST

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About.com Chemistry

Top Reasons Why Students Fail Chemistry

By [Anne Marie Helmenstine, Ph.D.](#), About.com

Are you taking a chemistry class? Are you worried you might not pass? Chemistry is a subject many students prefer to avoid, even if they have an interest in science, because of its reputation for lowering grade point averages. However, it isn't as bad as it seems, especially if you avoid these common mistakes.

1. Procrastinating

Never do today what you can put off until tomorrow, right? Wrong! The first few days in a chemistry class may be very easy and could lull you into a false sense of security. Don't put off doing homework or studying until halfway through the class. Mastering chemistry requires you to build concept upon concept. If you miss the basics, you'll get yourself into trouble. Pace yourself. Set aside a small segment of time each day for chemistry. It will help you to gain long-term mastery. Don't cram.

2. Insufficient Math Preparation

Don't go into chemistry until you understand the basics of algebra. Geometry helps, too. You will need to be able to perform unit conversions. Expect to work chemistry problems on a daily basis. Don't rely too much on a calculator. Chemistry and physics use math as an essential tool.

3. Not Getting or Reading the Text

Yes, there are classes in which the text is optional or completely useless. This isn't one of those classes. Get the text. Read it! Ditto for any required lab manuals. Even if the lectures are fantastic, you'll need the book for the homework assignments. A study guide may be of limited use, but the basic text is a must-have.

4. Psyching Yourself Out

I think I can, I think I can... you have to have a positive attitude toward chemistry. If you truly believe you will fail you may be setting yourself up for a self-fulfilling prophecy. If you have prepared yourself for the class, you have to believe that you can be successful. Also, it's easier to study a topic you like than one you hate. Don't hate chemistry. Make your peace with it and master it.

5. Not Doing Your Own Work

Study guides and books with worked answers in the back are great, right? Yes, but only if you use them for help and not as an easy way to get your homework done. Don't let a book or classmates do your work for you. They won't be available during the tests, which will count for a big portion of your grade.

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